



REPUBLIC OF KENYA



## FOOD SITUATION DURING COVID 19 PANDEMIC



MARCH 2021



Foreign, Commonwealth  
& Development Office

BILL &  
MELINDA  
GATES  
*foundation*



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Project Funded by:



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## ABBREVIATIONS AND ACRONYMS

BMGF	Bill and Melinda Gates Foundation
C4N	Capacity for Nutrition
CATIK	Computer Assisted Telephone Interviews
COVID 19	COVID-19 pandemic
EU	European Union
FCDO	Foreign, commonwealth & Development Office
FIES	Food Insecurity Experience Scale
GIEWS	Global Information and Early Warning System
KIPPRA	Kenya Institute of Public Policy Research and Analysis
KNBS	Kenya National Bureau of statistics
KPHC	Kenya Population and Housing Census
NCCRCP	National Coordination Committee on the Response to the Corona Virus Pandemic
NEBR	National Economic and Business Response
NIPFN	National Information Platform for Food Security and Nutrition
PAC	Policy Advisory Committee
PMC	Project Management Committee
SDG	Sustainable Development Goals
WHO	World Health Organization

## FOREWORD

This report provides an assessment of food security situation of Kenyans during the time of COVID-19 pandemic. The analyses were based on data from the Socio-Economic Impact of COVID-19 on Household Survey, which was collected in two waves; wave one between 2<sup>nd</sup> and 11<sup>th</sup> May 2020, and wave two between 30<sup>th</sup> May and 6<sup>th</sup> June 2020. The analysis mainly focused on food availability, market accessibility, changes in food prices, and prevalence of food insecurity among Kenyan households for the survey reference periods.

One of the key findings in this report was that over the survey reference period, food remained generally available within localities despite movement restrictions. Markets also remained easily accessible to majority of Kenyans. Even though food remained generally available in most parts of the country, the analysis of food insecurity experience revealed that 58 per cent of Kenyans were consuming inadequate quantities and compromising on diet quality than they would normally consume.

We wish to acknowledge the contributions of various stakeholders who have contributed immensely to the success of this analysis. Special

thanks go to the European Union (EU), The Foreign, Commonwealth & Development Office (FCDO) and Bill and Melinda Gates Foundation, for funding the National Information Platform for Food Security and Nutrition (NIPFN) project which undertook the analysis. The project team is highly appreciated for their contribution to the content of this report.

We wish to extend appreciation to the Kenya National Bureau of statistics (KNBS) and Kenya Institute of Public Policy Research and Analysis (KIPPRA) management and staff for their useful feedback and guidance. In particular, we appreciate the special role played by the NIPFN Project Director, Mr. Robert Nderitu and the Executive Director of KIPPRA, Dr. Rose Ngugi, in providing technical support throughout the process. We are indebted to the Project Management Committee (PMC), the Policy Advisory Committee (PAC) and the Capacity for Nutrition (C4N) for reviewing the report and giving very useful inputs.



**Macdonald G. Obudho, MBS**

**Director General**

**Kenya National Bureau of Statistics**



## EXECUTIVE SUMMARY

The Corona virus disease (COVID-19), which was first reported in Wuhan China in December 2019, has since spread rapidly to almost every part of the world. The disease was declared a pandemic by the World Health Organization (WHO) on the 11th March 2020 due to the alarming rate of increase in number of new cases and fatalities reported. In Kenya the first incidence of the disease was reported on March 13th 2020 and mitigation measures were put in place to curb the disease spread. COVID-19 pandemic not only threatens people's health, but also threatens food security and nutrition for millions of people across the world. Food security depend on availability, accessibility, utilization and stability, any disruption of these pillars renders populations food insecure. The social and economic strain brought about by the mitigation measures has potential to impact negatively of the four tenets of food security thus rendering people food insecure.

The analyses in this report are based on data from the COVID-19 Socio-Economic Impact Survey Wave one and two. The surveys were conducted by the Kenya National Bureau of Statistics (KNBS) and data collection for the two waves was between 2nd and 9th May 2020 for wave one, and between 30th

May and 6th June 2020 for the second wave using telephone interviews. The survey in its design provides reliable estimates at county and national levels. Representative samples of 15,840 and 14,616 were interviewed in wave one and two respectively. The analyses mainly focused on availability, market accessibility, changes in prices and food insecurity as measured by the Food Insecurity Experience Scale.

The Results from the first wave showed that most food commodities were available in the country including the counties under movement cessation. In most counties, over 80 per cent of the households reported availability of widely purchased food stuff namely; maize flour, rice, vegetable, onions, tomatoes and milk. Although the food items were available within localities, sharp increase in prices of some food commodities was observed across the country between February and May 2020. Maize flour and rice prices increased by an average of 18 and 16 per cent respectively. Milk price remained stable in most parts of the country with an overall 68 per cent of households reporting that the price did not change. The reduced impact in terms of food availability could be attributed to good rains experienced in the country months prior to interviews.

The data collected for wave two broadly focused on food availability, market accessibility, changes in food prices, coping mechanisms and food insecurity experiences of household members. Overall, 79 per cent of Kenyans indicated that food prices had increased while 18 per cent reported no changes in food prices. Over 90 per cent of the households reported that variety of food were available in most parts of the country despite movement restriction. Markets also remained easily accessible by most Kenyans across the country as majority reported having not experienced any difficulty accessing the markets/groceries. Despite the curfews and movement restrictions, majority of households reported having food stocks that would

only last for less than a week. The main coping strategies with lack of food or money to buy food by households included; lack of food or lack-of-money to buy food identified; relying on less preferred; less expensive food; purchasing food on credit and limiting portion size for family members.

The analysis of food insecurity experience by the Food Insecurity Experience Scale revealed that, two weeks prior to the respective survey waves, 58 percent of Kenyans were eating inadequate diets and compromising on quality than they would have normally taken. In both waves Turkana County had the highest prevalence of food insecurity.

# Chapter One

## INTRODUCTION

### 1.0 Background

The outbreak of Coronavirus disease (COVID-19) was first reported in Wuhan China in December of 2019. The disease is a respiratory illness, which spread rapidly to nearly every part of the world, with significant health, economic and social impacts. In January 30<sup>th</sup> 2020, the World Health Organisation (WHO) declared that the coronavirus a Public Health Emergency of International Concern. As the disease cases spread and the fatalities increased globally, and with alarming trends of inaction among nations, on 11<sup>th</sup> March 2020, WHO declared the disease a pandemic. As of 15<sup>th</sup> June 2020, nearly 8 million cases had been confirmed globally, with the United States of America (USA) accounting for about 25 per cent of the global confirmed cases. As of the same time, Kenya had a cumulative total of 3,727 confirmed cases and 104 confirmed deaths.

In Kenya the first incidence of COVID-19 was reported on the March 13<sup>th</sup> 2020. Following this information, the Ministry of Health instituted a raft of measures, including contact tracing and isolation of suspected cases to limit the spread of the disease. As the number of cases grew, the President ordered the closure of schools, placed limitations on public gatherings, and restricted travel from counties with confirmed cases on the 6<sup>th</sup> April 2020. Individuals getting into the country from abroad were required to self-isolate, or be quarantined for a period of 14 days, and the employees were encouraged to work from home, where possible.

While the measures were aimed at slowing down the spread of disease, these came along with challenges. Among them were; low productivity, disruption of transport and loss of households' income which consequently affected food security and nutrition at household and individual levels in various ways. In a

<sup>1</sup>Kenya National Bureau of Statistics, 2018

country with a significant proportion of population coming from poor households that depend on daily wages<sup>1</sup>, the pandemic will have had severe impacts on food security. The measures to contain the disease spread such as; movement restrictions, curfews, lockdown of some counties and people being encouraged to work from home, have had profound implications for food security, nutrition and food systems. These measures destabilized the entire food chain from farm to markets thus creating food shortages, associated with market price hikes, leading to negative impact on household food security. The closure of industries and businesses had a significant proportion of the household population particularly in the informal sector losing their daily livelihood. The Loss of household income reduced the households' purchasing power resulting to unaffordability of adequate and quality diets to sustain healthy lives.

In order to respond to the crisis and to cushion Kenyans from the adverse effects of the COVID-19, the Government of Kenya established a National Coordination Committee on the Response to the Corona Virus Pandemic (NCCRCP). Among the working groups of the NCCRCP is the National Economic and Business Response (NEBR) Working Group whose tasks include conducting a Household Economic Impact Assessment aimed at providing data that would facilitate formulation of appropriate strategies to respond to socio-economic effects of the disease. The Kenya National Bureau of Statistics was mandated to conduct surveys to provide the information for decision making. This report mainly covered analysis of food availability within localities, market accessibility, changes in food prices and prevalence of food insecurity among Kenyan households during the survey period.

## 1.1 Food Security Situation

Achieving food security still remains elusive for many nations. According to the UN report published in 2020, the world is still off-track in achieving the SDG target of ending hunger, food insecurity and all forms of malnutrition by the year 2030<sup>2</sup>. Individual or household food security entirely depend on availability, accessibility, utilization and stability of food and food systems. The disruption of these four tenets/pillars of food security renders communities or individual's to be food insecure. In addition to the health crisis brought about by the COVID-19 pandemic, it has had significant social and economic impacts on nations, which are likely to negatively impact on households and/or individual food security.



The COVID-19 pandemic in Kenya was preceded by the invasion of desert locusts in late 2019 and excessive rainfall experienced in most parts of the country.

The COVID-19 pandemic in Kenya was preceded by the invasion of desert locusts in late 2019 and excessive rainfall experienced in most parts of the country. These factors added pressure to the already existing food insecurity in the country. According to Developments report<sup>3</sup>, the heavy rains experienced in late 2019 to early 2020 provided favorable conditions for desert locust to breed. The challenges brought about by the pandemic continued to impact on governments' desert locust response<sup>4</sup>. The failure to effectively contain the locust infestation, put more pressure on food insecurity in the country. According to the food assistance report<sup>5</sup>, an estimated 1.3 million Kenyans were experiencing acute food insecurity and in need of assistance in comparison to 2.3 million people in late 2019<sup>6</sup>.

The Global Information and Early Warning System (GIEWS) report<sup>7</sup>, indicated that Kenya recorded a reduced cereal harvest in 2019 due to heavy rains received in most parts of the country. On the other hand, the cereal deficits would usually be supplemented through imports from other countries, the COVID-19 pandemic has impacted negatively on the cross border trade and logistics. These factors coupled with the introduction of administrative measures designed to curb the spread of COVID-19, such as the closure of fresh produce markets and movement limitation disrupted the food delivery system and consequently food security.

## 1.2 Methodology

The analyses in this report are based on the data from the COVID-19 Household Socio-economic Impact Survey Waves One and Two. The survey was designed to provide reliable estimates at national and county levels. Data collection for the first wave was conducted between 2nd and 9th May 2020 while the second wave between 30th May and 6th June 2020 using computer assisted telephone interviews (CATI) approach. Interviews were conducted via phone and responses recorded on tablets and transmitted to a central database. A sampling frame developed from the 2019 Kenya Population and Housing Census (KPHC) was used in both waves.

The total number of successful interviews during the first wave of the survey was

<sup>2</sup> FAO 2020

<sup>3</sup> IGAD Climate Prediction & Applications Centre (ICPAC), February 18, 2020

<sup>4</sup> IGAD Climate Prediction & Applications Centre (ICPAC), February 18, 2020

<sup>5</sup> Food Assistance Fact Sheet - Kenya, April 16, 2020

<sup>6</sup> Food Assistance Fact Sheet - Kenya, April 16, 2020

<sup>7</sup> Global Information and Early Warning System (GIEWS) report, May 2020

15,840 out of 16,292 individuals eligible for interviews translating to 97 per cent response rate. Male respondents constituted 48 per cent of the total sample whereas female constituted 52 per cent. The majority of the respondents were aged between 18-39 years representing 65 per cent of the interviewed population.

During the second wave of the survey, the successful interviews were 14,616 individuals out of 16,983 eligible individuals translating to 86.1 per cent response rate. Female respondents constituted 51.3 per cent of the total sample while male respondents constituted 48.7 per cent. Majority of the respondents were aged between 18-34 years old representing 47.7 per cent of the interviewed population. Questions were administered to the sampled respondents who provided individual and household-level information in both surveys.

The Food Insecurity Experience Scale (FIES) tool was used to estimate the prevalence of moderate food insecurity using the data from the survey whose reference period was two weeks prior to the interview. FIES measures food insecurity at individual/household level based on eight questions regarding accessibility to adequate food<sup>8</sup>. The eight questions are analysed together using Rasch model to form a statistical measuring tool for measuring moderate and severe food insecurity. The tool that was used to analyse the prevalence of food insecurity levels was the module developed has been developed R statistical package.

<sup>8</sup>FAO, 2017

# Chapter Two

## Survey Findings

### 2.1 Wave One Findings

#### 2.1.1 Food Availability and Changes in Price

This section covers availability of selected widely purchased food items in Kenya within respondents' localities and changes in prices as perceived by the respondents. The selected food items include; maize flour, rice, sugar, tomatoes, vegetables (a bunch of spinach/kales), onions and milk.

#### **Box 2.1.1: Availability and Price Changes**

- i. Maize flour, rice, milk and sugar were generally available in most parts of the country as over 80 per cent of respondents reported.
- ii. About 20 per cent of the population in some counties indicated unavailability of tomatoes and onions.
- iii. Overall, majority reported a rise in food prices except for the vegetables and milk.
- iv. Onions prices increased by 34 per cent between February and May.

#### 2.1.2 Availability of Selected Food Items

Food availability was generally not affected by the pandemic as only 25 per cent of the respondents reported the unavailability of some selected food items within their localities. Over 90 per cent of the respondents in all counties except Busia and Kirinyaga which reported 87.3 75 per cent respectively, indicated availability

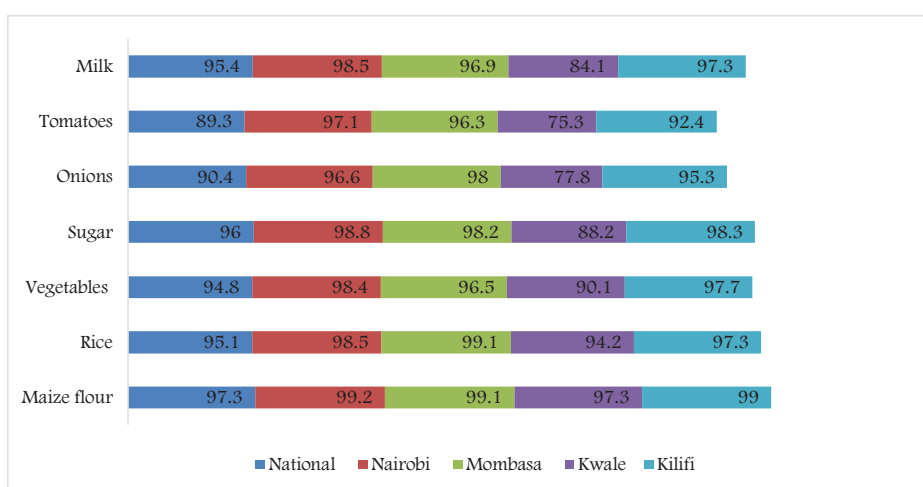




Food availability was generally not affected by the pandemic as only 25 per cent of the respondents reported the unavailability of some selected food items within their localities.

of maize flour within their localities. Similar observations were made on the rice availability as presented in Table 4 in the annexes. A slightly lower proportion of respondents in some counties indicated ready availability of tomatoes and onions within their localities. Over 80 per cent of the respondents across all the counties indicated that milk was readily available within their localities. Figure 2.1.2 summarises the availability of the selected food items by the four counties that were under movement restriction during the survey period.

**Figure 2.1.2: Proportion of Respondents who Reported Food Availability in counties under Lockdown**

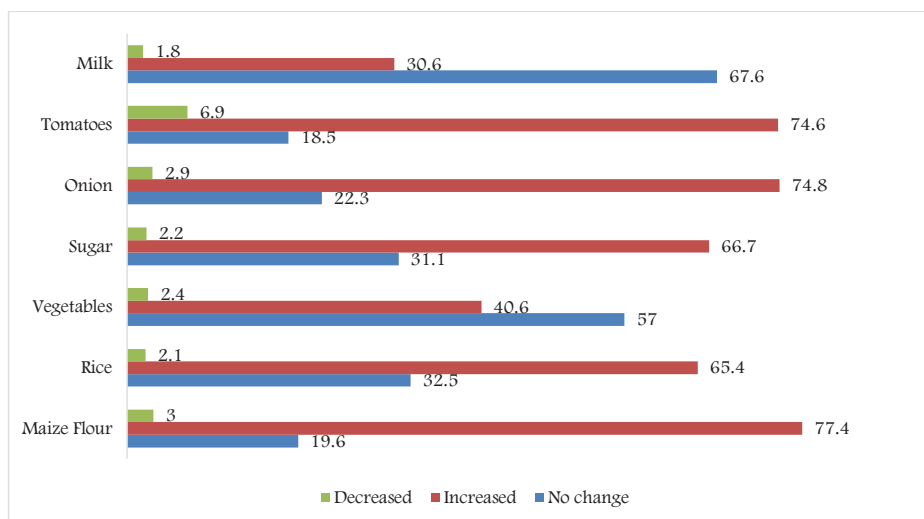


*Note: Vegetable refers to a bunch of spinach/kales*

### 2.1.3 Changes in Food Prices

To gain insight into food price changes, respondents were asked how much they purchased fixed quantities of selected food items between the months of February and May 2020. The commodity prices analysed were that of; 2kgs maize flour, 1kg rice, a bunch of vegetables, 1kg sugar, 1kg onions, 1kg tomatoes and ½ litre of milk. Overall, 77 per cent of the respondents reported an increase in maize flour prices, 19 per cent did not experience any change in price, while 2 per cent reported a fall in maize flour price between February and May. Similarly, 65 per cent of respondents reported rise in price for a kilo of rice, while 67, 75 and 75 per cent reported rise in prices of sugar, onion and tomatoes, respectively. For milk and vegetables, majority of respondents reported no changes in prices between February and May. Figure 2.1.3 below presents a summary of the overall price changes for the selected food items at the national level.

## Figure 2.1.3: Proportion of Households Reporting Price Changes



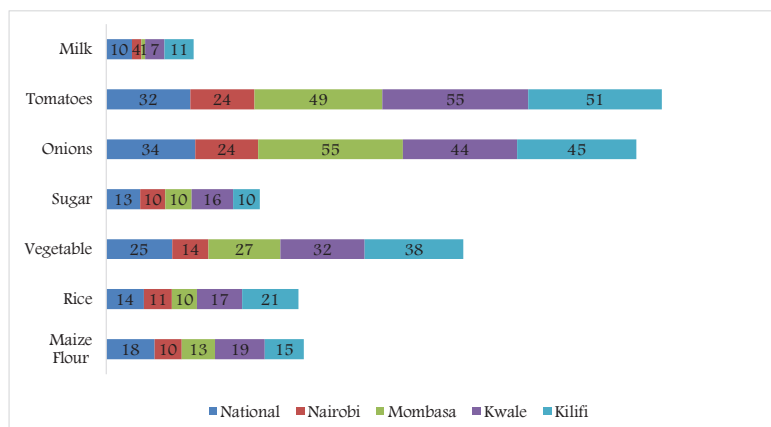
*Note: vegetable refers to a bunch of spinach/kales*

### 2.1.4 Average Price Changes in Food Prices by Counties

The average price of onions went up by 34 per cent, while the average price of maize flour went up by 18 per cent during the survey period. A comparison of average price changes for selected food items by counties under movement restriction show that the average price rose generally in Mombasa, Kwale and Kilifi. The average price of tomatoes and onions increased in Mombasa and Kwale counties by 55 per cent each respectively and the highest average vegetable price increase was recorded in Kilifi at 38 per cent.

The average price of maize flour increased in Nandi, Bungoma and Elgeyo Marakwet by 33, 32 and 30 per cent respectively during the survey period. Among the counties that were under lockdown, the average increase in maize flour price was highest in Kwale and Kilifi at 19 and 15 per cent respectively. Overall, the average price of vegetable rose by 25 per cent. Milk prices remained fairly stable in most parts of the country over the survey period. Figure 2.1.4 presents a summary of average percentage increase in food prices in selected counties.

## Figure 2.1.4: Average Percentage Price Increase in Counties under Lockdown



Note: vegetable refers to bunch of spinach/kales

Table 2.1.4 shows the overall price increases for selected food items during the survey period. Majority indicated that maize flour price increased by a margin of 10-25 per cent. Similarly, most respondents reported that rice and sugar prices increased in 10-25 per cent price rise category between February and May 2020. Additionally, highest number of respondents indicated that the average prices of tomatoes and onions had increased by a margin of over fifty per cent more than half the price between February and May 2020.

## Table 2.1.4: Overall Proportion of Respondents who reported Increased Food Prices by Percentage Margins

Commodity	Proportion reporting increased prices (%)	Price Increase Margins (%)			
		>0-<10%	10-<25%	25-<50%	50% & above
Maize Flour	77.4	21.2	42.3	27.1	9.3
Rice	65.4	7.1	55.1	31.3	6.5
Vegetables	40.6	0.1	6.6	19.3	73.9
Sugar	66.7	13.9	67.5	15.3	3.2
Onion	74.8	1.6	21.7	36.7	40.0
Tomato	74.6	2.1	22.0	36.2	39.7
Milk	30.6	2.4	52.0	28.5	17.2

Note: vegetable refers to a bunch of spinach/kales

## 2.1.5 Prevalence of Food Insecurity

This section covers analysis of Food Insecurity among households in Kenya using FIES. Respondents were asked the eight questions of FIES module with a reference period of fourteen days prior to the interview. These questions are designed to measure the severity of food insecurity at household level and accessibility of adequate food in the past fourteen days prior to the interview.

### Box 2.1.5: Key Findings - FIES

- i. Overall, 58 per cent of Kenyans were moderately food insecure based on FIES methodology two weeks prior to the interview (i.e. 58 per cent of Kenyans were eating inadequate quantities and low quality diets than they would normally consume).
- ii. Among the counties under lockdown, Mombasa and Kilifi had the highest prevalence of moderate food insecurity.
- iii. The prevalence of moderate food insecurity was slightly high in female headed households than in male headed households.

Table 2.1.5 presents the results of the analysis using the FIES methodology at national and the counties under lockdown. Overall, 57.6 per cent of Kenyan households were moderately food insecure two weeks prior to the interviews. Among the counties under lockdown, the prevalence of moderate food insecurity was highest in Mombasa, Kilifi and Kwale at 76.5, 76.3 and 70.8 per cent respectively. This implies that over 70 per cent of households in the three counties mentioned were eating inadequate quantities and low quality diets than they would normally consume.

**Table 2.1.5: Food Insecurity Experience by Sex of Household Head and Counties under Lockdown<sup>1</sup>**

Question*	Nairobi	Mombasa	Kwale	Kilifi	Overall
Worried	73.4	81.4	79.3	84.7	73.1
Preferred (Healthy)	70.2	79.2	81.6	85.7	71.3
Few foods	68.6	80.3	79.7	83.7	68.6
Skipped	47.4	64.7	62.5	69.1	44.9
Ate less	55.3	73.5	68.5	76.1	56.5
Ran out	42.4	50.9	47.1	57.3	40.1
Hungry	40.4	54.6	51.1	54.8	37.4
Whole day	22.9	29.3	28.2	34.6	20.7
Food Insecurity Experience Scale (Prevalence of moderate food insecurity)	60.8	76.5	70.8	76.3	57.6

*Note: See Annex 3 for detailed structure of Question\**

## 2.2 Wave Two Findings

### 2.2.1 Food Availability, Accessibility and Changes in Prices

The analysis in wave two focused on household food stocks, market accessibility, and availability of food within localities, coping mechanisms and changes in food prices. The food groups in wave two include: Cereals/grains/roots/tubers, legumes/nuts, meat/fish/eggs, vegetable/leaves, fruits, oils/butter/fats, sugar/sweet and condiment/spices.

<sup>9</sup> More detail Table is Annex 1

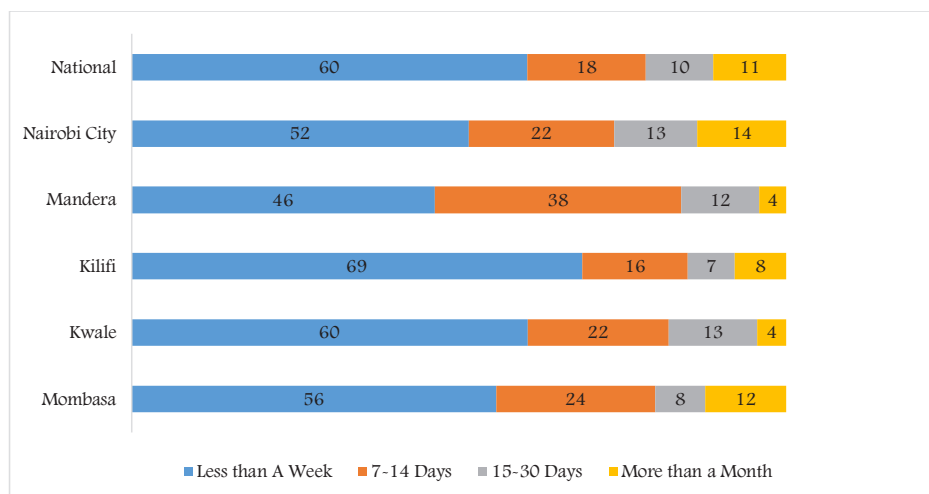
### Box 2.2.1: Food Availability and changes in prices

- i. 79 per cent of Kenyans experienced an increase in food prices while 3 per cent experienced a decrease.
- ii. About 60 per cent of Kenyan households reported having food stocks to last less than a week.
- iii. Markets remained accessible in most parts of the country as 78 per cent of Kenyan households reported not any difficulty in accessing them.
- iv. Food was available within localities as over 90 per cent of households reported availability.
- v. Relying on less preferred and less expensive food was the most common coping strategy.

### 2.2.2 Household Food Stocks

More than fifty per cent of the respondents had food stocks that could last less than a week and about 11 per cent had stocks to last more than a month. Among the counties under lockdown, Kilifi and Kwale accounted for the highest proportion of households with food stock to last less than a week at 69 and 60 per cent, respectively. Nairobi and Mombasa had the highest percentage of respondents indicating to have food stocks that could last more than a month at 14 per cent and 12 per cent respectively. Figure 2.2.2 shows the percentage distribution of food stock duration by counties.

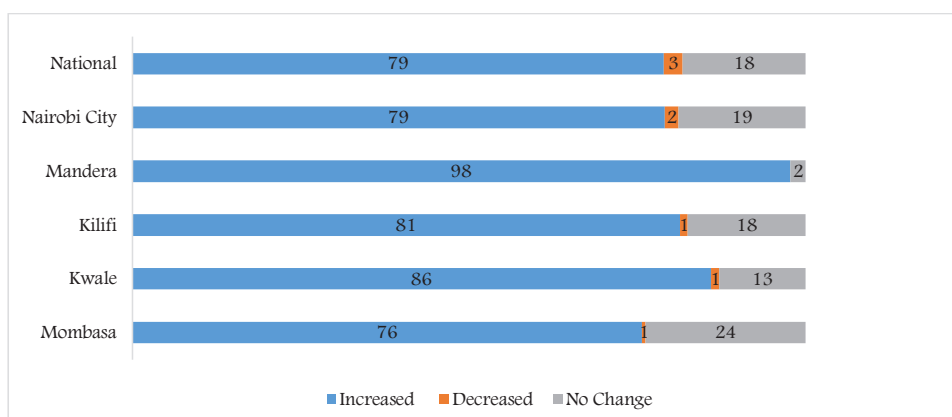
## Figure 2.2.2: Household Food Stocks by Counties under Lockdown



### 2.2.3 Changes in Food Prices

The respondents were asked if they had experienced any changes in food prices fourteen days prior to the interview, 79 per cent reported an increase in food prices, while 18 per cent reported no changes and 3 per cent reported decreases. Among counties where movement was restricted during this survey period, Mandera and Kwale reported increases of 98 and 86 per cent respectively. Figure 2.2.3 percentage distribution of food price in the counties under lockdown.

### Figure 2.2.3: Changes in Food Prices by National and Selected Counties

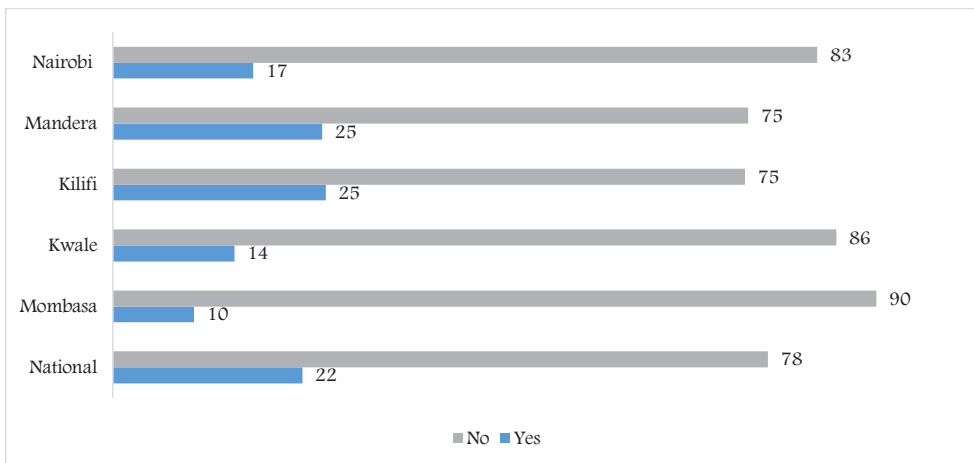




## 2.2.4 Market Accessibility

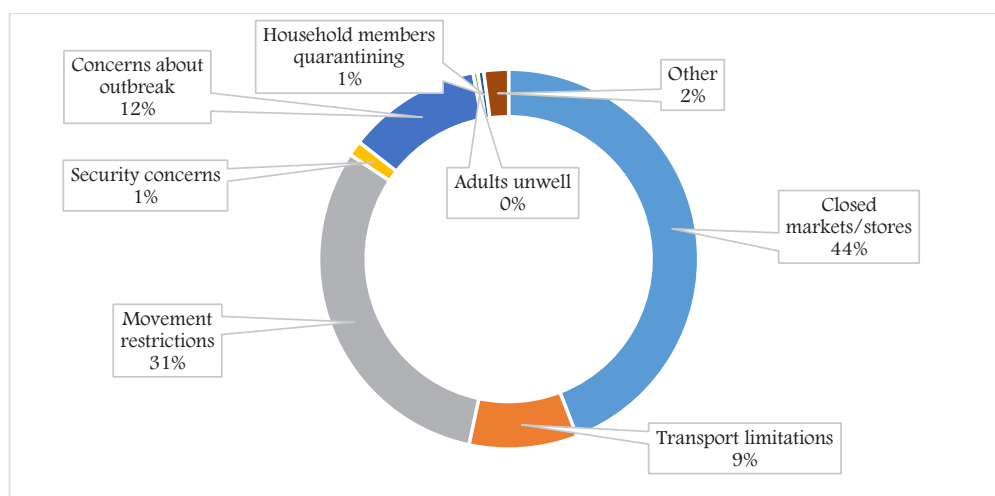
Despite restriction of movement as a measure to curb the spread of the disease, food markets and grocery stores remained accessible to majority of Kenyans. Overall, 78 per cent of the households indicated that they had not experienced any difficulties accessing grocery stores/food markets while 22 per cent reported to have some difficulties. Among the counties under lockdown, over 80 per cent of households in Nairobi and Mombasa reported that they had not experienced difficulties accessing the grocery stores/ food markets. One in every four households in Mandera and Kilifi, 25 percent experienced some difficulties in accessing food markets as presented in Figure 2.2.4.

**Figure 2.2.4: Difficulty in Market Accessibility**



Market closure, movement restrictions and concerns about leaving the household were cited as the main factors that hindered food market accessibility. Overall, 44 per cent cited markets closure as the major hindrance to market accessibility, 31 per cent cited movement restriction while 11 per cent reported they were concerned about leaving the house due to the outbreak. The reasons varied significantly across the counties. In Mombasa, 44 per cent of households cited market closure as the main hindrance to market accessibility, while in Kilifi 83 per cent of the households cited market closures.

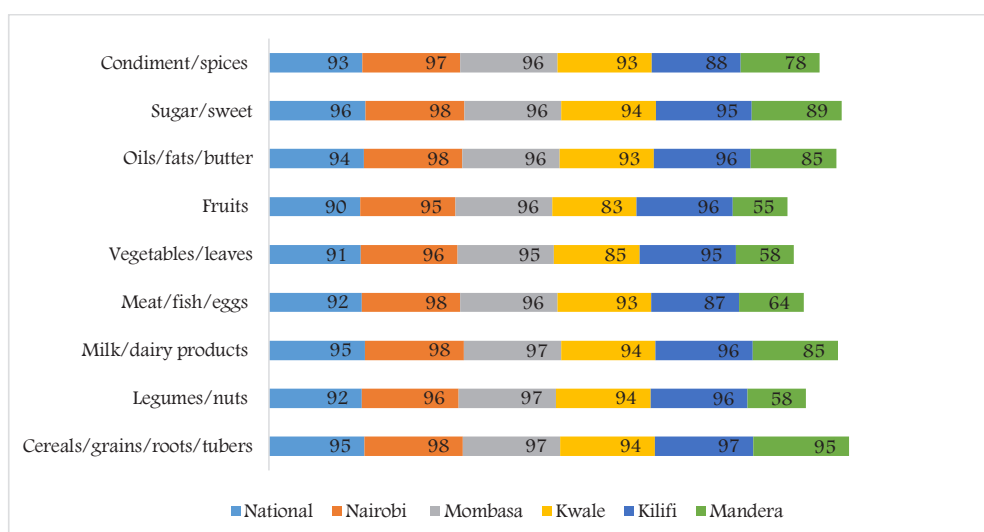
### Figure 2.2.4: Reasons for Markets Inaccessibility



### 2.2.5 Food Availability within Localities

Overall, different types of food were available in most parts of the country despite the movement restriction as reported by over 90 per cent of the households. Among the counties under lockdown, Mandera, a low proportion of households reporting availability of food types.

### Figure 2.2.5: Food Availability by County

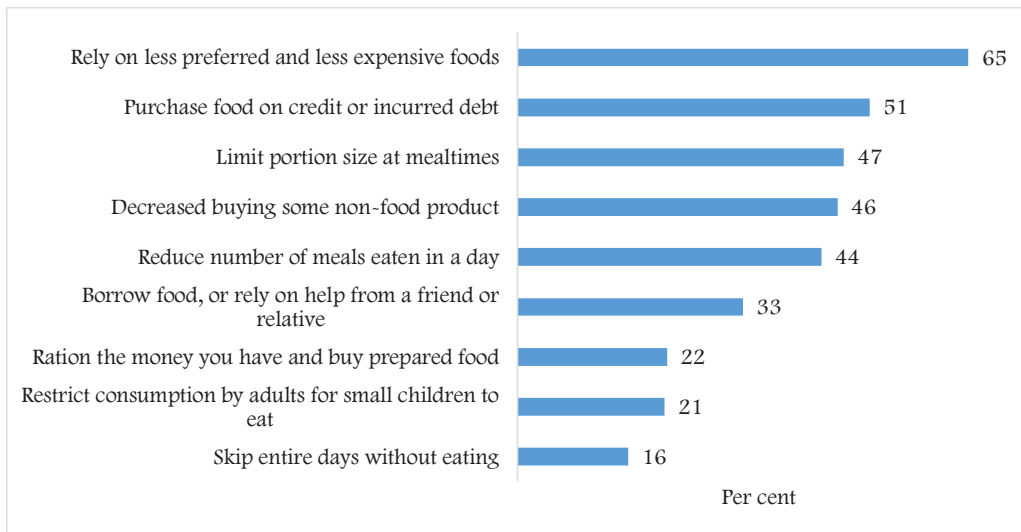


## 2.2.6 Lack of Food Coping Mechanism

Respondents were asked to indicate the number of days they had to adopt any of the listed coping mechanisms due to lack of enough food or money to buy food two weeks prior to the survey. Results show that 65 per cent of the households relied on less preferred and less expensive food for at least one day in two weeks prior to the survey, making it the most common coping mechanism.

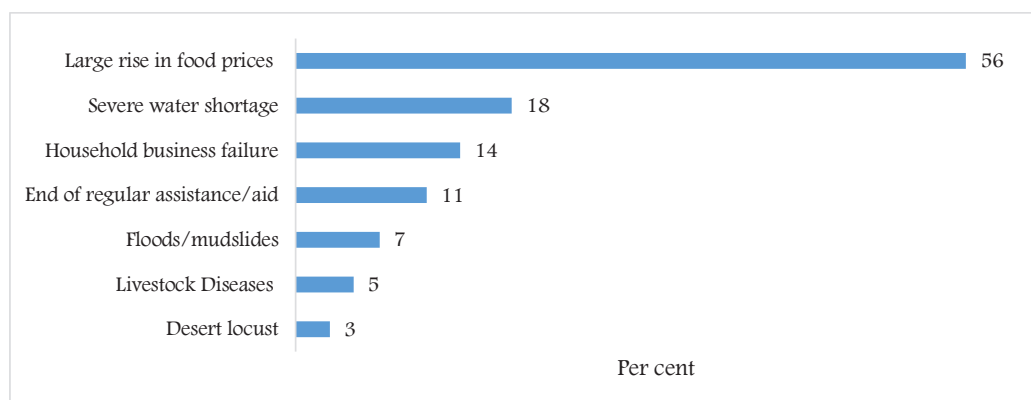
Decreased purchase of non-food items, purchase of food on credit or incurred debt, limiting portion sizes at mealtimes and reducing number of meals eaten per day were common coping mechanisms as presented in Figure 2.2.6.

**Figure 2.2.6: Coping Mechanism**



## 2.2.7 Shocks Experienced

Respondents were asked if they had experienced any shocks in form of; severe water shortage, large rise in food prices, end of regular assistance, household business failure, floods/mudslides desert locusts or livestock diseases two weeks prior to the interviews. The results show that 56 per cent of households experienced a large rise in food prices and 18 per cent experienced the severe water shortages among other shocks as shown in figure 2.2.7.

**Figure 2.2.7: Recent Shocks to the household**

### 2.2.8 Prevalence of Food Insecurity

This section covers analysis of Food Insecurity among households in Kenya using the data from the second wave of the COVID-19 Household Socio-economic Impact Survey. The analysis follows the same methodology as was done in wave one.

#### Box 2.2.8: FIES

- i. 58 per cent of Kenyans are moderately food insecure based on FIES methodology.
- ii. Among the counties under lockdown, Mombasa had the highest prevalence of moderate food Insecurity at 78 per cent.
- iii. The prevalence of moderate food insecurity in Nairobi and Kwale were below 60 per cent.

Results of the analysis shows that 58 per cent of households were moderately food insecure two weeks prior to the interviews. Among the counties under lockdown, the prevalence of moderate food insecurity was highest in Mombasa at 78 per cent followed by Kilifi, Mandera, Kwale and Nairobi at 66.6, 66.5, 55.7 and 56.4 respectively. This implies that over 65 per cent of households in the three counties mentioned were eating inadequate quantities and low quality diets than they would normally consume.

**Table 2.2.8: Food Insecurity Prevalence by Sex of Household Head and Counties under Lockdown<sup>2</sup>**

Question*	Nairobi	Mombasa	Kwale	Kilifi	Mandera	National
Worried	70.2	78.5	68.2	71.3	87.2	72.5
Preferred(Healthy)	68.2	82.0	68.9	74.2	89.4	74.0
Few foods	70.0	81.0	67.7	72.8	83.0	70.4
Skipped	48.1	67.6	58.1	62.9	57.3	47.7
Ate less	54.9	72.2	47.3	67.4	77.5	57.0
Ran out	39.8	55.9	29.0	53.4	59.6	40.8
Hungry	37.6	47.8	38.6	60.6	37.6	38.8
Whole day	17.6	22.3	7.2	29.7	32.6	19.1
Food Insecurity Experience Scale (Prevalence of moderate food insecurity)	56.4	77.5	55.7	66.6	66.5	58.0

*Note: see Question\* description in Annex 3*

<sup>2</sup> Detail Table Annex 2

# Chapter Three

## Conclusions and Recommendations

The analysis of the survey data indicated that whereas there had been movement cessations, markets generally remained easily accessible and food items readily available to majority of Kenyans. This phenomenon could be attributed to good rains experienced in most parts of the country prior to outbreak of COVID-19 pandemic, which improved the crop yield and pasture. Sharp increase in food prices was however reported by most households in the country.

A significant proportion of respondents indicated having had to cope with lack of food or money to purchase food and the common ways to cope were; relying on less preferred and less expensive foods, purchasing food on credit and limiting portion size at meal times.

Based on the FIES methodology, over the survey period, more than half the Kenyan population were found to be eating inadequate quantities and low quality diets than they would normally prefer.

In view of the analysis the following interventions are recommended;

1. A comprehensive survey be designed that focuses on food availability, accessibility and price changes so that policies and programmes can be generated to as to cushion the most vulnerable in terms of food security.
2. Appropriate policies in the agriculture sector and infrastructure should be enhanced to stimulate production.
3. The high prevalence of food insecurity in numbers of counties requires enhanced efforts to cushion the population from hunger and nutrition effects.

4. Investments in early warning systems coupled with institutional and technical capacities should be enhanced to enable the country respond to food insecurities during un-predicted calamities.





## Annexes

Table 4: Annex 1: (Wave 1) Summary of Food Availability, Accessibility, Stocks and Prevalence of Food Insecurity by County

County	Food Commodities Availability										Average Price Change (Feb-May) Per cent							FIES
	Maize	Rice	Vege- table	Sugar	Onions	Toma- toes	Milk	Maize	Rice	Vege- table	Sugar	Onion	Toma- toes	Milk	Preva- lence of mod- erate food insecu- rity			
Mombasa	99.4	98.9	99.0	98.1	99.5	98.8	97.9	12.6	9.5	27.4	10.0	55.2	48.7	1.5	76.5			
Kwale	97.1	94.2	91.5	88.8	78.7	77.1	85.7	19.0	17.3	32.0	15.8	43.6	55.5	7.3	70.8			
Kilifi	100.0	98.5	97.6	98.5	96.6	94.1	98.2	14.9	21.4	37.6	10.3	45.3	50.9	11.1	76.3			
Tana River	95.5	95.5	91.1	96.9	89.9	88.0	93.2	18.1	19.1	29.5	17.8	34.6	37.6	16.9	64.9			
Lamu	93.9	94.0	95.5	94.8	84.1	85.7	91.9	15.4	14.4	16.9	12.9	36.4	36.9	12.0	66.9			
Taita/Tav- eta	99.4	96.5	97.4	95.3	91.4	92.0	94.9	16.3	15.6	44.6	12.4	64.2	60.0	11.6	75.5			
Garissa	98.4	98.3	88.9	95.6	89.5	90.0	90.3	14.8	17.5	24.2	14.2	23.7	25.6	15.5	46.5			
Wajir	95.8	96.3	66.7	97.3	88.6	84.6	93.2	20.7	22.6	31.8	19.4	25.3	27.7	19.6	58.9			
Mandera	92.4	97.8	68.4	97.8	83.3	81.2	96.7	17.6	22.4	29.8	17.6	38.6	26.9	22.7	65.7			
Marsabit	98.8	93.4	76.5	99.2	79.1	79.1	98.4	17.4	17.7	36.4	14.9	28.8	22.2	17.1	48.0			
Isiolo	96.9	95.3	80.5	92.8	82.0	79.0	98.6	15.4	20.5	38.0	11.9	65.8	44.8	4.4	48.2			

County	Food Commodities Availability							Average Price Change (Feb-May) Per cent							FIES
	Maize	Rice	Vege- table	Sugar	Onions	Toma- toes	Milk	Maize	Rice	Vege- table	Sugar	Onion	Toma- toes	Milk	Preva- lence of mod- erate food insecu- rity
Meru	96.9	95.2	94.8	96.6	89.3	87.7	97.6	24.3	24.5	38.0	18.5	43.6	43.5	7.4	63.4
Thara- ka-Nithi	97.6	89.7	92.6	88.8	79.3	77.1	99.3	13.8	15.4	30.6	14.3	33.4	37.4	2.4	55.5
Embu	97.9	97.4	89.0	96.0	87.7	87.1	90.6	18.6	21.1	36.1	14.8	40.4	22.2	6.8	47.8
Kitui	98.9	96.0	88.2	96.5	88.9	88.9	96.0	10.2	12.2	28.5	7.7	42.5	39.2	6.5	36.9
Machakos	99.7	95.8	96.8	97.6	94.1	93.3	97.9	9.0	13.2	21.6	10.3	37.6	36.2	3.0	38.2
Makueni	99.4	98.5	98.9	98.2	98.0	96.5	98.8	14.1	17.3	40.1	13.8	40.4	31.8	13.9	16.7
Nyandarua	90.8	91.0	96.2	87.7	82.8	71.0	96.2	11.4	11.6	16.9	10.5	20.4	26.8	6.4	39.2
Nyeri	100.0	100.0	98.7	99.4	98.7	97.9	99.4	18.7	19.0	14.7	13.9	41.3	42.2	5.1	29.1
Kirinyaga	74.8	75.3	96.7	71.2	71.4	76.1	83.5	14.7	19.9	17.4	11.7	33.7	25.4	0.4	43.2
Murang'a	99.7	98.3	99.0	99.7	98.7	97.3	99.4	11.1	17.2	25.6	12.3	42.5	31.7	5.0	65.7
Kiambu	99.0	96.5	96.7	96.7	96.3	93.3	95.8	12.7	12.6	18.5	11.1	14.1	16.2	4.0	48.0
Turkana	99.2	97.2	90.6	97.6	86.6	84.9	91.9	14.0	11.1	23.6	17.0	15.4	14.6	11.8	87.0
West Pokot	99.6	88.5	97.4	98.1	84.0	83.8	94.4	26.0	8.8	4.3	16.2	22.9	20.7	17.2	50.7
Samburu	96.4	95.5	87.5	96.1	90.1	90.7	96.1	20.4	18.6	15.8	19.8	40.1	31.8	17.5	55.3
Trans Nzoia	99.0	95.5	94.9	97.9	92.8	94.7	98.3	28.9	14.4	36.1	14.0	35.1	36.2	14.3	63.0
Uasin Gishu	93.8	97.6	98.7	99.3	94.6	89.2	97.2	29.1	10.7	16.4	13.4	35.9	23.6	16.2	47.5

County	Food Commodities Availability										Average Price Change (Feb-May) Per cent										FIES
	Maize	Rice	Vege- table	Sugar	Onions	Toma- toes	Milk	Maize	Rice	Vege- table	Sugar	Onion	Toma- toes	Milk	Preva- lence of mod- erate food insecu- rity						
Elgeyo Marakwet	98.4	95.0	97.4	95.3	96.3	91.2	97.6	29.9	6.1	1.5	7.0	22.2	31.3	6.4	28.2						
Nandi	99.4	98.8	98.5	98.3	96.1	84.9	98.5	33.0	12.6	4.8	12.1	16.8	11.9	8.8	41.8						
Baringo	99.4	90.5	97.0	97.6	94.9	92.3	97.5	25.0	14.5	8.5	16.9	27.6	27.3	24.0	51.2						
Laikipia	99.5	97.6	98.3	99.5	98.0	96.0	97.9	5.2	6.5	3.8	4.6	19.6	18.7	2.3	43.3						
Nakuru	99.2	95.3	98.7	96.5	98.8	98.1	97.0	7.6	5.8	5.5	5.7	17.9	15.9	4.9	53.3						
Narok	99.0	83.5	93.4	86.0	90.3	80.8	95.1	12.1	10.6	22.4	10.4	19.8	21.9	7.8	58.9						
Kajiado	97.5	93.2	98.3	94.5	97.5	96.4	97.4	9.8	9.8	29.5	9.1	33.8	27.6	6.9	37.1						
Kericho	93.9	85.6	94.3	94.2	69.9	83.2	95.6	22.7	11.9	25.9	14.5	27.9	30.5	12.1	56.6						
Bomet	92.3	95.6	87.2	96.6	75.3	62.4	95.7	20.5	6.8	35.6	11.2	22.7	30.9	10.8	54.1						
Kakamega	91.8	95.3	90.7	95.4	76.4	75.8	89.4	29.5	14.6	35.4	16.7	68.8	58.1	11.4	85.9						
Vihiga	98.9	98.6	97.2	97.8	96.5	95.5	97.8	22.1	9.8	44.0	14.9	30.7	26.2	7.7	83.9						
Bungoma	97.4	94.9	95.6	96.1	80.2	85.6	93.6	32.1	17.2	54.8	17.6	61.6	57.5	18.1	84.3						
Busia	87.3	84.1	90.3	93.8	63.5	70.9	86.2	29.1	14.3	46.8	17.3	47.3	36.3	11.0	71.3						
Siaya	98.0	94.2	89.1	94.7	82.2	79.8	95.8	25.8	9.6	7.8	10.3	23.7	14.8	4.9	72.3						
Kisumu	99.7	96.1	98.2	96.9	95.0	95.8	92.7	20.1	13.6	20.4	15.0	15.3	20.2	4.7	55.1						
Homa Bay	97.2	93.3	95.4	92.7	94.3	92.0	94.6	28.5	19.9	47.6	13.8	27.4	38.6	9.2	83.2						
Migori	99.4	98.0	99.6	100.0	94.8	95.2	96.0	20.6	13.8	27.7	9.7	32.3	30.9	9.0	62.2						

County	Food Commodities Availability							Average Price Change (Feb-May) Per cent							FIES
	Maize	Rice	Vege- table	Sugar	Onions	Toma- toes	Milk	Maize	Rice	Vege- table	Sugar	Onion	Toma- toes	Milk	Preva- lence of mod- erate food insecu- rity
Kisii	99.2	98.7	99.0	99.0	95.4	90.6	85.6	20.4	18.5	35.8	10.2	44.7	55.6	23.1	52.4
Nyamira	98.1	92.4	98.0	96.5	92.5	95.7	95.7	21.7	13.1	22.6	13.8	23.7	22.2	8.7	62.6
Nairobi	99.4	98.8	99.2	99.2	98.1	98.5	99.0	10.4	10.6	13.8	9.6	23.9	24.5	3.7	60.8
<b>National</b>	<b>97.3</b>	<b>95.1</b>	<b>94.8</b>	<b>96.0</b>	<b>90.4</b>	<b>89.3</b>	<b>95.4</b>	<b>18.4</b>	<b>14.5</b>	<b>25.1</b>	<b>13.0</b>	<b>34.0</b>	<b>32.0</b>	<b>9.8</b>	<b>57.6</b>

Table 5: Annex 2: (Wave 2) Summary of Food Availability, Accessibility, Stocks and Prevalence of Food Insecurity by County

County	Access- sibility	Food Commodities Availability										Food Stocks			FIES		
		Market Ac- ces- sibility	Cere- als/ grains/ roots/ tubers	Le- gumes/ nuts	Milk/ dairy prod- ucts	Meat/ fish/ eggs	Veg- eta- bles/ leaves	Fruits	Oils/ fats/ butter	Sug- ar/ sweet	Condi- ment/ spices	Less Than A Week	7-14 Days	15- 30 Days		More Than A Month	Preva- lence of food inse- curity
Momba- sa	90.4	96.7	96.7	96.5	96.7	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	24.3	7.6	12.4	77.5
Kwale	85.6	94.0	94.0	93.7	93.1	85.3	83.2	93.4	94.0	93.4	94.0	93.4	93.4	21.6	13.5	4.5	55.7
Kilifi	74.8	97.5	96.4	96.4	87.1	95.3	95.7	96.4	94.6	88.5	96.4	94.6	88.5	16.1	7.2	7.9	66.6
Tana Riv- er	85.5	87.3	83.4	85.2	74.2	72.1	76.3	78.1	81.3	74.9	77.4	77.4	74.9	9.5	6.7	6.4	70.7
Lamu	83.8	88.1	85.6	92.1	88.8	92.1	94.6	88.8	89.9	83.5	83.5	83.5	83.5	16.2	13.7	14.0	71.4
Taita / Taveta	87.9	95.5	95.5	95.5	93.9	88.9	91.4	94.9	94.4	95.5	94.4	94.4	95.5	22.2	9.6	9.6	68.0
Garissa	61.5	92.3	77.8	96.3	90.5	68.6	67.4	94.5	95.7	83.1	94.5	95.7	83.1	14.5	31.4	7.4	43.0
Wajir	73.0	59.0	51.9	70.1	63.0	45.8	45.6	60.5	71.0	47.8	60.5	71.0	47.8	5.4	12.0	28.3	58.2
Mandera	75.2	95.4	57.8	84.9	64.2	57.8	54.6	84.9	89.4	78.4	84.9	89.4	78.4	37.6	11.9	4.1	66.5
Marsabit	85.1	91.8	92.3	95.2	84.1	74.0	66.8	88.5	88.0	73.1	88.5	88.0	73.1	27.4	26.4	3.8	56.4
Isiolo	69.6	96.0	92.9	98.2	98.2	72.8	73.7	95.1	94.2	92.4	94.2	94.2	92.4	21.9	11.2	15.6	57.2
Meru	72.6	95.4	94.8	96.0	94.8	93.2	92.3	96.6	96.6	96.6	96.6	96.6	96.6	15.1	9.2	14.2	53.3

County	Accessibility	Food Commodities Availability										Food Stocks			FIES
		Market Accessibility	Cereals/grains/roots/tubers	Legumes/nuts	Milk/dairy products	Meat/fish/eggs	Veg-eta-bles/leaves	Fruits	Oils/fats/butter	Sugar/sweet	Condiment/spices	Less Than A Week	7-14 Days	15-30 Days	
Tharaka-Nithi	78.9	99.6	99.1	99.6	96.5	96.0	95.6	99.6	99.6	99.6	57.7	14.1	15.0	13.2	59.8
Embu	97.5	90.8	80.9	98.9	64.7	96.8	94.3	90.5	98.9	80.6	71.4	14.5	8.5	5.7	34.0
Kitui	60.7	98.3	98.6	96.0	91.9	89.1	85.3	98.3	97.9	95.7	38.6	30.1	20.9	10.4	40.9
Machakos	90.8	97.0	96.7	97.4	95.4	95.4	97.4	97.7	98.4	97.7	34.4	24.9	20.3	20.3	33.6
Makueni	80.8	88.1	87.4	87.4	86.8	78.1	81.5	87.4	88.1	86.1	35.4	34.1	12.3	18.2	17.9
Nyanjiru	90.8	97.4	94.8	99.3	98.9	98.5	94.8	98.9	98.2	98.2	74.2	11.1	8.1	6.6	38.0
Nyeri	95.6	99.6	98.8	99.6	98.8	98.8	99.6	99.2	98.8	99.2	57.0	17.1	8.4	17.5	32.9
Kirinyaga	81.5	97.0	96.3	90.1	89.1	95.8	96.3	96.3	96.3	88.6	58.8	24.4	8.9	7.9	39.8
Muranga	80.2	96.4	96.8	96.8	95.1	96.4	96.4	96.4	96.8	96.8	72.7	14.0	6.5	6.8	63.5
Kiambu	73.9	96.8	96.1	97.7	96.3	97.5	95.4	97.2	97.5	87.5	60.0	21.2	11.1	7.6	52.2
Turkana	84.8	96.0	92.0	88.4	89.7	80.8	76.8	90.2	93.3	90.2	78.1	11.6	7.1	3.1	90.3
West Pokot	80.6	90.5	86.3	93.4	92.4	91.9	90.5	91.9	95.7	90.5	49.3	20.4	15.6	14.7	47.8
Samburu	84.9	93.3	86.5	91.7	83.7	67.1	74.6	84.5	92.9	89.7	77.0	17.1	4.4	1.6	50.3

County	Accessibility	Food Commodities Availability										Food Stocks			FIES		
		Market Accessibility	Cereals/grains/roots/tubers	Legumes/nuts	Milk/dairy products	Meat/fish/eggs	Veg-eta-bles/leaves	Fruits	Oils/fats/butter	Sugar/sweet	Condiment/spices	Less Than A Week	7-14 Days	15-30 Days		More Than A Month	Prevalence of food insecurity
Trans																	
Nzola	86.6	91.9	95.8	95.4	96.5	88.7	94.0	96.8	96.8	96.8	57.6	11.3	14.5	16.6	59.7		
Uasin Gishu	80.0	93.0	92.1	95.0	92.1	88.4	87.5	94.1	95.2	94.1	60.5	14.0	10.1	15.4	46.4		
Elgeyo/Marakwet	67.4	98.7	89.9	98.7	90.3	96.5	83.7	85.0	85.9	87.2	42.3	16.7	18.1	22.9	54.6		
Nandi	73.6	76.2	75.6	76.2	76.2	75.6	66.8	77.9	77.5	77.5	59.9	21.5	9.4	9.1	46.7		
Baringo	50.2	96.9	97.2	94.0	95.6	93.4	93.7	97.5	97.8	97.8	45.9	26.7	7.9	19.5	44.7		
Laikipia	78.4	97.3	93.8	98.3	91.8	96.9	95.5	98.3	97.9	97.6	55.8	20.2	9.9	14.0	40.6		
Nakuru	61.7	97.3	94.9	98.5	93.7	97.6	94.4	98.3	97.8	96.1	59.7	16.5	7.5	16.3	60.2		
Narok	70.9	92.1	92.7	97.0	94.5	94.5	89.7	93.9	95.8	93.9	61.8	16.4	11.5	10.3	56.7		
Kajiado	62.2	88.2	87.4	89.4	89.4	84.6	88.6	87.8	87.8	88.6	60.6	19.1	11.0	9.3	49.4		
Kericho	74.7	96.2	91.8	97.3	93.5	90.4	95.5	96.6	96.6	96.6	60.3	13.7	9.2	16.8	57.7		
Bomet	80.8	92.5	89.3	97.2	90.4	85.1	87.2	96.8	97.5	97.5	58.0	17.1	10.0	14.9	42.1		
Kakamega	83.2	90.7	88.5	95.3	93.1	86.9	86.0	96.3	97.2	94.1	79.8	8.4	6.2	5.6	88.3		
Vihiga	88.7	98.0	96.1	96.9	93.4	98.0	95.3	96.9	97.3	97.3	87.5	7.8	2.3	2.3	83.8		

County	Access- sibil- ity	Food Commodities Availability										Food Stocks			FIES
		Cere- als/ grains/ roots/ tubers	Le- gumes/ nuts	Milk/ dairy prod- ucts	Meat/ fish/ eggs	Veg- eta- bles/ leaves	Fruits	Oils/ fats/ butter	Sug- ar/ sweet spices	Condi- ment/ spices	Less Than A Week	7-14 Days	15- 30 Days	More Than A Month	
Bungo-	80.1	94.6	93.8	96.0	96.4	83.0	89.5	97.5	97.5	95.7	74.3	13.4	7.6	4.7	78.8
Busia	65.4	88.3	80.3	90.0	92.6	88.3	83.2	94.2	95.8	92.9	78.3	10.0	6.1	5.5	68.3
Siaya	72.3	93.4	91.9	95.2	93.4	93.4	94.8	95.6	93.7	86.3	87.1	8.5	1.8	2.6	83.2
Kisumu	74.1	98.2	93.6	96.8	95.0	98.2	95.0	87.3	95.5	97.7	70.5	20.5	6.4	2.7	68.9
H o m a Bay	75.4	94.8	78.6	90.5	86.5	96.4	88.1	88.5	97.6	94.0	76.6	10.7	7.5	5.2	80.7
Migori	75.8	97.6	95.6	97.6	96.9	97.3	98.0	96.6	97.3	96.9	60.4	7.8	6.1	25.6	59.0
Kisii	65.0	98.0	92.5	96.2	93.6	95.4	94.0	92.9	95.1	94.9	59.1	23.7	9.3	8.0	67.2
Nyamira	75.0	89.3	89.7	92.4	87.1	92.9	85.3	94.6	96.0	92.9	74.9	11.7	6.3	7.2	66.6
Nairobi City	83.4	97.8	96.1	98.2	97.6	96.1	94.6	97.7	98.3	97.2	51.5	22.2	12.7	13.6	56.4
<b>National</b>	<b>77.6</b>	<b>94.6</b>	<b>92.0</b>	<b>95.2</b>	<b>92.4</b>	<b>91.3</b>	<b>90.4</b>	<b>94.5</b>	<b>95.6</b>	<b>92.8</b>	<b>60.4</b>	<b>18.1</b>	<b>10.3</b>	<b>11.1</b>	<b>58.0</b>



Table 6: Annex 3: Food Insecurity Experience Scale Questions

	Standard Label	Question wording
1	Worried	During the last 14 Days, was there a time when You were worried you would not have enough food to eat because of a lack of money or other resources?
2	Preferred (Healthy)	Still thinking about the last 14 Days, was there a time when you were unable to eat healthy and nutritious food because of a lack of money or other resources?
3	Fewfoods	Was there a time when you ate only a few kinds of foods because of a lack of money or other resources?
4	Skipped	Was there a time when you had to skip a meal because there was not enough money or other resources to get food?
5	Ateless	Still thinking about the last 14 Days, was there a time when you ate less than you thought you should because of a lack of money or other resources?
6	Ranout	Was there a time when your household ran out of food because of a lack of money or other resources?
7	Hungry	Was there a time when you were hungry but did not eat because there was not enough money or other resources for food?
8	Wholeday	During the last 14 Days, was there a time when you went without eating for a whole day because of a lack of money or other resources?

## Annex 4: Glossary

**Food Security-** The Food and Agriculture Organization (FAO) defines food security as “the state in which at all times, all members of a given population have physical and economic access to sufficient, safe and nutritious foods capable of satisfying their dietary needs and preferences to sustain active and healthy living”. The four pillars of food security include: availability which addresses the supply side and is determined by production; accessibility which focuses on economic power to access food, food prices and markets; stability which focuses on accessibility at all times and finally utilization which is concerned with how individuals’ bodies absorb nutrients from food consumed (Peng & Berry, 2018)at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Four dimensions of food security have been identified in line with different levels.

**Household-** A household is defined as a) a single individual who makes provision for his/her own needs without being a part of a group living together, or b) a group of people living together with a common provision of food and other essential needs.

**Food Insecurity Experience Scale-** A tool used to measure household food insecurity based on household members’ experiences. The tool has a set of eight questions administered and analysed together to estimate food insecurity.

**Moderate food insecurity-** Moderate food insecurity exists when individuals/ households consume inadequate quantities of food and compromise on quality of diet.

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