









Figure 1: Damaged rice fields in Karlu, Yukumu Kpukumu Krim chiefdom, Pujehun district, October 2019

# FINDINGS OF SIERRA LEONE JANUARY 2020 FOOD SECURITY MONITORING

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Food and Agriculture Organization of the United Nations



For a world without hunger

## Preface

Timely provision of food security and monitoring data is critical to tracking Sierra Leone's progress towards Sustainable Development Goal 2: Zero Hunger. To provide accurate food and nutrition security data, the Ministry of Agriculture and Forestry (MAF), the Ministry of Health and Sanitation (MoHS), Statistics Sierra Leone (Stats SL), the Food and Agriculture Organisation of the United Nations (FAO), the United Nations World Food Programme (WFP) and Food Security Working Group (FSWG) partners are collaborating to strengthen the Food Security Monitoring System (FSMS) aspect of the national Early Warning System (EWS).

The FSMS is implemented twice per year, once in the immediate post-harvest period (January – February) and again during the height of the "lean season" (August – September) - when access to and availability of food is reduced - in order to effectively monitor food security levels in Sierra Leone, better understand their dynamics and compare the situation with other West African countries through the Cadre Harmonisé.

Overall, the findings of the 2020 FSMS show a concerning deterioration in food security in Sierra Leone compared to February 2019, with the total food insecure population increasing from 34 percent to 47.7 percent. This implies that almost half of the population of Sierra Leone (3,921,752) are not consuming a sufficiently nutritious diet to live a healthy life. The population categorised as being severely food insecure also steeply increased, from 0.7 percent reported by the February 2019 FSMS to 4.6 percent in January 2020 (382,389 people).

The deterioration in food security levels is concerning and reflects increasing vulnerability of poor households in Sierra Leone over the past two years. Likely drivers of increasing food insecurity in Sierra Leone are recurrent climatic shocks, including flooding and erratic precipitation levels during the seasonal rains, in addition to a challenging macroeconomic situation. These shocks have not only increased short-term hunger, but also compromised the resilience of poor households. Whilst food insecurity is highest in rural districts, it should be noted that the January 2020 FSMS shows a sharp increase in the number of urban residents living in food insecurity.

Successfully reducing food insecurity in Sierra Leone requires a concerted and collaborative response by food security partners to successfully tap into the country's huge potential for agricultural production. This response should strive to find innovative solutions to support Sierra Leoneans to optimally and sustainably utilize their natural resource base, whilst at the same time implementing measures to enable Sierra Leone and its farmers to effectively adapt to a changing climate.

We are highly appreciative to all the data collection staff from MAF, MOHS, Stats SL, WFP and FAO for their hard work and commitment to making the January 2020 FSMS a success. We are also indebted to the 3,066 households who provided the time and information required to compile the report. Many thanks to FAO and Welthungerhilfe for supporting implementation of the FSMS. Moving forward, this strong spirit of partnership and collaboration will lay the foundation to building a more resilient Sierra Leone.

Mr Dennis K Vandi Hon. Minister of Agriculture & Forestry

Dr. Housainou Taal WFP Rep. & Country Director

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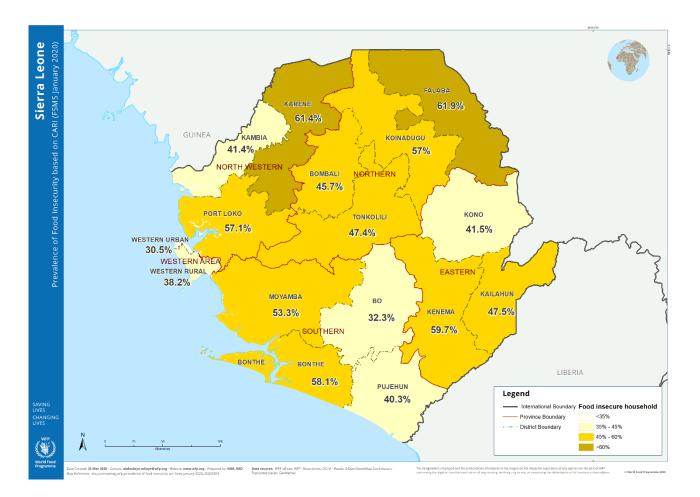
## Executive Summary

- Overall, the total food insecure population increased from 34 percent in February 2019 to 47.7 percent in January 2020. This implies that almost half of the population of Sierra Leone (3,921,752)<sup>1</sup> are not consuming a sufficiently nutritious diet to live a healthy life.
- Severely food insecure population increased from 0.7 percent in February 2019 to 4.6 percent (382,389 people) in January 2020.
- Among the districts, Falaba recorded the highest proportion of food insecure households (61.9 percent), followed by Karene (61.2 percent), Kenema district (59.8 percent), Bonthe (58.1 percent) and Koinadugu districts (57.0 percent).
- In absolute terms, food insecurity increased markedly in Western Area Urban (Freetown), from 4.6 percent to 30.5 percent.
- The highest proportions of households living in severe food insecurity were found in Moyamba (13.8 percent), Falaba (10.8 percent), Kenema (10.5 percent) and Pujehun (10.2 percent) districts.
- Market price data for 2019 shows significant increases in the price of imported and local rice (both 33 percent), cassava (52 percent) and *bonga* fish (67 percent).
- The proportion of households categorised as having poor Food Consumption Score (FCS) increased four-fold from 6.8 percent in February 2019 to 24.8 percent in January 2020.
- Households are resorting to more extreme livelihood coping strategies to survive, with the proportion of households adopting "emergency" measures doubling from 6.9 percent in February 2019 to 13.7 percent in January 2020.
- The proportion of households spending over 65 percent of their household expenditure on food increased from 52.7 percent in February 2019 to 58.5 percent in January 2020.

## Recommendations

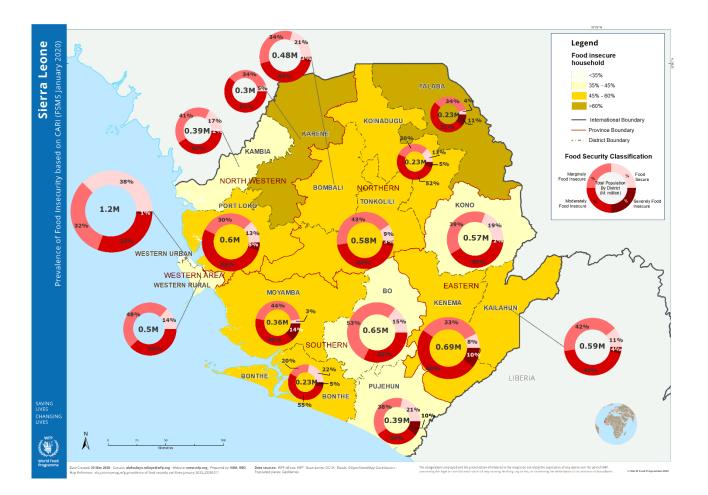
- 1. Food assistance in the form of a Cash Based Transfer [CBT] to severely food insecure households in urban areas to enhance short-term food security and prevent adoption of increasingly risky coping strategies.
- 2. Support vulnerable, rural, farming communities, prioritizing the participation of severely food insecure households, to develop productive agricultural assets.
- 3. Support severely food insecure households in most affected districts with agricultural and livelihood start-up kits and conditional cash-based transfers.
- 4. Provide targeted unconditional in-kind food assistance to severely food insecure households in affected districts from May to reduce short-term hunger.
- 5. Continue to support smallholder farmers to increase their yields through timely provision of improved seeds, agricultural inputs and training in improved practices.
- 6. Reduce post-harvest losses and increase efficiency by building farmer capacities and capabilities in post-harvest management.
- 7. Scale-up stunting prevention initiatives focusing on rolling out Social, Behavioural Change Communication activities on optimal dietary practices and support farmers with inputs.
- 8. Build the sustainability of the artisanal fishing sector by supporting fishermen and women with cold storage capabilities to reduce need to smoke fish.
- 9. Strengthen existing Early Warning Systems, including national meteorological forecasting capabilities, and support timely dissemination of weather information to smallholder farmers.

<sup>&</sup>lt;sup>1</sup> 2015 Sierra Leone Housing and Population Census, projected population



## 1. Food security by district, January 2020 FSMS

2. Consolidated Approach to Reporting Indicators of Food Security, by district January 2020 FSMS



## Contents

1.	Food security by district, January 2020 FSMS 4
2.	Consolidated Approach to Reporting Indicators of Food Security, by district, January 2020 FSMS 5
3.	Overview of food security situation in Sierra Leone, January 2020 FSMS7
Me	thodology and objectives
Nat	ional level trends
Pot	ential drivers of food insecurity: climate and macroeconomic shocks7
Ηοι	seholds increasingly implementing negative coping strategies
Foo	d insecurity at district-level
4.	Retail price trends of key staples in Sierra Leone10
R	etail price of local and imported rice10
R	etail price of cassava:
R	etail price of fish bonga:
5.	Food consumption score by district, comparing February 2019 to January 2020 11
6.	Livelihood coping strategies by district, comparing February 2019 to January 2020
7.	Reduced coping strategy index by district, comparing February 2019 to January 202014
8.	Share of household expenditure on food by district, comparing February 2019 to January 2020 15
5.	Recommendations

## 3. Overview of food security situation in Sierra Leone, January 2020 FSMS

## Methodology and objectives

In January 2020, the Ministry of Agriculture and Forestry (MAF), Statistics Sierra Leone (Stat-SL), the Food and Nutrition Directorate (FND) of the Ministry of Health and Sanitation (MOHS), the United Nations World Food Programme (WFP) and Food and Agricultural Organisation (FAO), Welthungerhilfe (WHH) and other members of the Sierra Leone Food Security Working Group (FSWG) undertook a Food Security Monitoring System (FSMS) exercise. MAF, Stats-SL and WFP coordinated and supervised data collection, cleaning and undertook joint verification and analysis. FAO, WHH and WFP provided financial resources to undertake the January 2020 FSMS. It should be noted that as the February 2019 FSMS used the 2004 Stats-SL sampling frame – i.e. before de-amalgamation of 14 districts to 16 districts in 2017, district level data for Falaba and Karene could not be disaggregated. For January 2020 FSMS, the 2015 Stats-SL sample frame was used, thus district-level data is provided for all 16 districts.

The purpose of the January 2020 FSMS was to measure and understand the dynamics of food security in Sierra Leone during the post-harvest period. The FSMS is undertaken twice per year – once in the post-harvest period and again during the lean season – to provide empirical information on food security in Sierra Leone throughout the year and has been implemented since 2018. The FSMS collects food security data at the district-level across Sierra Leone's 16 districts. The January 2020 FSMS targeted a total of 272 enumeration areas using the 2018 sentinel sites across 16 districts using the 2015 sampling frame of Stat-SL. Out of a planned 3,240 household interviews, the FSMS interviewed 3,066 households, representing a 95 percent response rate. Data was digitally collected between 25 January – 5 February 2020 by a team of 120 enumerators and supervisors from MAF, Stat SL, FND, FAO and WFP staff using the Open Data Kit (ODK) platform. After downloading, cleaning and analysing, data was presented to a team of statisticians from MAF, Stat SL, FND, FAO and WFP on 25<sup>th</sup> February 2020 for validation.

#### National level trends

Overall, the January 2020 FSMS shows a deterioration of the food security situation when compared to the February 2019 FSMS, also collected during the post-harvest period and thus comparable. Nationally, the total food insecure population increased from 34 percent in February 2019 to 47.7 percent in January 2020, a significant increase and of high concern considering that access to and availability of food should be highest during the post-harvest period. This implies that almost half of the population of Sierra Leone (3,921,752 people)<sup>2</sup> are not consuming a sufficiently nutritious diet to live a healthy life. The January 2020 FSMS showed that 4.6 percent (382,309 people) of Sierra Leoneans are severely food insecure, the same as recorded by the August 2019 FSMS (lean season) and a significant increase from 0.7 percent reported by last FSMS undertaken in the post-harvest period in February 2019.

## Potential drivers of food insecurity: climate and macroeconomic shocks

The significant deterioration of national food security during 2020 post-harvest period likely reflects the impact of erratic rainfall patterns observed in both 2018 and 2019 on agricultural production, in addition to a challenging macroeconomic situation and a trend of recurrent economic and environmental shocks that have exacerbated hardship among already vulnerable households. Rapid assessment reports on the impact of late onset of the rainy season and lower than average precipitation levels undertaken by MAF with support from WFP and other FSWG partners indicated that erratic rainfall – defined as late, unevenly distributed and flooding - had had a profound impact on already very low productivity levels, contributing toward poor germination of seeds, die off of seedlings and waterlogging of fields and crops, etc., further reducing yields, reducing food availability and depleting household food stocks.<sup>3</sup> It should also be noted that widespread seasonal flooding events in August 2017 and August 2019 combined with long-term socio-economic impacts of the 2014-15 Ebola Virus Disease outbreak may have also contributed toward increasing food insecurity.

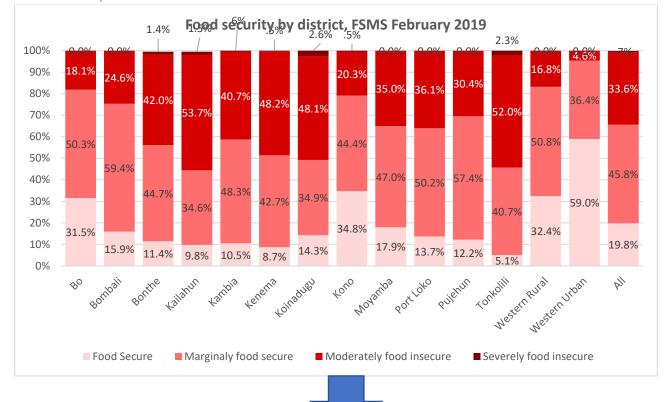
<sup>&</sup>lt;sup>2</sup> 2015 Sierra Leone Housing and Population Census, *projected population* 

<sup>&</sup>lt;sup>3</sup> June 2018, MAF, FAO and WFP, *Rapid Assessment of the Impact of Erratic Rainfall on Agricultural Production in Sierra Leone* and October 2019, Government of Sierra Leone, FAO and WFP *Crop Damage Assessment* 

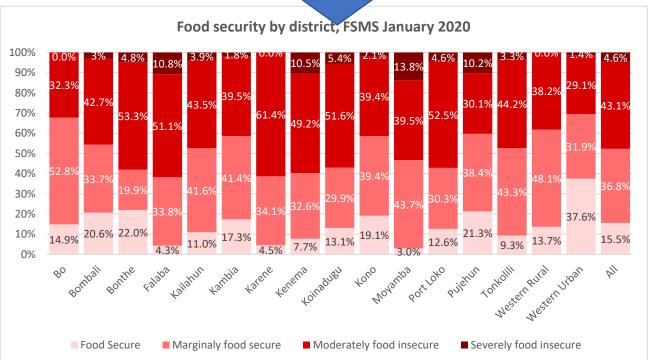
Furthermore, climatic variations have been compounded by a challenging macroeconomic situation characterised by high inflation, increasing food prices and reducing income generating opportunities for Sierra Leoneans, negatively impacting all Sierra Leoneans but disproportionately being borne by urban dwellers who rely on wage labour opportunities and market purchases to meet their food needs.

#### Households increasingly implementing negative coping strategies

Considering extreme poverty pervasive across Sierra Leone characterised by very low household incomes and extremely high proportion of available expenditure dedicated to buying food, recurrent climate and economic shocks have contributed toward vulnerable households having to adopt a range of negative coping strategies, including increasing "emergency" and "crisis" types of coping strategies that entail the distress sale of productive livelihood assets. This trend had a disastrous impact on poor households, undermining long-term resilience.



#### Food insecurity at district-level



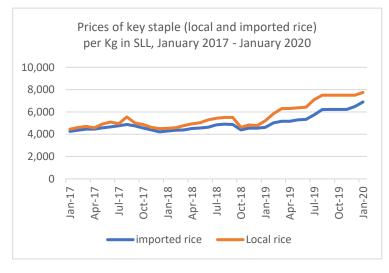
In absolute terms, food insecurity increased markedly in Western Area Urban – the capital Freetown – from 4.6 percent in February 2019 to 30.5 percent in January 2020, a concerning trend that likely reflects the impact of an extended challenging macroeconomic situation characterised by stagnating wage labour opportunities, unemployment and high inflation. Depreciation of the Leone has greatly exacerbated the vulnerability of urban residents who solely rely on market purchase of predominantly imported food commodities to meet their household food needs. This may indicate the need to recalibrate and increase food security and livelihood activities that target urban centres.

Among the districts, Falaba recorded the highest proportion of households categorised as both moderately and severely food insecure (61.9 percent), likely reflecting the remote and hard to reach nature of this locality served by deplorable roads that impede the inflow of food commodities and outflow of smallholder produce to market. Karene district had the second highest proportion of food insecure households (61.2 percent), likely caused by remoteness of some areas and the impact of 2019 erratic rainfall patterns on agricultural production. Kenema district had the third highest proportion of food insecure households (59.8 percent), potentially demonstrating impact of price-related dynamics impacting on food access among mining households in the district that rely on market purchase. Food insecurity was also high in Bonthe and Koinadugu districts (58.1 percent and 57.0 percent respectively), representing chronic problems of very poor physical access (riverine areas in Bonthe and poor road conditions in Koinadugu) in addition to the impact of erratic rainfall in Koinadugu and widespread flooding in Bonthe in August 2019 that destroyed crops, reduced production and limited food access.

In terms of the highest proportion of households living in severe food insecurity – i.e. households with extreme food consumption gaps or those that experience loss of livelihood assets that lead to consumption gaps - Moyamba district recorded the highest proportion (13.8 percent) of severely food insecure households, followed by Falaba (10.8 percent), Kenema (10.5 percent) and Pujehun (10.2 percent) districts. Indeed, the sharp increase in the proportion of households categorised as severely food insecure from 0.7 percent to 4.6 percent is of high concern, and likely reflects the combined impact of years of successive and cumulative climate, economic and disease shocks that have contributed toward the adoption of emergency and crisis coping strategies that have depleted livelihood assets and plunged households into extreme poverty. Severely food insecure households will require concerted resilience building support to augment their long-term food security.

#### 4. Retail price trends of key staples in Sierra Leone

The prices of local and imported food commodities continued to increase nationwide, predominantly due to the depreciation of the Leone against the US Dollar (US\$) in addition to the impact of climate related shocks which reduced yields of locally produced crops.



Retail price of local and imported rice

The price of local rice significantly increased between January 2019 and 2020, from SLL5,203 to SLL 7,750 (an increase of 33 percent). This price increase is likely attributed to impact of erratic rainfall in 2019 on agricultural yields, with supply-side reductions putting upward pressure on prices. Similarly, the price of imported rice sharply increased from SLL4,624 in January 2019 to SLL6,896 in January 2020 (an increase of 33 percent). This price increase reflects the impact of the depreciation of the Leone during the reporting period, reducing purchasing power.

#### Retail price of cassava:

In Sierra Leone and neighbouring Guinea and Liberia, cassava is a close substitute to rice and is used to

produce foods including *gari, foofoo* and other products. Accordingly, a rise in the price of rice will likely trigger a parallel increment in the price of cassava. Furthermore, cassava yields were also shown to be negatively impacted by erratic rainfall in 2019.

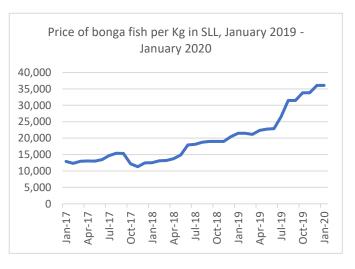
Price monitoring data shows a dramatic and rapid increase in the price of cassava, from SLL1,750 in January 2019 to SLL 3,634 in January 2020 (an increase of 52 percent).

#### Retail price of fish bonga:

Locally caught and processed dried *bonga* fish is a typical item in the food basket of Sierra Leoneans and a common source of protein. Due to extremely low purchasing power of most Sierra Leonean households, bonga is mostly used sparingly as a condiment.

Price monitoring data shows a significant increase (67%) in the cost of bonga from SLL21,508 in January 2019 to SLL36,000 in January 2020, potentially reflecting depletion of fish stocks in Sierra Leone's coastal areas due to the impact of widespread illegal, unregulated and unsustainable fishing by foreign vessels.

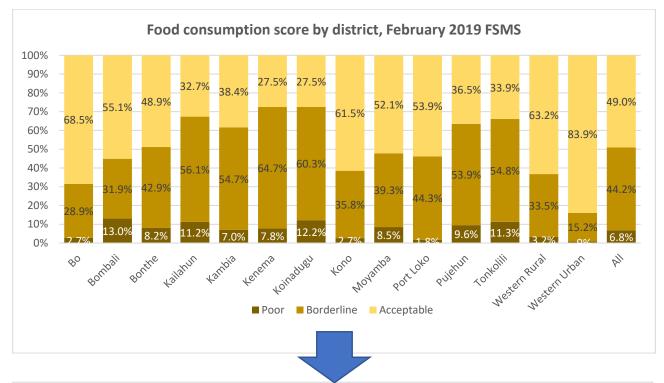


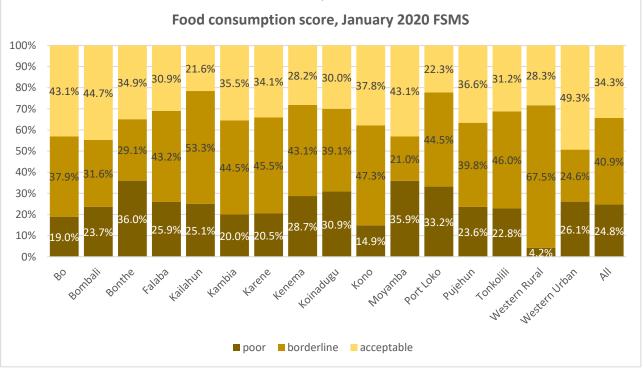


## 5. Food consumption score by district, comparing February 2019 to January 2020

The Food Consumption Score (FCS) is a composite score based on dietary diversity, food frequency, and relative nutritional importance of different food groups. Information is collected from a country specific list of food items and food groups, with surveyed households asked a series of questions to find out information about the frequency and composition of consumption (in days) over a recall period of the past 7 days. Based on their responses, households are then categorised as below:

FCS Category	Definition				
Poor	Household regularly <b>does not</b> consume a diet with requisite kilocalorie content and/or dietary diversity to live a healthy life				
Borderline	Household occasionally supplements consumption of carbohydrates with other more nutritious food sources, however, below optimum or recommended requirements				
Acceptable	Household regularly consumes a diet with appropriate kilocalorie content and/or dietary diversity to live a healthy life				





When a household is under stress, it employs certain strategies to mitigate the effect of the situation. Such strategies are called coping strategies (or coping mechanisms). When shocks frequently affect a household, the number and duration of coping strategies employed increases. However, under normal conditions, most households do not rely on coping strategies to survive. Coping strategies adopted can either resort to changing family consumption of food – consumption-based coping strategies; or finding alternative means to maintain a certain food consumption – livelihood-based coping strategies.

The January 2020 FSMS shows a significant deterioration in overall FCS in Sierra Leone, with the proportion of households categorised as having poor FCS increasing four-fold from 6.8 percent in February 2019 to 24.8 percent in January 2020. Households with poor FCS are at high-risk of suffering from malnutrition, with young children and Pregnant and Lactating Women (PLW) particularly vulnerable. Although the proportion of households with borderline FCS improved slightly, reducing from 44.2 percent in February 2019 to 40.9 percent in January 2020, this is likely due to many households FCS falling into the poor category. The two-fifths of households with borderline FCS are at risk of further deteriorations in their food security status in the event of further economic or environmental shocks.

Across the districts, the highest proportion of households categorised as having poor FCS were found in Bonthe (36 percent), Moyamba (35.9 percent), Port Loko (33.2 percent) and Koinadugu (30.2 percent). In absolute terms, by far the highest population of people living with poor FCS are found in Western Area Urban (Freetown), representing 24.8 percent of the population (over 250,000 residents).

## 6. Livelihood coping strategies by district, comparing February 2019 to January 2020

At times when households do not have access to enough food, they may resort to livelihood-based coping strategies that draw upon income, expenditure and asset capacities to offset a shock. The adoption of livelihood-based coping strategies is measured to better understand longer-term households coping capacities. Understanding the behaviours of households to adapt to recent crises provides insights into the difficulty of their situation, and how likely they will be to meet challenges in the future.

Livelihood-based coping strategies are divided into three different types contingent on their severity: stress, crisis or emergency, with definitions and examples of each articulated in the table below.

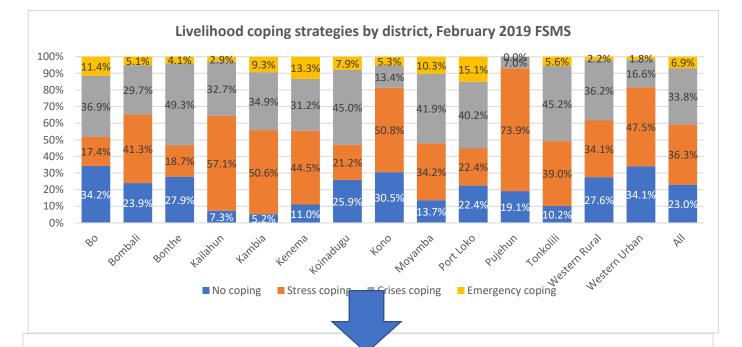
Type of	Definition	Example	
Strategy			
Stress	Reduce ability to deal with future shocks due to a current	Borrowing money or	
strategies	reduction in resources or increase in debt	spending savings	
Crisis	Directly reduce future productivity, including human capital	Selling productive	
strategies	formation	assets.	
Emergency	More difficult to reverse and affect future productivity	Selling one's land or	
strategies		house.	

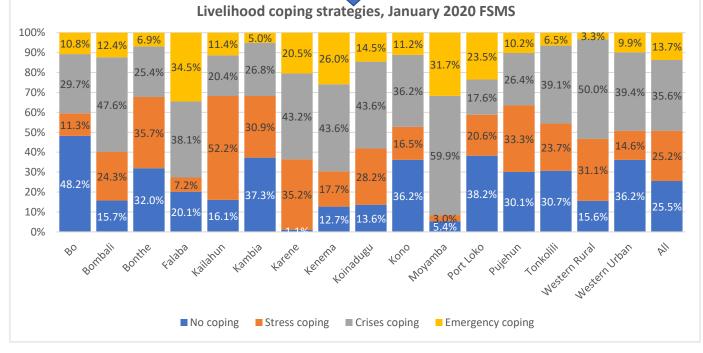
Stress			Crisis		Emergency	
1.	Sold household	1.	Sold productive assets or means	1.	Sold house or land	
	assets/goods		of transport	2.	Begged	
2.	2. Purchased food on credit		Reduced health and educational	3.	Sold last female animal	
3.	3. Spent savings		expenditures			
4.	Borrowed money	3.	Withdrawn children from school			

Households were asked whether they had adopted any of the above ten livelihood-based coping strategies within the 30 days prior to the survey, categorized by type of strategy.

The findings of the January 2020 FSMS show that households are resorting to more extreme livelihood coping strategies to survive, with the proportion of households adopting "emergency" measures – such as selling their land, last female animal or begging, doubling from 6.9 percent in February 2019 to 13.7 percent in January 2020. This trend likely reflects the impact of *recurrent* economic and environment shocks, which have compounded the vulnerability of poor households who out of desperation and a lack of alternatives have sold productive assets to maintain food consumption. This finding is highly concerning as it implications in terms of reducing the long-term resilience of affected households to future shocks.

At district level, the highest proportion of households resorting to emergency coping strategies were in Falaba (34.5 percent), Moyamba (31.7 percent) and Port Loko (23.5 percent). Overall, the highest proportion of households adopting any type of coping strategy were found in Karene (98.9 percent) and Moyamba 94.6 percent.





## 7. Reduced coping strategy index by district, comparing February 2019 to January 2020

Households that have faced a shock are often forced to reduce their family's consumption of food as a coping strategy. Consequently, they are more likely to have poor food consumption than households that have not experienced a shock. To measure the extent to which households employ these consumptions-related behaviours to offset shocks for comparative purposes, the Reduced Coping Strategy Index (rCSI) is an indicator that examines five negative behaviours households adopted during the seven days prior to the survey, comprised of:

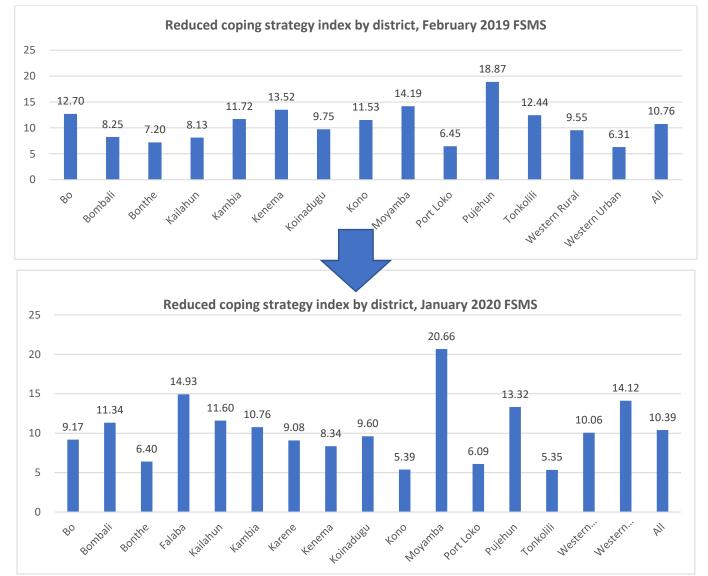
- 1) Consumption of less preferred and less expensive food;
- 4) Restriction of adults' consumption in favour of children; and

2) Borrowing of food;

5) Reduction in the number of meals per day.

3) Reduction of portion size

There is no standard cut-off point for the rCSI, but the higher the score; the more frequent and severe these strategies are, therefore, the higher the vulnerability of the household.



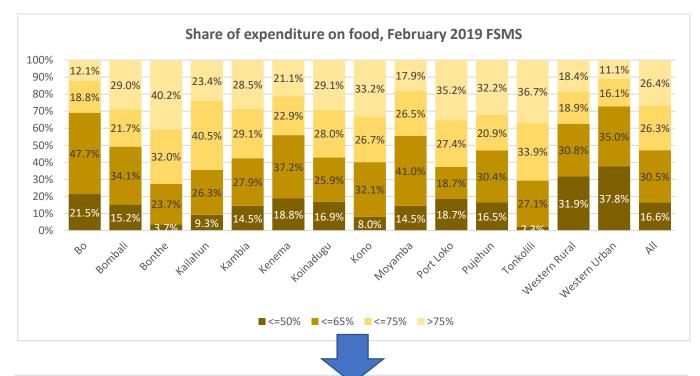
Comparing the February 2019 and January 2020 FSMS indicates a marginal improvement in the overall r-CSI, reducing from 10.76 to 10.39. However, this may simply indicate that by adopting crisis and emergency coping strategies, households have temporarily offset immediate impact of climate and economic shocks on food consumption, maintaining consumption levels as of one year before. At district level, Moyamba district recorded the highest increase in the r-CSI, from 14.19 in February 2019 (second highest nationally) to 20.66 in January 2020.

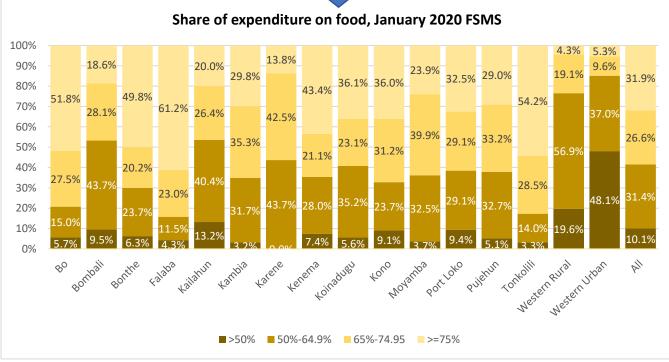
## 8. Share of household expenditure on food by district, comparing February 2019 to January 2020

Food expenditure is another significant indicator of household food security. Due to low income, the share of food expenditure as a proportion of total expenditure is higher for poor households that are forced to choose between spending on food or on non-food items. In Sierra Leone, households spend most of their income on food at the expense of social and non-food expenditures. The lower the household's income, the higher the percentage of expenditure on food. The share of expenditures devoted to food, categorizes households into the following four groups:

Very poor (spend > 75 percent on food);
Poor (spend 65 - 75 percent on food);

Borderline (spend 50 - 65 percent on food); and
Acceptable (spend < 50 percent on food).</li>





Compared to the February 2019 FSMS, the proportion of households spending over 65 percent of their household expenditure on food increased from 52.7 percent to 58.5 percent for January 2020 FSMS. This indicates a deterioration in the vulnerability status of the household, as increased expenditure on food usually comes at the cost of cutting other key costs, including those related to education and health.

## Recommendations

Based on the findings of the January 2020 FSMS, which shows a continued and significant overall decline in food security and exacerbation of the vulnerabilities of poor households in the post-harvest period (when access and availability to food is at its highest), there is a pressing need to scale up initiatives to improve short-term food and nutritional security. Considering the high proportion of households resorting to emergency and crisis coping strategies, support to households should also strive to build productive capacities and thus longer-term resilience.

Key recommendations include:

- 1. Food assistance in the form of a Cash Based Transfer [CBT] to severely food insecure households in Western Area Urban to enhance short-term food security and prevent adoption of increasingly risky coping strategies, thus contributing to the protection of women and adolescent girls. For severely food insecure households able to engage in productive asset activities (e.g. drain cleaning, waterway construction and garbage collection) support should be *conditional*. For chronically severely food insecure households (e.g. people living with disability, chronically ill, elderly headed, etc.) support should be unconditional.
- 2. Support vulnerable, rural, farming communities, prioritizing the participation of severely food insecure households, to develop productive agricultural assets that are more adaptive to climate variations. This includes assisting communities to develop small-scale irrigation systems to enable cultivation of underutilised lowlands for production of rice and vegetables throughout the year.
- 3. Immediately support severely food insecure households in most affected districts with agricultural and livelihood start-up kits and conditional cash-based transfers to strengthen their income generation capacities and build long-term resilience.
- 4. Provide targeted, unconditional in-kind food assistance to severely food insecure households in affected districts from May 2020 to reduce short-term food insecurity in anticipation of early onset of the lean season
- 5. Continue to support smallholder farmers to increase their yields through timely provision of improved seeds, agricultural inputs and trainings in improved and ecologically conserving agronomic practices.
- 6. Reduce post-harvest losses, increase efficiency and enhance food quality and safety by building farmer capacities and capabilities in post-harvest management through trainings and provision of processing and value addition machinery.
- 7. Support vulnerable rural and urban communities with food assistance (in-kind or as a CBT) to engage in activities that mitigate the impact of climate shocks, such as byelaws to prevent deforestation and reforestation of steep slopes.
- 8. Scale-up stunting prevention initiatives focusing on rolling out Social, Behavioural Change Communication activities on optimal dietary practices and supporting farmers with improved vegetable materials to increase production (and thus consumption) of protein rich food (soybeans, cowpeas and pigeon peas, etc.) and nutritious vegetables.
- 9. Build the sustainability of the artisanal fishing sector by supporting fishermen and women with cold storage capabilities to reduce need to smoke fish which drives deforestation and exacerbates vulnerability to climate change. Fishing households should also be educated to not catch immature fish which is contributing toward stock reductions. This should be reinforced through enforcing the rule of law and enhancing capabilities of Sierra Leone to patrol its maritime borders to curb ongoing illegal, unreported and unregulated fishing.
- 10. Strengthen existing Early Warning Systems, including national meteorological forecasting capabilities, and support timely dissemination of weather information to smallholder farmers to guide their decision making and enable them to adjust agricultural calendars in alignment to seasonal changes.