

SAVING
LIVES
CHANGING
LIVES



Sierra Leone

Food Security Monitoring System Report

February 2022



Government of Sierra Leone



Contents

Key findings.....	4
Context	4
Objectives	5
Methodology of FSMS	5
Climate and Weather Conditions.....	8
Rainfall Situation.....	8
Seasonal Forecast	9
Market Analysis and Price Inflation	9
Inflation.....	9
Retail Price Trends	10
Retail price of local and imported rice.....	10
Retail price of cassava.....	11
Palm Oil.....	11
Food Security Situation.....	12
Household Food Consumption	12
Household Dietary Diversity	13
Food Expenditure Share	13
Coping Strategies.....	14
Consumption Based Coping (rCSI)	14
Livelihood Coping Strategies.....	16
Food Security Situation.....	17
Food Access	20
Main Sources of Income	20
Shocks	21
Conclusions & Recommendations	22
With regard to erratic rainfall pattern risks.....	22
With regard to shocks.....	22

For more information regarding food security and vulnerability, please contact:

Ministry of Agriculture and Forestry	World Food Programme
Dr. Mohamed Ajuba Sheriff, medajuba@yahoo.com Mustapha Nyallay, mustaphanyallay001@yahoo.com	Yvonne Forsen, yvonne.forsen@wfp.org Brian Mandebvu, brian.mandebvu@wfp.org Ballah Musa Kandeh, ballahmusa.kandeh@wfp.org
Momodu Kamara, Statistics Sierra Leone, momodu.kamara@statistics.sl	

List of Figures

Figure 1: Cumulative rainfall 2021 – 2022 season	8
Figure 2: Rainfall anomaly 2021season	8
Figure 3: Forecast of Cumulative rainfall for April-May-June 2022 over southern parts of Gulf of Guinea countries. The comparison is made relatively to dates over the 1991-2020 reference period	9
Figure 4: National CPI for food and non-food items.....	10
Figure 4: Price of Rice (Import and Local).....	10
Figure 5: Price of cassava (monthly changes).....	11
Figure 6: Price of Palm Oil.....	11
Figure 7: Food Consumption Score trend analysis	12
Figure 8: Household dietary diversity (HDDS)	13
Figure 9: Food expenditure share (2019 – 2022) trend analysis	14
Figure 10: rCSI trends	15
Figure 11: rCSI by district	15
Figure 12: Livelihood coping strategy Index trends	17
Figure 14: Food insecurity comparison by district.....	19
Figure 14: Food Security Classification	20
Figure 15: Main sources of income.....	21
Figure 16: Main shocks reported by households.....	21

List of Tables

Table 1: Number of interviews by sex of respondents	6
Table 2: CARI Console	18
Table 3: Food Insecurity population	18

Key findings



This current analysis will be used as a reference point to the methodology used and according to the current results (FSMS February 2022), 73% percent of Sierra Leone's population is food insecure. Among the food insecure, 11% percent of households are severely food insecure, and 62 percent are moderately food insecure.



The Annual National Consumer Price Inflation (year-on-year) for February 2022 stood at 17.59 percent, up by 0.94 percent point from 16.65 percent in January 2022.



Local rice reported a price increase of 17 percent, while import rice reported an increase of 25%. The high increment in the price of local rice may be due to lower-than-normal yields in the last farming season, while the increase in import rice could be influenced by the increase in the global price of oil.



Cassava reported a price increase of 27 percent which is associated to the increase in the price of rice across the country as it's direct substitute because of it's increased availability and many processed products that are easily accessible.

Context

According to the 2020 *Comprehensive Food Security and Vulnerability Analysis* (CFSVA), over 4.7 million people were food insecure of which some 963,000 were severely food insecure. Over half a million people were added to the count of food insecure people since 2015. The 2020 CFSVA showed that the COVID-19 pandemic and its economic fallout contributed to a further deterioration in living conditions and reduced access to basic amenities. It found that 3.3 million people of the food insecure live in rural areas compared to 1.4 million people in urban areas. Data for the 2020 CFSVA was collected during the harvest period when the situation is expected to be better. The 2021 Food Security Monitoring System conducted in August/September also shows a deteriorating trend of food security indicators, the food consumption score, livelihood coping strategies and share of expenditure on food. The FCS for Poor households show significant deterioration when compared to the previous FSMS and CFSVA recording 37 percent of households in poor food consumption score category, indicating poor diversity of food to meet their dietary requirements. The proportion of households using above 75 percent of their expenditure on food also increase tremendously to 74 percent, indicating high level of economic vulnerability during the lean season.

To continue to monitor the precarious food security and vulnerability situation in Sierra Leone, WFP in partnership with Ministry of Agriculture and Forestry (MAF) conducted the regular Food Security Monitoring System (FSMS) in January/February 2022 to capture the trends during the post-harvest.

The two study provides insight into the levels of seasonal change in vulnerability and provide decision makers with key data to shape the targeting and design of programmes to best address seasonal food insecurity. The FSMS is also a key contributor of data to the Cadre Harmonise exercise commencing in March 2022.

In January 2022, the Ministry of Agriculture and Forestry (MAF), the United Nations World Food Programme (WFP) and other members of the Sierra Leone Food Security Working Group undertook a Food Security Monitoring System (FSMS) exercise. MAF, Stats-SL and WFP coordinated and supervised data collection, the data was analysed jointly by WFP and MAF. The purpose of the FSMS was to assess the status of food insecurity during the post-harvest season. The national FSMS collected food security data from all 16 districts

Objectives

The main objective of the FSMS is to provide timely information about household food security and vulnerability situation in the country twice a year, post-harvest and lean season. Data provide invaluable snapshots at both national and district levels to enable targeted short and long-term programming. The main outcome is to support Sierra Leone's achievement of Sustainable Development Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

Methodology of FSMS

A total of 216 households were randomly selected from each of the 16 district covering **18 villages (1 enumeration area** for each village and **12 households** per village). Each district is considered its own unit of analysis for the FSMS and results are statistically representative at district level. The first stage stratification is the random selection of EAs/villages within each district. At second stage households are randomly selected for interview within each selected EA/village. The EAs/villages are distributed based on probability proportional to size (PPS) technique.

A key element of the FSMS is the MAF and WFP *Market Price Early Warning System* - the monthly collection of prices for 29 essential commodities from about 60 markets across the country to track changes in price. Market price monitoring of food commodities is critical in Sierra Leone, as most low-income households spend a very high proportion of their total earnings on food and thus their food security and wellbeing is very sensitive to price increases. Price monitoring data is analysed by MAF and WFP and compiled into monthly and quarterly reports shared online on the WFP Vulnerability Analysis and Mapping (VAM) platform¹ and with I government counterparts and development partners as part of an Early warning system

Sampling Approach

¹ <https://dataviz.vam.wfp.org/>

The Following formula has been used for the calculation of sample size at district level.

$$n = z^2 \times \frac{p(1-p)}{d^2} \times k$$

Where:

- N = Required minimum sample size
- Z = Z-score corresponding to the degree of confidence
- P = Estimated prevalence of the outcome being measured (food insecurity)
- K = Design effect (required for two-stage cluster sampling)
- d = Minimum desired precision or maximum tolerance error

Assumptions:

- ✓ Z=1.96 (95% degree of confidence)
- ✓ Prevalence of food insecurity per last CFSVA=50%
- ✓ A design effect of 2 has been applied based on various studies
- ✓ The level of precision is 10% per common practice
- ✓ 10% added for refusal or absence.

Based on the above parameters a minimum sample size per district is calculated as 216 (adjusted). The number of districts in Sierra Leone is 16 after the de-amalgamation of districts in 2017 and the Western Area Urban Slums is taken as a separate cluster to better understand the food insecurity and vulnerability of slum dwellers.

Table 1: Number of interviews by sex of respondents

District Name	Sex of the respondent		No. of interviews
	Female	Male	
Kailahun	47%	53%	215
Kenema	40%	60%	214
Kono	52%	48%	214
Bombali	41%	59%	206
Falaba	42%	58%	199
Koinadugu	34%	66%	215
Tonkolili	44%	56%	216
Kambia	33%	67%	192
Karene	33%	67%	213
Port Loko	39%	61%	236
Bo	45%	55%	216
Bonthe	29%	71%	217
Moyamba	40%	60%	230
Pujehun	46%	54%	215
Western Area Rural	67%	33%	209
Western Area Urban	69%	31%	392
Overall	45%	55%	3,599

Source: Survey Data FSMS 2022

The FSMS uses the same sample frame that was used during the December 2020 CFSVA to target EAs in communities, Chiefdoms, and districts for data comparability purposes. Data was collected digitally using Personal Digital Assistants (PDAs) on the Open Data Kit (ODK) platform. Digital data collection boosts efficiency by eliminating the need for time consuming data entry whilst minimizing errors.

Furthermore, application of geospatial technologies allowing for advanced analyses techniques, and graphic visualization of results using graphs, charts, and maps.

Data collected was uploaded by MAF district statisticians onto an online, central server. Overall, a total of 3,599 households were randomly selected nationwide. Population weight was used for result generalization. A checklist of food security indicators was used to guide enumerators when conducting interviews. These indicators are the same as those used during the 2020 *Comprehensive Food Security and Vulnerability Analysis*, and are based on [WFP's standard methodology](#) including:

- Food consumption
- Household Dietary Diversity
- Household expenditure on food
- Coping strategies.

Collecting data for the same standard indicators as the 2020 CFSVA and six previous rounds of the FSMS enables data comparability to precisely track changes in district-level food security and vulnerability over time. All field personnel underwent a 3 days' refresher training in data collection prior to the FSMS. A technical meeting was conducted between WFP and MAF to introduce the revised CARI guidelines before conducting the training of enumerators.

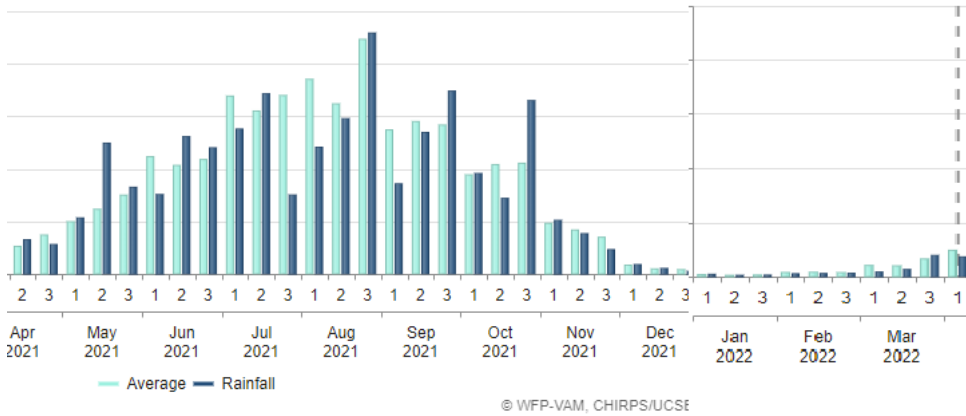
Data collection was conducted by 120 enumerators and 16 senior enumerators including MAF district statisticians and M&E staff in all sixteen districts, Stats SL staff and WFP trained enumerators who had supported previous rounds of the FSMS using digital data collection. Data collection was closely supervised by 16 supervisors from MAF and WFP VAM/M&E team. MAF Planning, Monitoring and Evaluation and Statistics Department (PEMSD) and WFP Vulnerability Analysis and Mapping (VAM) sub-unit conducted cleaning and analysis of data collected using the Statistical Packages for Social Scientists (SPSS) and Microsoft Excel, with the output being food security indicators at district and national level.

Climate and Weather Conditions

Rainfall Situation

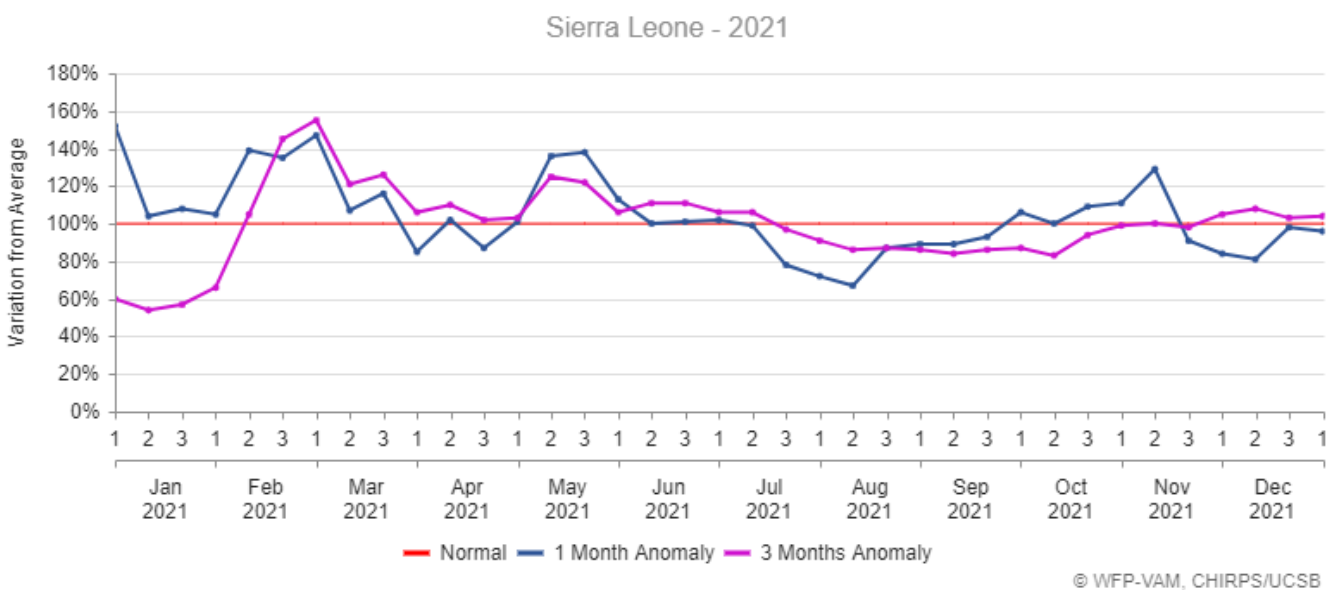
Following a timely onset of seasonal rains in 2021, planting operations for paddy rice, the major cereal grown in the country, were underway in the main producing areas in the South, in some parts of Eastern uplands and in riverine areas. The harvests were expected to start in October. (FAO GIEWS). Data from WFP’s CHIRPS ² monitoring indicates above average rainfall amounts during the 2021 rainy season which brought a positive impact on crop development of early planted crops. **(Figure 1)**

Figure 1: Cumulative rainfall 2021 – 2022 season
Sierra Leone - 2021



At the beginning of the rainy season, the one-month and three-months anomaly variation were above average supporting a good environment for crop development. However, during the peak of the rainy season July – September the one- and three-months anomaly variations were below average rainfall a critical period for growth of crops and leading to reduced production **(Figure 2)**.

Figure 2: Rainfall anomaly 2021 season

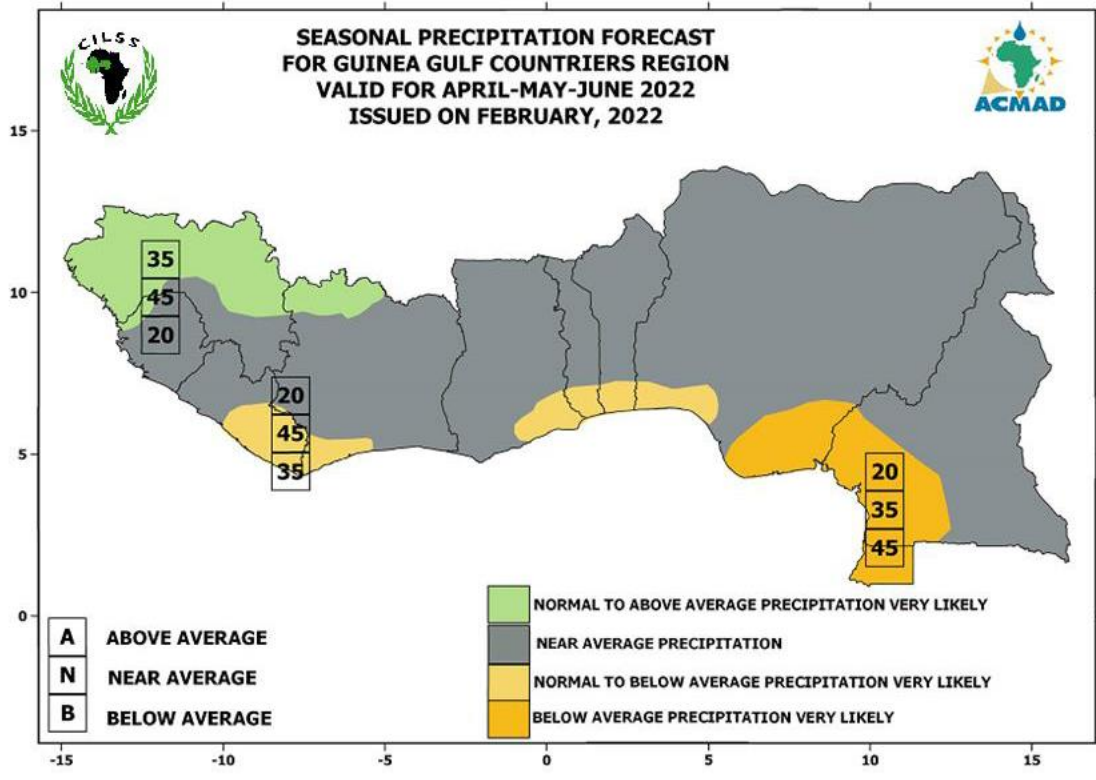


² CHIRPS - Climate Hazards Group InfraRed Precipitation with Station

Seasonal Forecast

For the period March-April-May 2022 in north western Sierra Leone near average to above average cumulative rainfall is very likely. Elsewhere, the average rainfall amounts should be expected. From April to June average to above average rainfall amounts is very likely over extreme western Sierra Leone.

Figure 3: Forecast of Cumulative rainfall for April-May-June 2022 over southern parts of Gulf of Guinea countries. The comparison is made relatively to dates over the 1991-2020 reference period



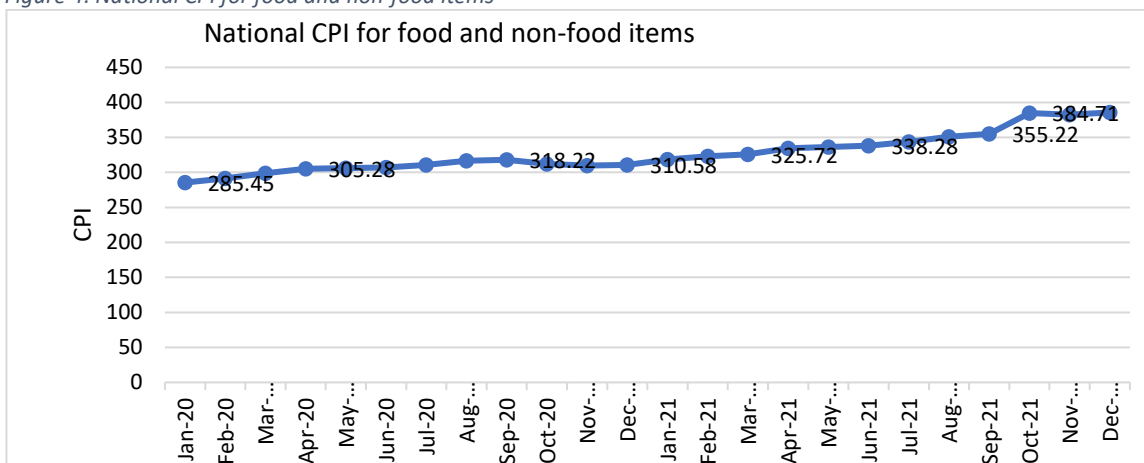
Market Analysis and Price Inflation

Inflation

The Annual National Consumer Price Inflation (year-on-year) for February 2022 stood at 17.59 percent, up by 0.94 percent point from 16.65 percent in January 2022. The monthly consumer price inflation for February 2022 was 2.30 percent; up by 0.94 percentage point from 1.36 percent in January 2021. Annual National food inflation for February 2022 was 17.09 percent, up by 1.41 percentage point from 15.68 percent in January 2022.

National inflation for Non-food was 18.42 percent in February 2022 from 17.60 percent in January 2022; up by 0.82 percentage point. Food and non-alcoholic beverages, increased from 15.68 percent in January 2022 to 17.09 percent in February 2022; the inflation rate increased by 1.41 percentage point year-on-year. Food and non-alcoholic beverages, with weight 40.30 percent, increased from 1.94 percent in January 2022 to 3.85 percent in February 2022; with the inflation rate increasing by 1.91 percentage point (StatsSL). (**Figure 4**)

Figure 4: National CPI for food and non-food items



The National Monthly CPI increased from 101.36 in January 2022 to 103.69 in February 2022, resulting in a 2.30 percent inflation rate for March 2022. The national year-on-year inflation for February 2022 stood at 17.59 percent, indicating an upwards trend compared to 16.65 percent in January 2022. (Not shown in figure due to rebasing)

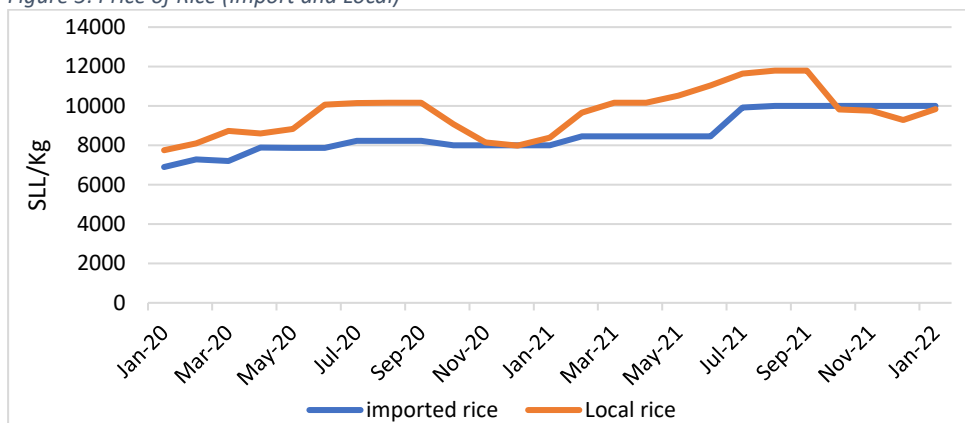
Retail Price Trends

The prices of local and imported food products continue to increase across the country, mainly because of the depreciation of the local currency the *Leone* (SLL) against the US Dollar, increased fuel costs in addition to a reduction in domestic production as 61% of the households reported a decrease in the harvest compared to a typical year for the 2020/21 season and 47% reported a decreased harvest compared to a typical year in 2021/22 season. Due to production difficulties 87% of the crop producers reported facing these difficulties, such as crop lost or damaged production (67%) which is the major difficulty faced by farmers ([FAO DIEM February 2022](#)).

Retail price of local and imported rice

The price of local rice increased between January 2021 and January 2022. The price of a kilogram of local rice increased from SLL8,230 in January 2021 to SLL9,923 in January 2022, representing a hike of 17 percent. The high increment in the price of local rice may be due to lower-than-normal yields in the last farming season and because of the increased price of imported rice, which also sharply rose from SLL 8,000 in January 2021 to SLL 10,000 in January 2022, an increase of 25 percent. (**Figure 4**)

Figure 5: Price of Rice (Import and Local)

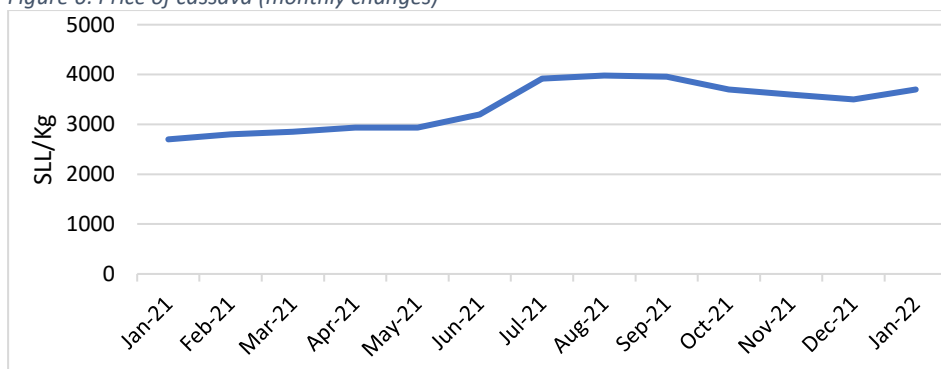


Source: Markets Price Monitoring January 2022

Retail price of cassava

Cassava is the closest substitute to rice in Sierra Leone and it is consumed widely by Sierra Leoneans and neighbouring countries like Guinea and Liberia as garie and foofoo. Cassava is mostly consumed when the price of rice is high and during the lean season. Comparing the price of cassava per kilogram from January 2021 to January 2022 the price increases by 27 percent from SLL 2,700 to SLL 3,700. This increase is associated to the increase in the price of rice across the country, even when harvest has just ended. (**Figure 5**). Cassava production in Sierra Leone has increased which has become next best substitute of rice which is the main staple. The increased demand of cassava and it's value-added products such as gari-roasted cassava granules and fufu-a powdered form of cassava that is prepared into porridge or paste and consumed with stew have also been very common in some school feeding programmes thus associated with the increased price.

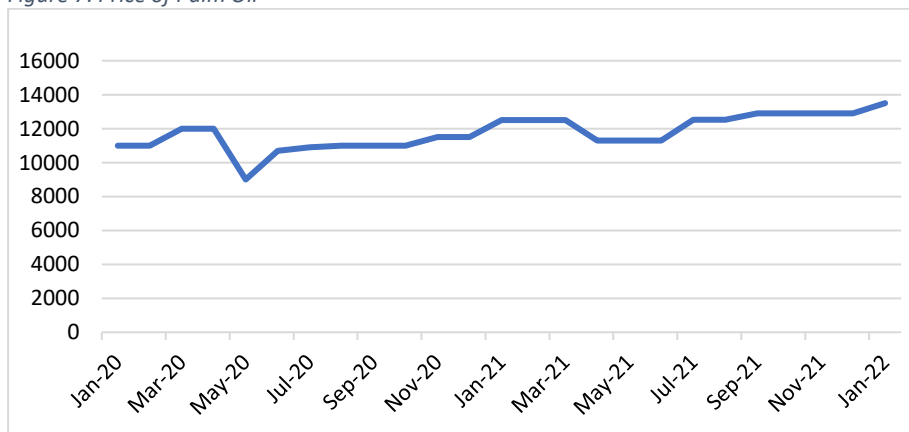
Figure 6: Price of cassava (monthly changes)



Palm Oil

Palm oil is cultivated across most of the districts in Sierra Leone and is consumed by most households regardless of their economic status. Sierra Leone has a comparative advantage in the production of palm oil when compared to neighbouring Guinea and Liberia and exports palm oil to these countries. The price of palm oil increased by 8 percent when compared from January 2021 to January 2022. This increase is likely due to increase fuel prices that impacted processing and transportation. (**Figure 6**)

Figure 7: Price of Palm Oil



Source: Markets Price Monitoring January 2022

Food Security Situation

This section provides an update on the progression of the food security situation in the country.

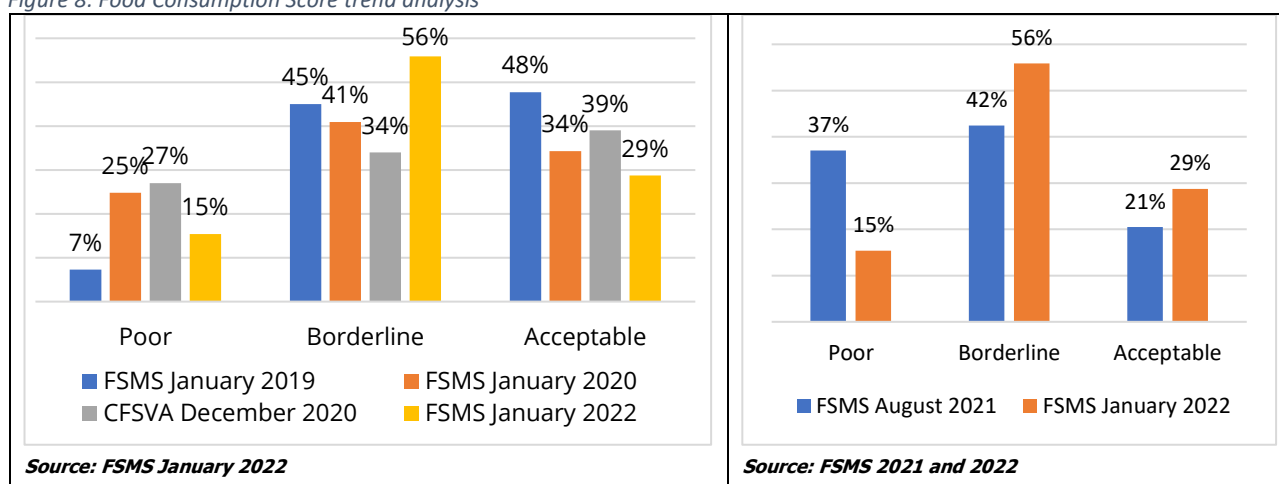
Household Food Consumption³

The findings of the FSMS shows that about 15% of the households were consuming poor diets, which is an improvement from 27% reported during the same post-harvest period in 2020. December to February is the period when food availability at household level is likely to be highest within the year due to own crop production. A slightly better agricultural performance of the 2021 season compared to last season could attribute to an improvement in food availability from the previous season and the number of food groups consumed by households. The improvement is also observed when compared to the findings of the FSMS conducted in August 2021 during the lean season when 37% of the households reported poor diets. The proportion of households consuming poor diets had been increasing from 7% in 2019 to 27% in 2020 because of the poor harvest experienced over the period, price increases and economic challenges due to the Covid-19 pandemic.

The proportion of households consuming borderline diets increased to 56% in 2022 from 34% in December 2020, a year ago. However, the proportion of households consuming acceptable diets decreased significantly from 39% in December 2020 to 29% in January 2022, being the lowest reported during the previous four assessments. This is an indication that despite the improvement in agricultural activities and economic situation, households were facing challenges to meet their minimum food security threshold. The FSMS conducted in August 2021 showed that 42% of the households were consuming borderline diets and improved to 56% in January 2022. (**Figure 7**)

Districts with the highest proportion of households, above 50%, that reported poor diets include Kenema (70.9%), Tonkolili (68.2%), Port Loko (56.4%), Falaba (52.7%) and Karene (50.5%), see annex 1.

Figure 8: Food Consumption Score trend analysis

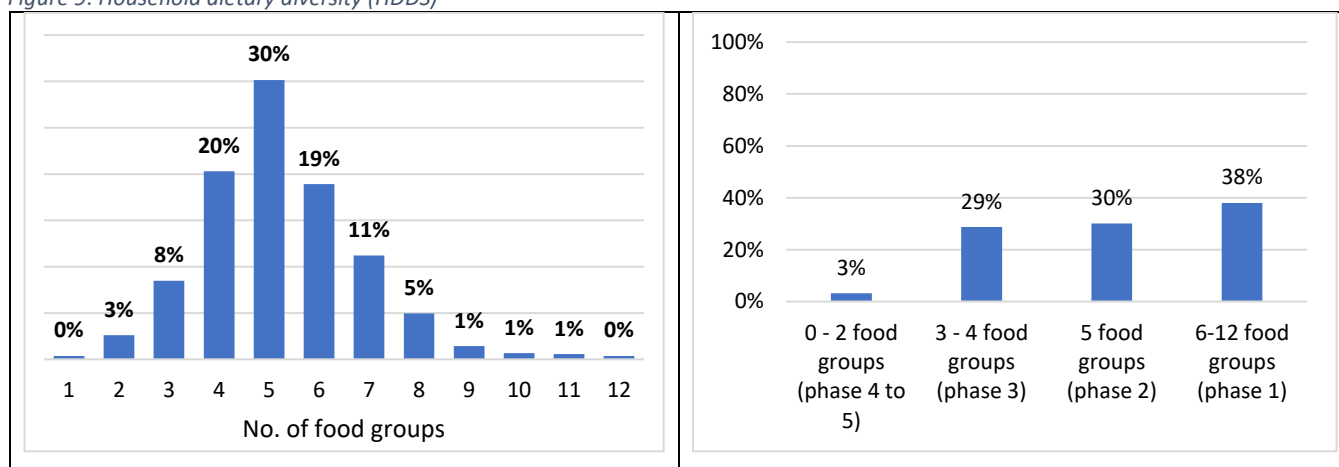


³ The Food Consumption Score (FCS) assesses the quantity and quality of diets consumed by the population under study. It measures dietary diversity, food frequency and the relative nutritional importance of the food consumed. The FCS is computed from the number of days in a 7-day reference period on which a household consumes foods within 8 basic groups.

Household Dietary Diversity⁴

The findings show that 29% consumed 3-4 food groups majority of households 68% were consuming 5 food groups or more during the 24 hours preceding the survey which is the minimum acceptable food groups consumed per day. Only 38% consumed 6 – 12 food groups. About 30% consumed 5 food groups equivalent which is at the borderline of the minimum requirements of food groups consumed per day (**Figure 8**). About 3% of the households were consuming 2 or less food groups and these are mainly cereals and vegetable. Most interviewed households reported that once one eats rice, that is the main cereal and considered enough food without considering the nutritional composition and requirements.

Figure 9: Household dietary diversity (HDDS)



Source: Survey Data FSMS 2022

Food Expenditure Share

The food expenditure share measures the economic vulnerability of households basing on the premise that the greater the expenditure on food when compared to other essential needs, the more economically vulnerable the household is. When the level of income reduces or when prices increase, the share of food expenditure as a proportion of total expenditure also increases. For poor households this means reducing expenditure on other essential non-food items and services, such as education and health.

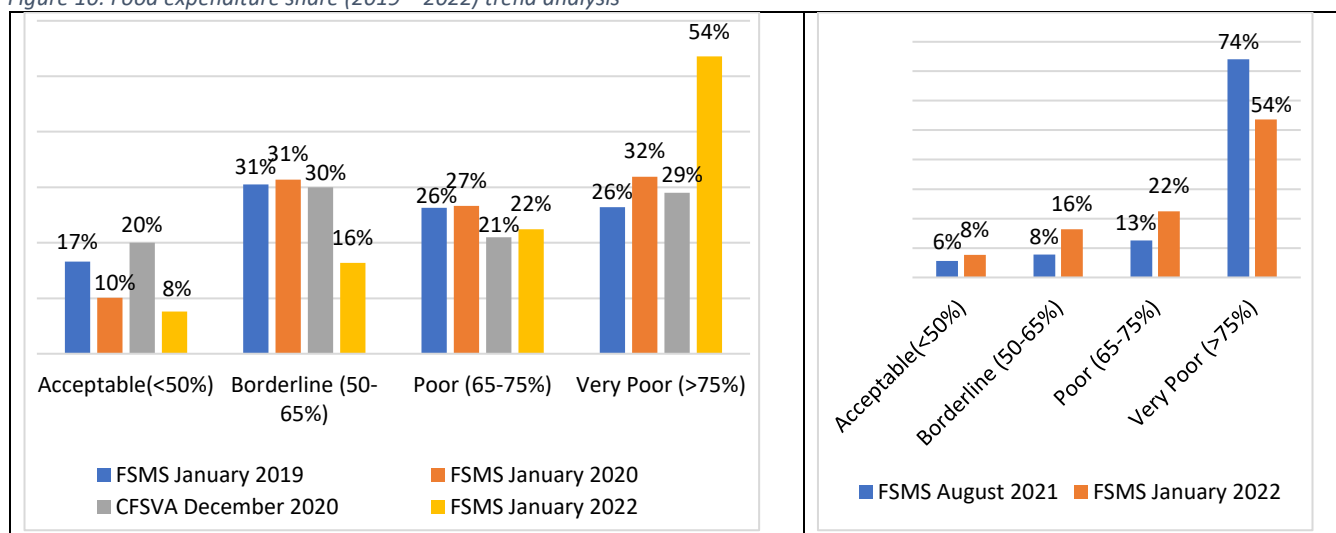
The share of food expenditure as a proportion of total expenditure increases when the level of income is low or reduces or when prices of basic commodities increases against stable income levels. About 54% of the households were classified to be poor and spending more than 75% of their total expenditure on food, and 25% on all other essential needs (**Figure 9**). In August 2021, 74% of the households were classified to be very poor and the situation improved to 54% as households consume from own production and also realise income from agricultural related activities. When compared to

⁴ Household Dietary Diversity Score (HDDS) assesses the number of unique foods consumed by household members during the 24 hours preceding the survey. HDDS can be used as a proxy measurement of household food access and quality of diets consumed.

same period in December 2020, where 29% of the households were classified to be very poor spending more on food compared to other needs. This could be attributed to stagnant incomes against price increases leading households to prioritise food over other needs. Also, the use of ECMEN which removes the assistance value from the economic capacity of households to meet essential needs will lead to an increased number of food insecure households.

The proportion of households with acceptable expenditure spending less than 50% of their total expenditure on food reduced to 8% from 20% in December 2020. The reduction reinforced the point that price increases against stable or deteriorating incomes could be the cause for the deterioration in the proportion of households with acceptable expenditures. Districts that reported the highest proportion of households with very poor expenditure above 90% include Pujehun (99.5%), Bonthe (94.9%), Kambia (90.7%) and Kailahun (89.5%), see annex 3 for more district level statistics. These are some of the poorest and most vulnerable districts in the country which relies more on crop production but are prone to climatic shocks hence production is poor. As a result household income is poor against the backdrop of prices increases.

Figure 10: Food expenditure share (2019 – 2022) trend analysis



Source: Survey Data FSMS 2022

Coping Strategies

When faced with stress and hardships, households engage in certain strategies to mitigate against the effects of natural, political and economic shocks. The coping strategy index measures the frequency and severity of these strategies adopted by household when faced with food or essential needs shortages. Strategies are divided into two types: strategies that affect food consumption and strategies that affect the livelihoods.

Consumption Based Coping (rCSI)

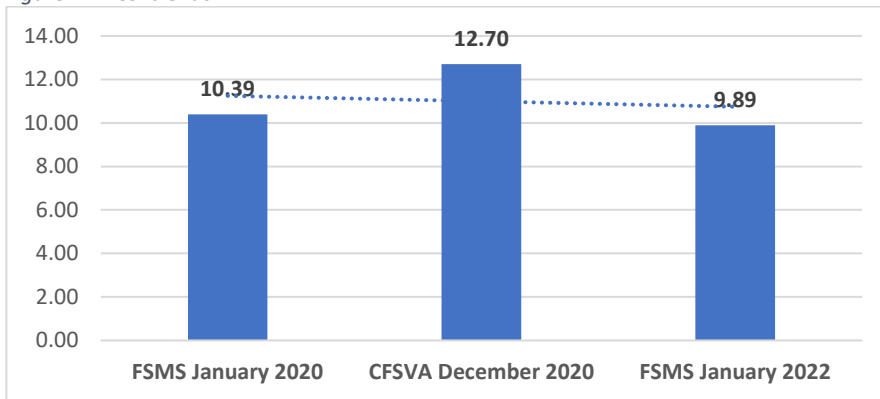
The Reduced Coping Strategy Index (rCSI) is an indicator used to compare the hardship faced by households due to shortage of food. The index measures the frequency and severity of the food

consumption behaviours the households had to engage in due to food shortage in the 7 days reference period prior to the survey. The index is based on five coping strategies as follows:

- i. Rely on less preferred and less expensive food
- ii. Borrow food or rely on help from relative(s) or friend(s)
- iii. Limit portion size at meals
- iv. Restrict consumption by adults for small children to eat
- v. Reduce number of meals eaten in a day

The higher the rCSI score the more stressed the households are. The average rCSI score for the FSMS conducted in January 2022 was 9.89 compared to 12.70 reported in December 2020 (**Figure 10**). This shows that households were less stressed as compared to December 2020 which is in line with the consumption patter. This shows that households faced less difficulties in accessing food when compared to December 2020.

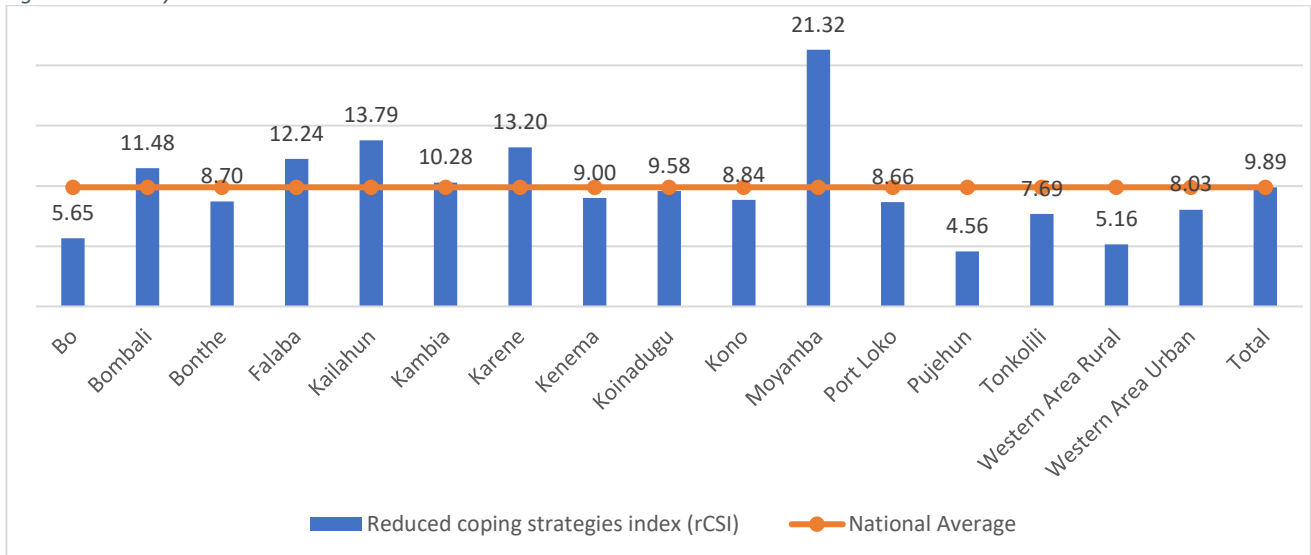
Figure 11: rCSI trends



Source: Survey Data FSMS 2022

Moyamba district that reported the highest average rCSI score of 21.32 compared to the national average of 9.89 (**Figure 11** and **Annex 3**). This is an indication that a higher proportion of the households from the district were experiencing stress related to food shortages and resorting to negative coping.

Figure 12: rCSI by district



Source: Survey Data FSMS 2022

Livelihood Coping Strategies

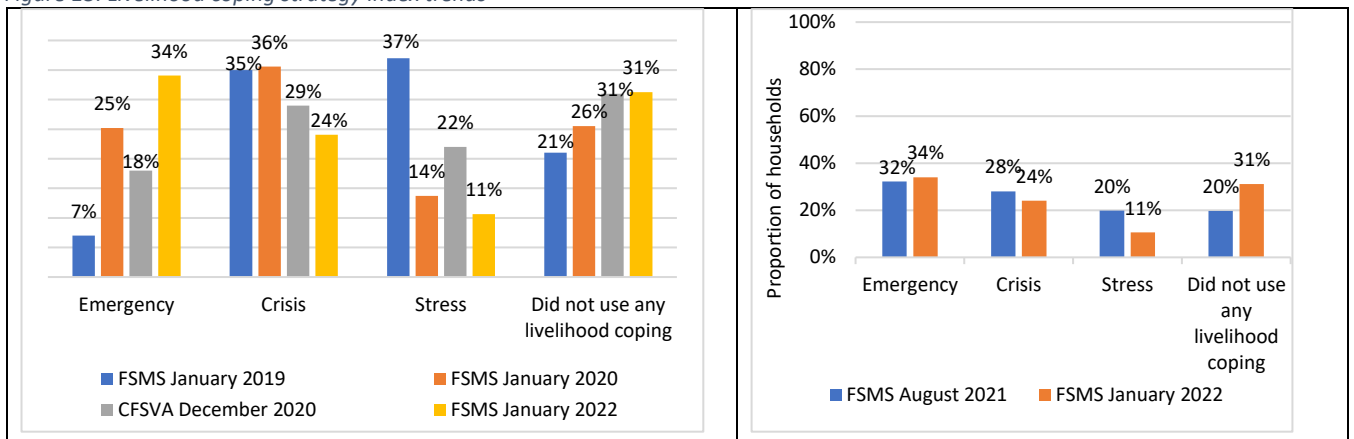
Livelihood coping strategies is an indicator used to understand medium and longer-term coping capacity of households in response to lack of food or lack of money to buy food (or essential needs) and their ability to overcome challenges in the future. The indicator is derived from 10 questions regarding the households' experiences with livelihood stress and asset depletion to cope with food shortages. The question consists of at least **4 stress strategies**, **3 crisis strategies** and **3 emergency strategies** that are most relevant for the Sierra Leone context. Stress strategies indicate a reduced ability to deal with shocks because of a current reduction in resources or increase in debts. Crisis strategies are often associated with the direct reduction of future productivity. Emergency strategies also affect future productivity but are more difficult to reverse or more dramatic in nature than crisis strategies. The following 10 questions were asked for each category:

Stress	Crisis	Emergency
Sold household assets/goods	Sold productive assets or means of transport	Sold house or land
Purchased food on credit	Reduced health and educational expenditures	Begged
Spent savings	Withdrawn children from school	Sold last female breeding stock, eat seed stocks
Borrowed money		

The findings of the assessment showed that the proportion of households that did not employ any livelihood coping strategies was similar to that reported during the same period a year ago in December 2020 at 31% (**Figure 12**). However, when compared to August 2021 during the lean season where 20% reported not adopting any livelihood coping strategies, there is an improvement to the current 31%. This could also be attributed to increased food availability at household level during the harvest period and also an improvement in income levels from sale of some of the produce.

The proportion of households that adopted Emergency coping increased to 34%, the highest that has been recorded since 2019 compared to 18% reported during same period in December 2020. This could be attributed to deterioration of household assets and livelihoods that were experienced as a result of continued bad years of economic performance further worsened by the Covid outbreak situation. A significant reduction was also noted in the proportion of households adopting Crisis (from 29% in December 2020 to 24% in January 2021) and Stressed strategies (from 22% in December 2021 to 11% in January 2022) and these household deteriorated to emergency. This is an indication that despite the improved food security outcome indicators status/ levels, household still need support even during the harvest period. Tonkolili (72.4%), Kenema (60.4%), Kono (52.7%) and Falaba (50.5%) where the districts with the highest proportion of households reporting emergency coping and undermines their future ability to cope with shocks and stressors. See annex 5 for more district level statistics.

Figure 13: Livelihood coping strategy Index trends



Source: Survey Data FSMS 2022

Food Security Situation

The Consolidated Approach for Reporting Indicators of Food Security (CARI) is an approach that is used to aggregate different food security indicators into one index to report on a population’s overall food security status. The CARI assesses availability and access to food through measuring the Current Status of household consumption, the ability of a household to stabilize consumption over time by measuring the Coping Capacity through economic vulnerability and livelihood coping strategies. The approach culminates in a food security console which supports the reporting and combining of food security indicators in a systematic and transparent way, using information collected in the January FSMS survey. The console classifies food insecurity into 4 categories i.e.

1) Food secure, 2) Marginally Food Secure, 3) Moderately Food Insecure, and 4) Severely Food Insecure as illustrated in table 2: For the CARI analysis the following indicators were collected and used:

- i. Food consumption score,
- ii. reduced Coping Strategy Index (rCSI)
- iii. Food expenditure share and
- iv. Livelihood coping

The food security analysis was done using the revised CARI guidelines and the most noticeable updates applied during this analysis are 1. Addition of reduced Coping Strategies Index (rCSI) to the Food Consumption Score in the Current Status domain in the CARI console; 2. Updated standard household expenditure module, to measure Food Expenditure Share (FES) and Economic Capacity to Meet Essential Needs (ECMEN); 3. Introduction of methodology to calculate Livelihood Coping Strategies - Food Security (LCS-FS) from the Livelihood Coping Strategies module used for Essential Needs (LCS-EN). And lastly 4. Inclusion of updated livelihood coping strategies in the LCS-FS module and aligning the LCS-EN module accordingly. One major implication that has been noted is the increase of marginally food secure households compared to the old CARI methodology. This is due to the re-classification of households with acceptable food consumption and high level of reduced Coping Strategies into the marginally food secure category, instead of the food secure category.

This current analysis will be used a reference point to the methodology used and according to the current results (FSMS February 2022), 73% percent of Sierra Leone’s population is food insecure. Among the food insecure, 11% percent of households are severely food insecure, and 62 percent are moderately food insecure. (**Table 2**)

Table 2: CARI Console

	Domain	Indicator	Food Secure	Marginally Food Secure	Moderately Food Insecure	Severely Food Insecure
Current Status	Food Consumption	<i>Food Consumption Groups and rCSI</i>	Acceptable	Acceptable and rCSI >=4	Borderline	Poor
			13%	16%	56%	15%
Coping Capacity	Economic Vulnerability	<i>Food Expenditure Share</i>	<50%	50% - <65%	65% - <75%	≥75%
	Livelihood Coping Strategies	<i>Livelihood Coping Strategies – Food Security</i>	None	Stress	Crisis	Emergency
			8%	16%	22%	54%
			32%	40%	19%	9%
CARI			3%	24%	62%	11%

The highest number of food insecure population was reported in Bombali (91%) with 649,783 people, Kenema (592,678), Kono (542,838) and Western Area Urban (528,394) were among the districts that had the highest food insecure population. Among the districts that had the lowest food insecure population are Bonthe (181,300), Western Area Rural (199,411) and Koinadugu (199,758) (**Table 3**)

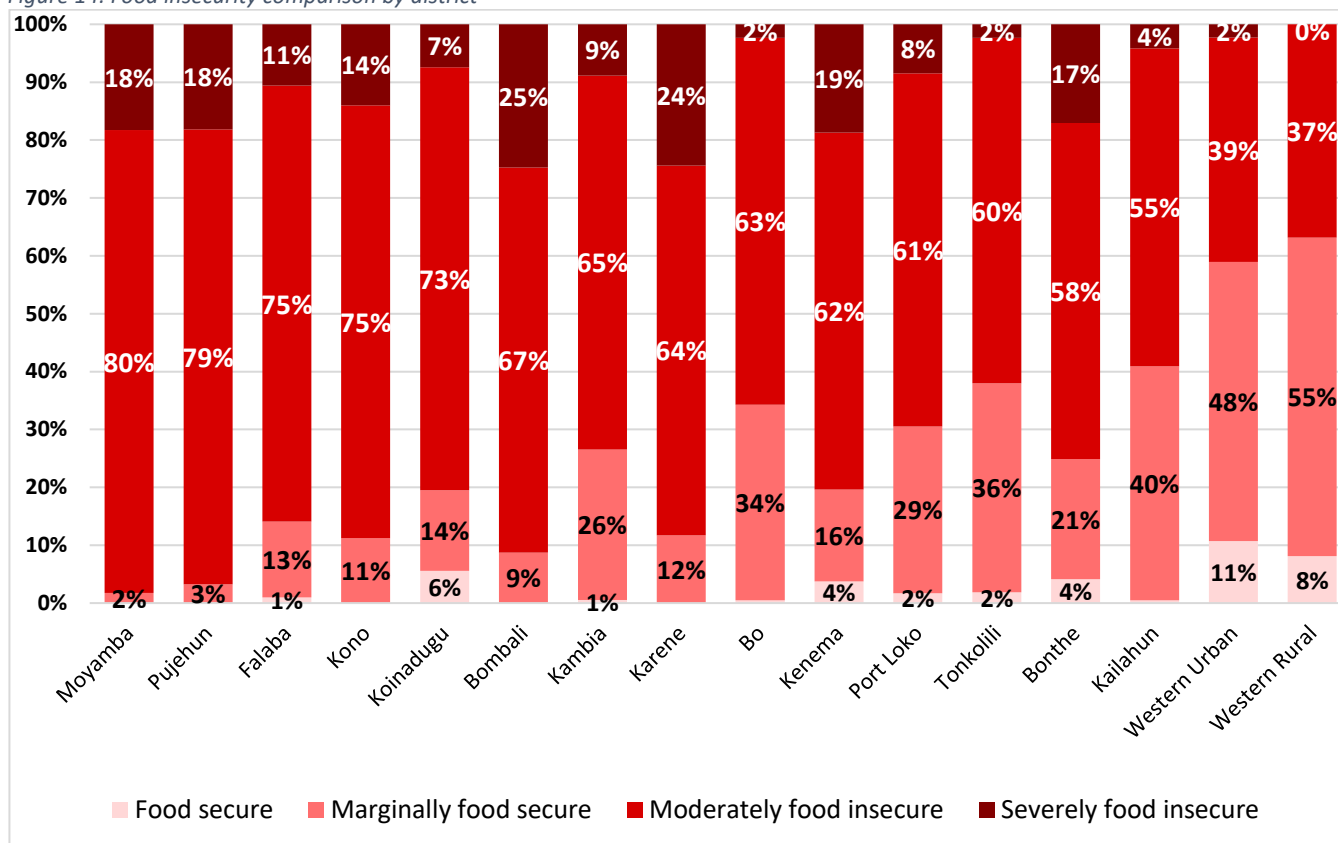
Table 3: Food Insecurity population

District	Proportion Food Insecure	Population (2021)	Food Insecure Population
Bo	66%	681,247	463,455
Bombali	91%	681,081	649,783
Bonthe	75%	231,321	181,300
Falaba	86%	248,158	221,504
Kailahun	59%	646,248	395,642
Kambia	73%	407,449	310,785
Karene	88%	348,628	321,750
Kenema	80%	706,554	592,678
Koinadugu	80%	239,306	199,758
Kono	89%	587,711	542,838
Moyamba	98%	377,143	385,989
Port Loko	69%	648,143	467,840
Pujehun	97%	410,138	413,308
Tonkolili	62%	626,767	402,407
Western Area Rural	37%	523,838	199,411
Western Area Urban	41%	1,242,113	528,394
Overall	73%	8,605,845	6,527,612

The findings of the survey shows that about 11% of the households were severely food insecure with the highest proportion reported for Bombali (25%) and Karene (24%). These are some of the areas that reported higher proportion of households consuming poor diets and resorting to consumption-based coping. About 63% of the households were classified to be moderately food insecure and are

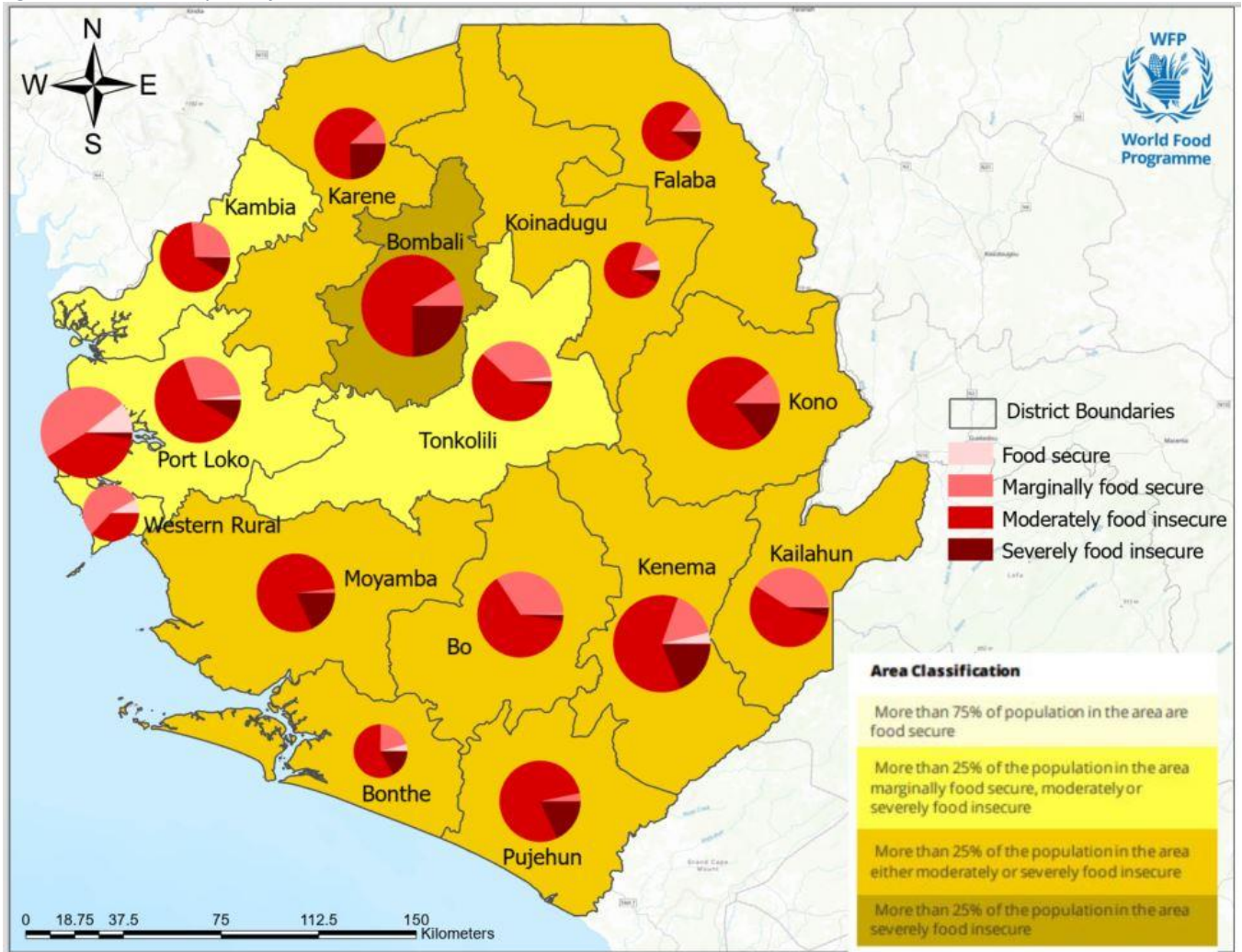
unable to meet their minimum dietary requirements without external assistance. All the districts reported a high proportion of households who were moderately food insecure of above 50% except for Western rural (37%) and Western urban (39%). Highest proportions were reported in Moyamba (80%), Pujehun (79%), Kono (75%) and Falaba (75%), Figure 10. About 7 out of the 16 districts covered had less than 1% of the households classified to be food insecure. The highest proportion of food secure households were reported in West Urban (11%) and Western Rural (8%).

Figure 14: Food insecurity comparison by district



CARI classify districts into four classes of food security based on the prevalence of food security in the area. The food security situation of the most food insecure 25% of the population is used to classify each area. The findings of the assessment showed that Bombali was the only district that was classified in area 4 i.e. severely food insecure and in need of emergency food assistance. All the other districts were classified to be moderately food insecure. This shows that all the districts that were covered by the assessments are food insecure and in need of assistance. (Figure 14)

Figure 15: Food Security Classification



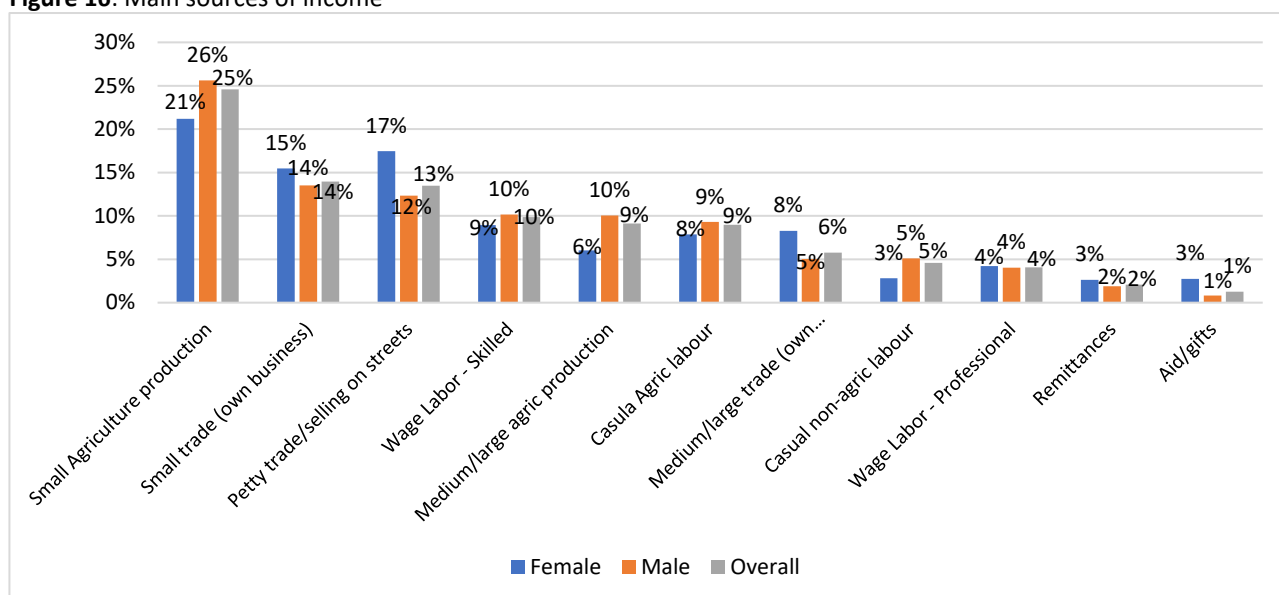
Food Access

Food access is defined as when households have adequate incomes or other resources to purchase or barter to obtain levels of appropriate foods needed to maintain consumption of an adequate diet/nutrition level. Access requires that households have enough resources to obtain or produce food. Some of the factors that contribute to household food access include income and shocks.

Main Sources of Income

Small agriculture production (25%) was reported to be the main source of income with more male headed households (26%) reporting as the main source compared to female headed households (21%), see Figure 7. The difference might be attributed to differences in labour availability and access to land by male and female headed households. Small trade was reported to be the second main source of income by 14% of the households with slightly more female headed households (15%) compared to male headed households (14%) reporting. Petty trade was the third most reported source of income by 13% of the households with more female headed households (17%) compared to male headed households (12%) and could be attributed to the differences in preferences of income generating activities by male and females in general.

Figure 16: Main sources of income

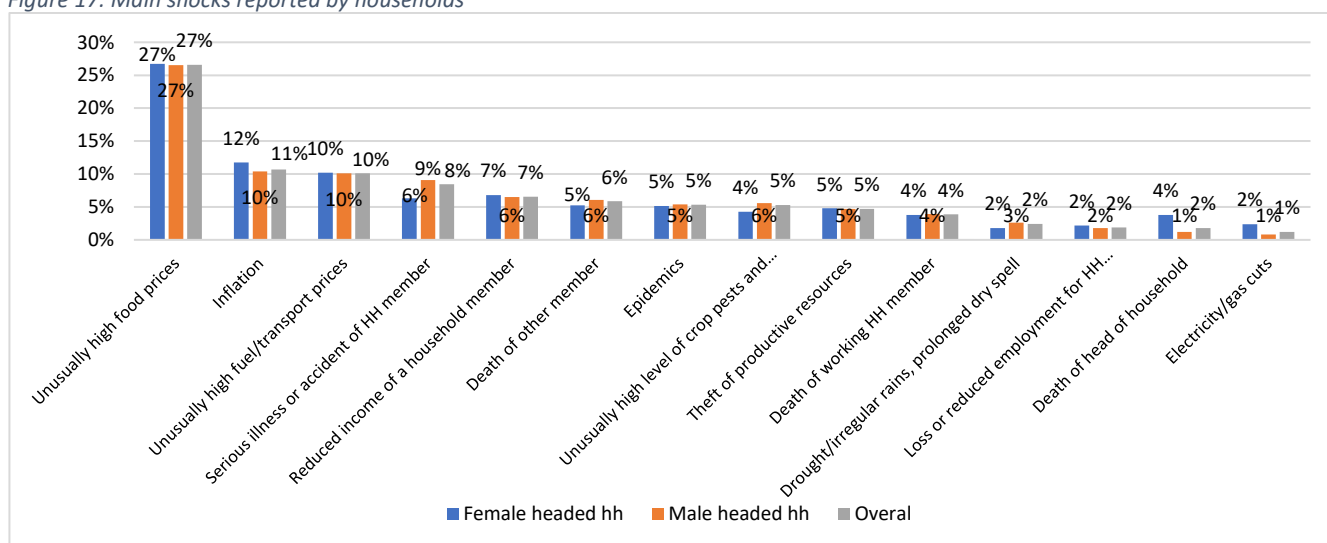


Source: Survey Data FSMS 2022

Shocks

Shocks and stressors hinder the ability of households to produce food or generate income from their livelihood activities. The main shock reported by both male and female headed households (27%) is unusual high food prices which affect household access to food especially if there is not much increase in income levels. This was reported by an equal proportion of male and female headed households. The second most reported shock was inflation by 11% of households with no differences between male and female headed households. Inflation is related to price increases and lead to the erosion of the household purchasing power if levels of incomes fail to match the inflationary pressures. About 10% of the households reported unusual transport costs and fuel increases which again hinders access to markets by households to access food leading in a larger part of their income on transport or fuel rather than on food and other essential needs.

Figure 17: Main shocks reported by households



Conclusions & Recommendations

Household food security outcomes show a slight improvement comparing with same period last year and from the peak lean season, however the deterioration of household assets and livelihoods that were experienced as a result of continued poor years of economic performance further worsened by the Covid outbreak situation could easily increase the vulnerability of households to shocks. A significant reduction of households adopting crisis and stressed strategies and these households deteriorating to emergency is an indication that despite the improved food security outcomes, households still need support even during the harvest period to meet their immediate food needs. Also most of the households were characterised by poor diversification of food groups consumed.

This situation portends risks of erratic rainfall that could hamper the growth of crops and fodder plants, favor the development of insect pests and reduce the volume of surface water for hydraulic uses (hydroelectric dams, agricultural irrigation facilities, etc.).

With regard to erratic rainfall pattern risks

- Diversify agricultural practices through the promotion of irrigation and market gardening to reduce the risk of lower production.
- Adopt soil and water conservation farming techniques; market linkages of smallholder farmers to improve access to improved seeds and organic fertilizer.
- Promotion of cassava production and value addition as it can be milled into a fine, smooth powder and consumed as a complementary food. Cassava processing can provide labour opportunities for rural women and further support school feeding programmes.

With regard to shocks

- Having shock responsive social protection systems in place allows to rapidly scale up assistance to existing beneficiaries, who are by essence very vulnerable and thus likeliest to be affected by the impact of shocks and expand the caseload to include more affected people.
- WFP's crisis response targets acutely severely food insecure households, according to their food security vulnerability status, through a combination of unconditional and/or conditional food and cash-based assistance and activities for the prevention and treatment of malnutrition.
- 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.
- WFP invests in strengthening the resilience of individuals, communities, and systems and address the root causes of vulnerability. The Integrated Resilience Programme is one of WFP's strongest tools to mitigate the looming crisis, protect lives and livelihoods, and reduce the need for humanitarian assistance over time.

Annexe 1: Food Consumption Score by district

District Name	Poor	Borderline	Acceptable
Bo	17.4%	48.2%	34.4%
Bombali	23.2%	47.4%	29.4%
Bonthe	17.1%	65.4%	17.5%
Falaba	52.7%	44.5%	2.7%
Kailahun	32.0%	43.4%	24.6%
Kambia	34.8%	41.2%	24.0%
Karene	50.5%	38.0%	11.6%
Kenema	70.9%	21.1%	7.9%
Koinadugu	36.2%	43.1%	20.6%
Kono	40.4%	53.2%	6.4%
Moyamba	27.5%	58.9%	13.5%
Port Loko	56.5%	36.0%	7.5%
Pujehun	36.1%	43.5%	20.4%
Tonkolili	68.2%	31.3%	.5%
Western Area Rural	17.1%	63.0%	19.9%
Western Area Slum	27.2%	40.1%	32.7%
Western Area Urban	19.9%	2.9%	77.2%
Total	37.0%	42.5%	20.5%

Annex 2: Household Dietary Diversity by district

District Name	0 - 2 food groups	3 - 4 food groups	5 food groups	6-12 food groups
Kailahun	0.9%	18.1%	29.8%	51.2%
Kenema	0.5%	40.7%	29.9%	29.0%
Kono	5.6%	31.3%	38.3%	24.8%
Bombali	8.3%	42.7%	45.6%	3.4%
Falaba	7.5%	47.2%	30.7%	14.6%
Koinadugu	0.9%	22.3%	26.5%	50.2%
Tonkolili	0.9%	31.5%	20.8%	46.8%
Kambia	1.0%	16.7%	34.4%	47.9%
Karene	9.9%	44.6%	24.4%	21.1%
Port Loko	1.3%	19.1%	36.0%	43.6%
Bo	11.6%	24.1%	32.4%	31.9%
Bonthe	0.9%	27.6%	38.8%	32.7%
Moyamba	0.9%	34.8%	23.9%	40.4%
Pujehun	3.3%	43.5%	41.1%	12.1%
Western Area Rural	0.5%	11.1%	24.0%	64.4%
Western Area Urban	0.3%	15.6%	16.6%	67.5%
Overall	3.2%	28.7%	30.1%	38.0%

Annex 3: Reduced Consumption Coping Strategies Index by district

District Name	FSMS January 2022	National Average	FSMS January 2020	CFSVA December 2020
Bo	5.65	9.89	9.17	9.3
Bombali	11.48	9.89	11.34	15.5
Bonthe	8.70	9.89	6.40	8.6
Falaba	12.24	9.89	14.93	11.7
Kailahun	13.79	9.89	11.60	11.9
Kambia	10.28	9.89	10.76	15.8
Karene	13.20	9.89	9.08	19.7
Kenema	9.00	9.89	8.34	11.5
Koinadugu	9.58	9.89	9.60	14.9
Kono	8.84	9.89	5.39	11.8
Moyamba	21.32	9.89	20.66	15.0
Port Loko	8.66	9.89	6.09	10.3
Pujehun	4.56	9.89	13.32	13.7
Tonkolili	7.69	9.89	5.35	12.2
Western Area Rural	5.16	9.89	10.06	11.1
Western Area Urban	8.03	9.89	14.12	10.2
Overall	9.89	9.89	10.39	12.70

Annex 4: Livelihood Coping by district

District Name	Did not use any		Crisis	Stress
	livelihood coping	Emergency		
Bo	18.3%	21.1%	42.7%	17.9%
Bombali	8.5%	37.0%	23.2%	31.3%
Bonthe	17.5%	18.9%	30.0%	33.6%
Falaba	8.2%	50.5%	30.9%	10.5%
Kailahun	30.3%	20.6%	35.1%	14.0%
Kambia	21.6%	28.9%	36.8%	12.7%
Karene	27.3%	39.8%	8.3%	24.5%
Kenema	2.2%	60.4%	17.6%	19.8%
Koinadugu	9.2%	34.9%	40.8%	15.1%
Kono	11.3%	52.7%	20.7%	15.3%
Moyamba	6.3%	33.3%	28.5%	31.9%
Port Loko	49.0%	34.0%	10.0%	7.0%
Pujehun	1.4%	6.9%	40.7%	50.9%
Tonkolili	9.3%	72.4%	15.9%	2.3%
Western Area Rural	12.5%	21.3%	38.0%	28.2%
Western Area Slum	58.4%	9.9%	24.8%	6.9%
Western Area Urban	49.0%	4.4%	31.6%	15.0%
Overall	19.7%	32.3%	28.1%	19.9%

Annex 5: Proportion of Food Insecurity Status

District	Food secure	Marginally food secure	Moderately food insecure	Severely food insecure	Total Food Insecure
Kailahun	0%	40%	55%	4%	59%
Kenema	4%	16%	62%	19%	80%
Kono		11%	75%	14%	89%
Bombali		9%	67%	25%	91%
Falaba	1%	13%	75%	11%	86%
Koinadugu	6%	14%	73%	7%	80%
Tonkolili	2%	36%	60%	2%	62%
Kambia	1%	26%	65%	9%	73%
Karene		12%	64%	24%	88%
Port Loko	2%	29%	61%	8%	69%
Bo	0%	34%	63%	2%	66%
Bonthe	4%	21%	58%	17%	75%
Moyamba		2%	80%	18%	98%
Pujehun		3%	79%	18%	97%
Western Area Rural	8%	55%	37%		37%
Western Area Urban	11%	48%	39%	2%	41%
Overall	3%	24%	62%	11%	73%

Annex 6: Population of Food Insecure People

District	Population (2021)	Moderately food insecure	Severely food insecure	Total food insecure
Kailahun	646,248	366,480	29,162	395,642
Kenema	706,554	450,311	142,367	592,678
Kono	587,711	454,022	88,815	542,838
Bombali	681,081	468,014	181,769	649,783
Falaba	248,158	193,274	28,230	221,504
Koinadugu	239,306	180,560	19,198	199,758
Tonkolili	626,767	386,767	15,640	402,407
Kambia	407,449	271,895	38,890	310,785
Karene	348,628	230,000	91,749	321,750
PortLoko	648,143	408,628	59,211	467,840
Bo	681,247	446,456	17,000	463,455
Bonthe	231,321	138,782	42,518	181,300
Moyamba	377,143	311,748	74,241	385,989
Pujehun	410,138	333,108	80,200	413,308
Western Area Rural	523,838	199,411	-	199,411
Western Area Urban	1,242,113	497,652	30,742	528,394
Total	8,605,845	5,514,585	1,013,027	6,527,612