

Sierra Leone

June 2015: Negative coping fails to improve in June.

Tracking food security during the Ebola Virus Disease (EVD) outbreak

Highlights

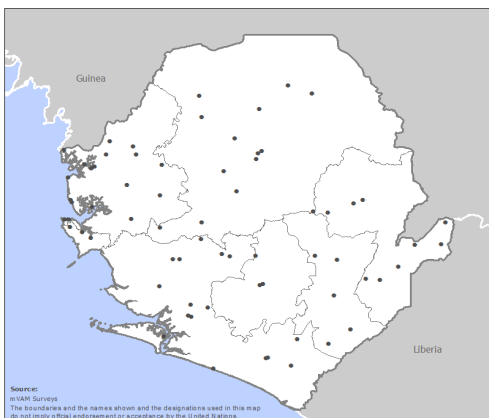
- With the onset of the lean season, the consistent improvements in coping seen over the last five months came to a halt in Sierra Leone and normally better-off households resort to increased coping.
- Food prices remained relatively stable while manual labour rates and terms of trade rose in some parts of Sierra Leone.

National improvements in the coping strategies for Sierra Leone halt in June

The reduced Coping Strategies Index (rCSI) measures the frequency and severity of the mechanisms households employ such as skipping meals or reducing the size of portions when faced with food shortages. A higher score indicates that households are resorting to more frequent or severe negative coping strategies. Detailed information on the rCSI can be found [here](#).

With the onset of the lean season, the consistent improvements in coping seen over the last five months unfortunately came to a halt in Sierra Leone. The lean season is the time of year when household food stocks are at their annual low before the harvest. Sierra Leone, which had seen improvements in coping strategies in May, showed no statistically significant change in its rCSI at a national level for June. For Kenema District in Sierra Leone, there was an 11.1% decrease from May to June.**¹ This district is less affected by seasonal variation in food crop production because it has a mixed cash-crop and mining economy.

Figure 1. rCSI by sample domain – June



Methodology

June 2015 marked the ninth round of data collection. 1,020 questionnaires were completed in Sierra Leone via SMS between the 13th to the 17th of June. The map below shows the cell phone towers from which responses were received. Details on methodology are available [online](#).

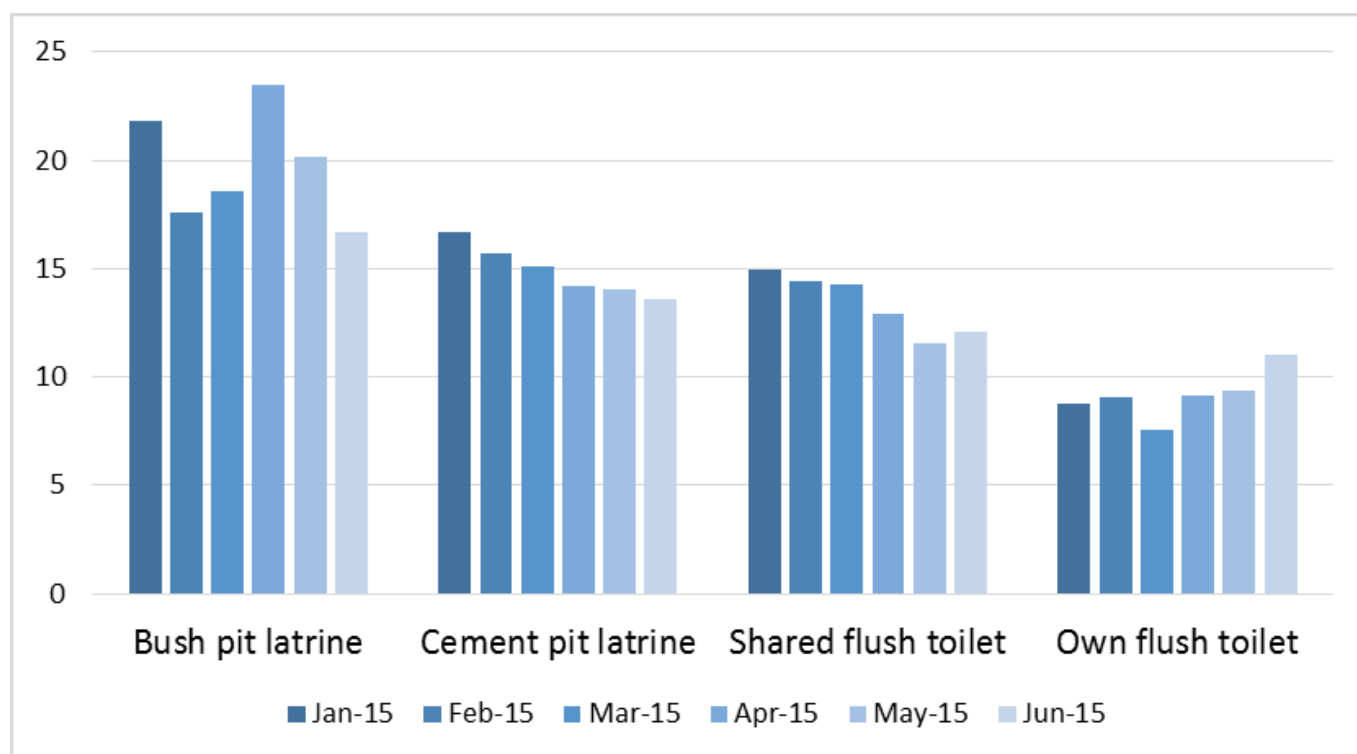
Continued transmission of Ebola virus disease (EVD)

In the month of June, 45 cases were confirmed. Transmission continues to remain concentrated in several chiefdoms of Kambia and Port Loko districts and in a single neighbourhood (the Western Area Urban district) of the capital, Freetown.

[WHO Ebola Situation Report, 1 July 2015](#)

Changes in rSCI by toilet type group, a proxy for wealth, varied in June. Prevalence of reduced coping has decreased from 83.8% to 80.9%**² amongst respondents using bush/dirt-pit latrines but has increased amongst those who use their own flush toilet, rising from 59.4% to 69.5%**². These two groups are respectively the poorest/most food-insecure households and wealthiest/least food-insecure households typically seen in our survey. Examining the prevalence of individual coping strategies reveals a possible explanation for this anomaly. Amongst bush/dirt-pit latrine respondents, 83.3% used less expensive food purchases as a coping strategy, a decline from the previous month at 86.9%.*² This corresponds to the statistically significant increase in manual labour wages that this group also reported for the month of June. However, in June, 43.6% of private flush toilet respondents reported borrowing or getting help from a friend or family member as a coping strategy. This is a statistically significant jump from the previous month where only 35.6% of such respondents reported using this strategy.*²

Figure 2. Mean rCSI by toilet type group



Source: WFP mVAM

Continued stability in food prices in Sierra Leone compared with the previous months

While there have been some gradual easing of restrictions and market hours have been extended, market activity continues to operate below baseline levels. In FEWSNET's May survey, 46% of traders reported via SMS that markets were either closed or operating below normal activity. ([FEWSNET Remote Monitoring](#)) Results from mVAM's price data indicate that aggregate prices in Sierra Leone have held stable over the past 6 months. Between May and June, prices for imported and local rice did not change while palm oil prices rose slightly. The price for a pint of palm oil rose 3.3% for the month of June from 1,741 to 1,799 SLL.**¹ The price increase was also statistically significant in Bo; Kenema; Kailahun & Kono; and Bombali, Koinadugu, and Tonkolili.**¹

Area	April - May changes			May - June changes		
	Imported rice	Local rice	Palm oil	Imported rice	Local rice	Palm oil
Sierra Leone	2%	0%	-3%	-1%	2%	3%
Bo	-2%	-1%	5%	-2%	0%	4%
Bombali, Koinadugu, Tonkolili	0%	-2%	12%	2%	3%	6%
Kailahun, Kono	2%	-1%	4%	2%	-2%	6%
Kenema	13%	2%	0%	-5%	2%	5%

Labour markets have been an integral part of the recovery, and we have monitored wage rates on a monthly basis. The change in daily wage rates for unskilled labour from May to June was not statistically significant at the national level although a 4% increase between the month of May and June was detected in Bo.***³ A simple regression on the cross-sectional means reveal a 2.2% monthly increase in manual labour rates in Sierra Leone. The fully specified model had a R² value of 0.50, denoting the amount of variance it is able to explain. This estimate show that on average manual labour wages have experienced a month-on-month improvement of 2.5% since January 2015 within a 95 % confidence interval of 1.4% to 3.6%.*** Results from the World Bank and the Government of Sierra Leone’s May 2015 mobile survey find that while the economy has not fully recovered employment continue to improve and move towards the pre-outbreak levels. ([The Socio-Economic Impacts of Ebola in Sierra Leone](#))

Terms of trade determine purchasing power and as reported here illustrate how much of food individuals can barter for a day’s worth of manual labor. For Sierra Leone, terms of trade have not varied greatly over the course of the last six months. From May to June, changes in terms of trade were significant for several districts including Bo County, where they rose by 5.6% for imported rice and 2.3% for local rice.***³ In Kenema District terms of trade for palm oil decreased by 10%.**³

Perceptions of food security in June

At the end of the questionnaire, participants are asked an open-ended question, “Tell us about the food situation in your community.” To analyze these responses and gauge perceptions of food security in June, we used the Pattern sentiment analysis algorithm developed by the Computational Linguistics & Psycholinguistics Centre at the University of Antwerp. For a given sentence, the algorithm returns the ‘polarity’: a measure of how positive/negative the statement is on a scale of -1.0 to +1.0.

Compared with May, the change in mean polarity was not statistically significant. There was a slight but significant decrease in sentiment in the agglomeration of Bonthe, Moyamba, and Pujehun districts.*¹ Though this area did not exhibit any significant change in mean rCSI, it did show a 7% increase in the prevalence of negative coping for the month of June that was also significant at the 10% level*¹. For Sierra Leone the

Figure 3. Average daily wage rate for unskilled labour

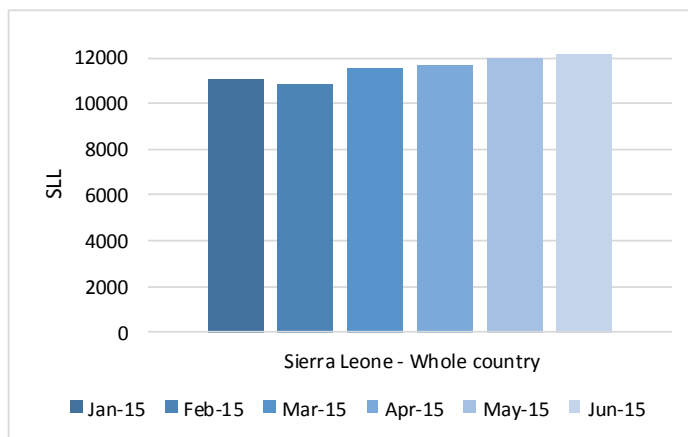


Figure 4. Wage-to-rice terms of trade

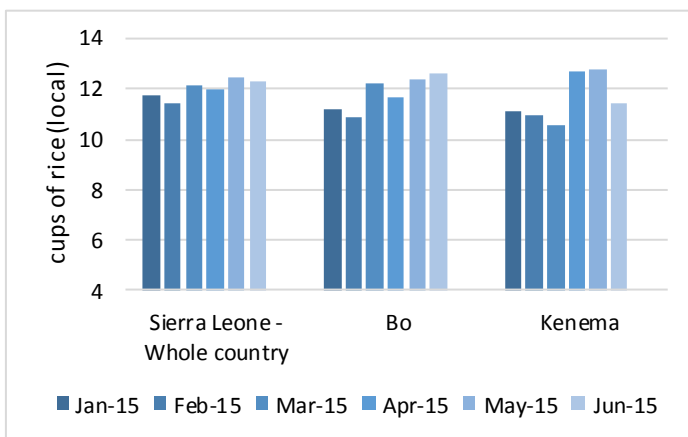


Figure 5. Word cloud for Sierra Leone



Conclusions and Outlook

After months of sustained improvement, the coping strategies failed to improve in Sierra Leone in June. This time of year has historically been when household assets become depleted.

Food prices and terms of trade have remained stable and markets are slowly recovering. Since the beginning of the year, economic activity and wage rates have gradually improved but have yet to fully recover.

Methodological Notes

Reporting statistical tests and significance level

Except where explicitly indicated, only statistically significant results are reported. To report the level of statistical significance, the following reference is used:

p-value	reported symbol
0.10 to 0.05	*
< 0.05 to 0.01	**
< 0.01	***

Correspondingly, the type of statistical test is also reported in superscript after the level of statistical significance. The following indicates the type of test referenced in the text:

1. Welch's t-test
2. Mann-Whitney Test
3. Paired t-test

Methodological notes on the econometric analysis of wage rates and the rCSI

As with many similar longitudinal surveys, attrition is a problem and a potential source of bias. For high earners, the incentives offered are often not sufficient to maintain interest, and amongst the low earners, mobile access issues and domestic migration make them difficult to reach repeatedly. To control for this bias we mirrored the regression model used for rCSI trend analysis in the previous bulletin. The regression model controlled for dynamics arising from toilet type, fixed effects by district, and random effects of the respondents themselves, with the log of manual labour price as the dependent variable in the regression. The dataset contained at least three months of observations for 1225 of 2003 unique respondents for Sierra Leone (61.2%).



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To download mVAM data on the Ebola-affected countries, please visit: http://vam.wfp.org/sites/mvam_monitoring/Ebola.html