

# Guinea, Liberia and Sierra Leone

July 2015: Negative coping decreases in Guinea and Liberia.

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

## Highlights

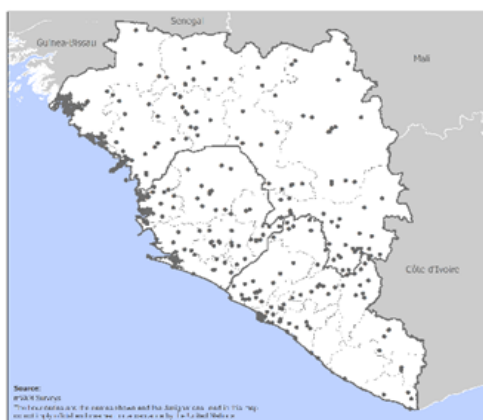
- Despite the challenges of the lean season, use of coping strategies improved in Guinea and Liberia this month. However, in Sierra Leone negative coping for the poorest groups increased.
- In all three countries, aggregate food prices continue to remain stable.
- Contrary to seasonal expectations, terms of trade did not worsen and even improved in many localities.

### Coping improves in Guinea and Liberia

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 households are resorting to more frequent or severe negative coping strategies. Detailed information on the rCSI can be found [here](#).

In July, average national rCSI levels improved in Guinea (from 19.8 to 16.5)\*\*\* and Liberia (from 15.1 to 13.5).\*\*<sup>1</sup> The change in rCSI for Sierra Leone was not statistically significant except for the poorest households whose reliance on negative coping strategies increased by 9% (from 81% to 90%).\*<sup>2</sup> Despite definite improvements, the average rCSI in Guinea was much higher than in Liberia or Sierra Leone.

Figure 1: rCSI in Guinea, Liberia and Sierra Leone, July 2015



### Methodology

July 2015 marked the tenth round of data collection, using SMS for all three countries. A total of 1,150 questionnaires were collected in Liberia from July 25th to the 28th. In Sierra Leone, 1,020 questionnaires were completed from the 25th to the 29th. In Guinea, 1,150 questionnaires were completed from the 27th to the 30<sup>th</sup>. The map below shows the cell phone towers from which responses were received. Details on methodology are available [online](#).

## Ebola cases reach a record low for the year

The number of Ebola cases detected in the last week of July was the lowest in a one-year period, yet as the WHO states, “although this decline in case incidence is welcome, it is too early to tell whether it will be sustained” and a few high-risk cases were detected this month that will be monitored closely. In Liberia, a total of six cases were detected in the first (three cases) and second (three cases) weeks of July with no new cases detected later in the month. In Sierra Leone, 26 new cases were detected throughout the month. In Guinea, there were 57 cases in the month, but a noticeable decrease in cases was observed in the last week of the month.

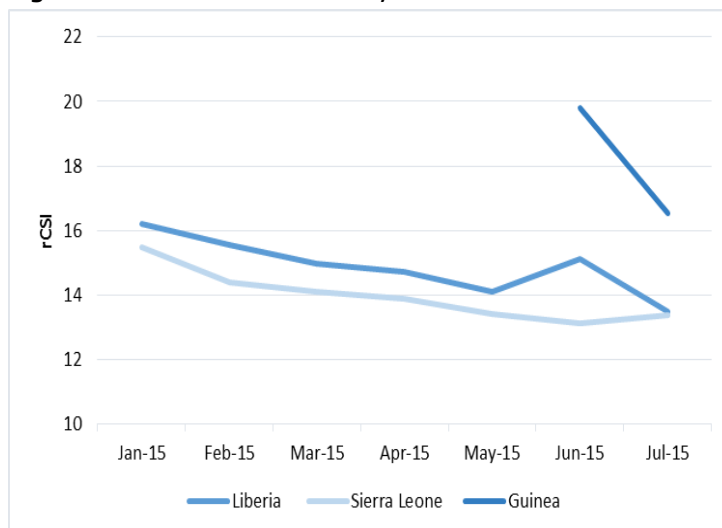
[WHO Ebola Situation Report, 29 July 2015](#)

In Guinea, there were substantial improvements from June to July in the rCSI at national and regional levels. The national rCSI decreased by 16% (19.8 to 16.5) this month.<sup>\*\*\*1</sup> A statistically significant decrease in the national proportion of households using all negative coping strategies is observed this month.<sup>\*\*\*2</sup> The rCSI also improved in all lower administrative levels: it dropped 11% (16.9 to 15) in Conakry, 18% in Kindia-Boke (19.6 to 16.1), 9% in Mamou-Labe (18 to 16.3), 16% in Faranah-Kankan (20.7 to 17.3) and most dramatically in N'Zerekore, where the rCSI improved by 25% (23.2 to 17.4).<sup>\*1</sup> Improvements in rCSI were observed for all wealth groups (using the type of sanitation as a proxy measure for wealth). For the poorest group of respondents (those who use a bush or pit latrine) the rCSI fell 21% (from 24.8 to 19.7).<sup>\*\*1</sup>

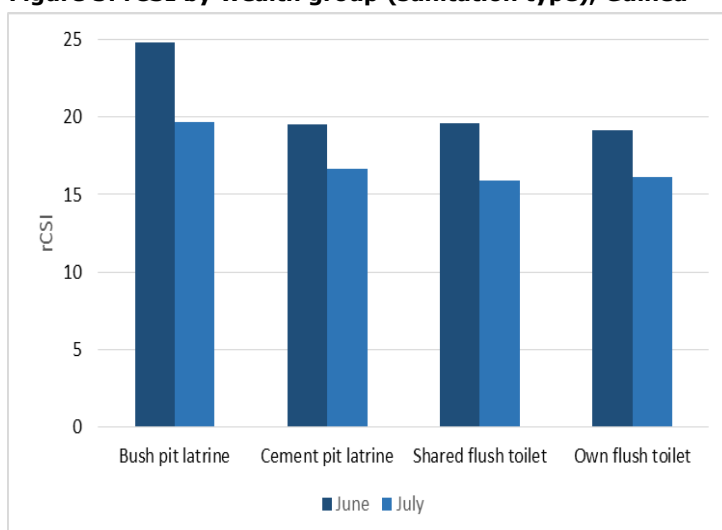
In Liberia, the rCSI has gradually improved month to month since the beginning of the year until June, when this improvement was interrupted and the rCSI increased by 7.1%.<sup>\*1</sup> In an encouraging sign, the rCSI improved by 12% (from 15.1 to 13.5) in July resulting in the lowest rCSI observed in Liberia this year.<sup>\*\*1</sup> This month, the rCSI decreased substantially (30%, 18.2 to 14.1) in the South East region, a region with the high food insecurity in Liberia.<sup>\*\*1</sup> Nationally, the prevalence of households borrowing food declined from June to July (57% to 52%) as did the percentage of households restricting consumption (64% to 60%).<sup>\*\*2</sup> The proportion of households borrowing food or relying on food from a relative/friend also decreased substantially (83% to 71%) for the poorest respondents (those using bush or pit latrines).<sup>\*\*2</sup>

In Sierra Leone, the rCSI had previously seen month to month improvements, however the rCSI has failed to improve in the last two months and the change in the rCSI observed this month is not statistically significant. Looking at the regional level in Sierra Leone, the rCSI improved by 10% (15.5 to 14) in Bombali-Koinadugu-Tonkolili.<sup>\*1</sup> The proportion of the poorest households (those using bush or pit latrines) relying on negative coping strategies increased by 9% (from 81% to 90%).<sup>\*2</sup> Changes in the proportion of wealthier groups using negative coping strategies were not statistically significant.

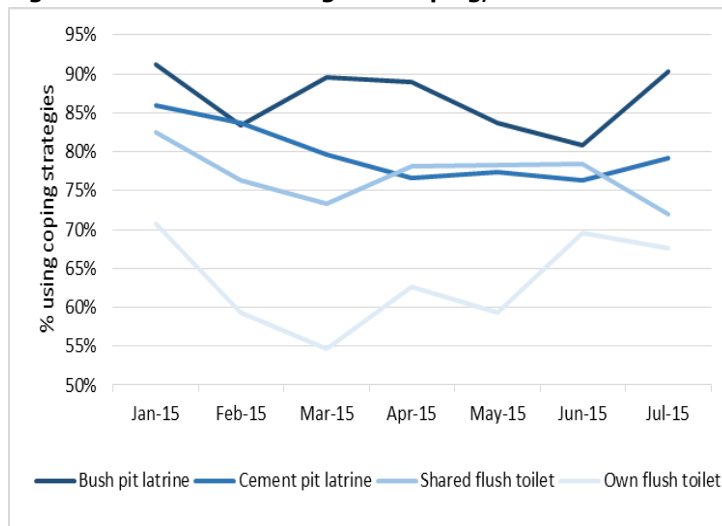
**Figure 2: rCSI trends in Guinea, Liberia and Sierra Leone**



**Figure 3: rCSI by wealth group (sanitation type), Guinea**



**Figure 4: Prevalence of negative coping, Sierra Leone**



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

June and July traditionally mark the start of the lean season in the region. Rains and lack of harvests can exhaust food stocks, creating seasonal price increases for local commodities and a decline in household purchasing power. In Guinea, for example, revenues declined for 67% of the population compared to before the Ebola crisis (WFP EFSA in June 2015). In Liberia, rice stocks have depleted for a third of the households (WFP EFSA in June 2015). Furthermore, restriction measures were still in place in Sierra Leone in July with full closure of weekly markets on Sundays.

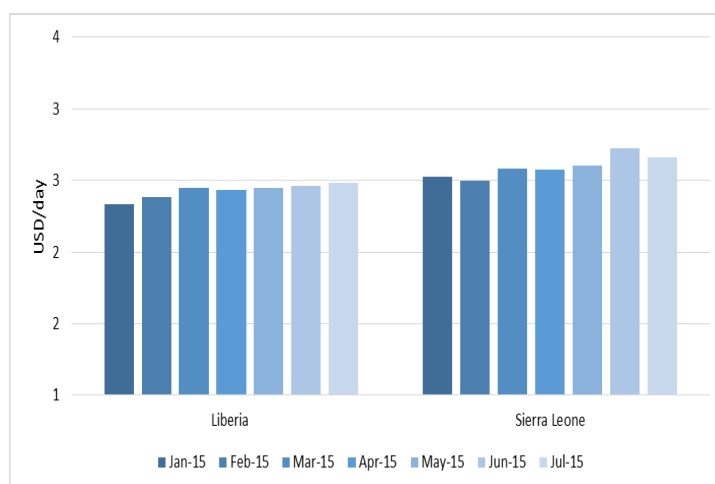
Despite these obstacles, overall, little price variation was observed in July and prices have remained relatively stable over the last six months. In Liberia and Sierra Leone, no statistically significant price changes from June to July were observed at national or regional levels, except for a 5% decrease in the price of imported rice in Bong, Liberia.

In Guinea price increases did follow the seasonal pattern with statistically significant increases observed for local rice and palm oil. The average national price of local rice increased by 3% from 0.73 to 0.75 USD a kilogram\*\*\* and the average national price of palm oil also increased by 3%, from 0.66 to 0.68 USD a half-litre.\*\*<sup>3</sup> At regional levels, the price of imported rice increased by 2% in Mamou-Labe, local rice by 6% in the sample domain of Kankan-Faranah and the price of palm-oil by 7% in N'Zerekore.\*<sup>3</sup>

**Table 1: Price changes (%), Sierra Leone, Liberia and Guinea**

Area	June - July changes		
	Imported rice	Local rice	Palm oil
<b>Sierra Leone</b>	-0.9%	0.1%	-0.2%
<b>Liberia</b>	-0.9%	-1.6%	-1.3%
Bong	4.9%*	-	-
<b>Guinea</b>	0.7%	3.3%***	3.2%**
Mamou-Labe	1.9%*	-	-
Kankan-Faranah	-	6.1%***	-
N'Zerekore	-	-	6.6%*

**Figure 5 Manual labour wages, Liberia and Sierra Leone**



## Manual labour wages show little growth this month

Labour wages are important measures of food security as they contribute to understanding purchasing power. Last month we observed an increase in manual labour prices in Sierra Leone, but no statistically significant changes were seen in July. In Liberia, although the change in manual labour wages at the national level was not statistically significant, there was an 11% improvement in wage rates in the poorest region, the Southeast, compared with the previous month. In Guinea, average manual labour rates did not change from June to July, but they remained considerably higher (3.4 USD) than in Sierra Leone (2.66 USD) or Liberia (2.48 USD) and the average daily wage for manual labour increased by 5% (from 3.86 to 4.07 USD) in the capital Conakry.\*<sup>3</sup>

## Stable terms of trade with localized fluctuations

Terms of trade (ToT) determine purchasing power and they illustrate the quantity of a certain food commodity that individuals can barter for a day's worth of manual labour. Contrary to expectations of reduced purchasing power corresponding with the lean season, this month's data revealed no statistically significant changes in terms of trade at national levels and showed largely positive increases in terms of trade at regional levels.

In Sierra Leone, ToT rose for palm oil (6.1 to 7.3 pints) in Kenema.\*\*<sup>3</sup> In the Southeast region of Liberia, ToT rose for all commodities, for imported rice (7.5 to 8.6 cups), local rice (8 to 9.2 cups) and palm oil (8.2 to 9.5 cups).\*\*<sup>3</sup> In Guinea, changes in ToT for several sample domains were noted. In N'Zerekore, ToT rose for imported (4 to 4.4 kilograms) and local rice (4.5 to 5 kilograms).\*\*<sup>3</sup> In Conakry, ToT increased for local rice (5.4 to 5.7 kilograms)\* and palm-oil (4 to 4.4 half-litres).\*\*<sup>3</sup> Reflecting price increases this month, ToT decreased in the sample domain of Mamou-Labe (4.8 to 4.1 kilograms) and in Kankan-Faranah (4.7 to 4.2 kilograms) for local rice.\*<sup>3</sup>



## Perceptions of food security in July

At the end of the questionnaire, participants are asked an open-ended question, “Tell us about the food situation in your community.” To analyse these responses and gauge perceptions of food security, we use the sentiment analysis tool [Repustate](#) which calculates the “polarity” of each response — a measure of how positive/negative the statement is on a scale of -1.0 to +1.0.

As observed in previous months, the mean sentiment scores for the three countries, Liberia (-0.04), Sierra Leone (-0.06) and Guinea (-0.02) were slightly negative.

In Liberia, the change in mean sentiment score was slight and not statistically significant. Similar to last month, negative words dominated responses and “hard”, “bad”, “expensive”, “high” and “difficult” were the five most frequently mentioned words. Difficulties due to the rainy season were mentioned by six out of 182 respondents and difficulties caused by roads or transportation networks were mentioned by two respondents. This month, Ebola was mentioned by three respondents.

In Sierra Leone, the changes in the mean sentiment score from the previous month was also slight and not statistically significant. The top five most cited words were “expensive”, “difficult”, “problem”, “Ebola” and “good”. Ebola was mentioned in 50 out of 625 responses and nearly all of those (45) claimed it negative effects on food security due to Ebola. Additionally, respondents mentioned difficulties due to rain (33 negative responses out of 34 mentioning rain) and road/transportation (13 negative responses out of 14 mentioning roads and transportation). Two responses also explicitly mentioned difficulties caused by curfews and movement restrictions.

In Guinea, the change in sentiment score was not statistically significant except for a sub-population of 134 respondents who answered in both June and July.<sup>4\*</sup> This group reported slightly more positive results (+0.1) compared to the prior month. Overall, the most frequently used words this month were “difficult”, “expensive”, “good”, “lack” and “little”. While concerns about food prices and availability were mentioned frequently, no responses this month specifically mentioned Ebola, rains, transportation or curfews when referring to issues of food security.

## Conclusions and Outlook

This month there have been improvements in the rCSI for Liberia in line with the improvements in months prior to June. This month also saw substantial improvements in the rCSI in Guinea, nationally and in all regions. In Sierra Leone, however, the rCSI failed to improve and the prevalence of negative coping for the poorest groups increased.

Aggregate food prices remained generally stable with a slight rise in prices in Guinea and in one region in Liberia. Contrary to an expectations, overall purchasing power did not worsen for most households as terms of trade did not change at a national level and even improved in many regions.

**Figure 7: Word cloud for Liberia, July**



**Figure 8: Word cloud for Sierra Leone, July**



**Figure 9: Word cloud for Guinea, July**



## 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	***

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

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

### Currency conversions

For comparability, prices and wages in national currency are converted into US Dollars using exchange rates to the US dollar at December 31, 2014 (<http://www.oanda.com/currency/historical-rates/>).

### Corrigendum

An error in the data cleaning process was discovered which had previously inflated manual labor wage rates for Liberia and Sierra Leone. While this error effects the absolute prices reported, overall trends remain the same. Additionally, for prices reported for Guinea last month, a dropped decimal in currency conversion from CFA to USD led to lower reported prices in dollars.



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To download mVAM data on the Ebola-affected countries, please visit: [http://vam.wfp.org/sites/mvam\\_monitoring/Ebola.html](http://vam.wfp.org/sites/mvam_monitoring/Ebola.html)