



Liberia

November 2014 — Households in the central zone are using severe coping strategies

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

Highlights

- **As of October 2014, all areas of Liberia are affected by food insecurity. Households in a central zone that includes the counties of Nimba, Bong and Margibi are using severe coping strategies most frequently. This zone accounts for the bulk of Ebola virus disease (EVD) cases outside the capital, Monrovia.**
- **According to recent inter-agency assessments, food demand and supply has diminished because of quarantine measures. The price of imported rice in Liberia has increased since April, influenced by exchange rate depreciation. Cassava prices have remained stable.**
- **Wage-to-rice terms of trade appear to be lowest in the county of Lofa and in the central zone. EVD impacts on the economy may have lowered the demand for casual labour, affecting household income and purchasing power.**

Methodology

Why remote mobile surveys?

The EVD outbreak in Guinea, Liberia and Sierra Leone is a Level 3 emergency, the highest in the UN system. Up-to-date information is essential to support informed, evidence-based responses. Unfortunately, collecting primary data from affected areas is currently very difficult. Restrictions on staff movement and the risk to enumerators and interviewees in a major public health emergency make countrywide face-to-face data collection a difficult proposition.

WFP has therefore opted to resort to remote data collection, through mobile phones, in order to collect basic food security data. Monthly rounds of data collection started in October 2014. Mobile data collection is quick – an advantage in a fast-breaking crisis such as the EVD outbreak. When interpreting the data presented below, readers are cautioned to note that mobile surveys skew towards better-off households in urban areas.

According to the [World Bank](#), there were 60 mobile cellular subscriptions per 100 people in Liberia in 2013. While this number is increasing rapidly, a large segment of the population does not own a phone. Remote mobile surveys will not replace the need for on-the-ground emergency assessments, particularly for targeting and response design.

The data in this bulletin was collected by Interactive Voice Response (IVR) and text message from 677 randomly selected and anonymous mobile phone subscribers in October 2014. At least 100 responses were obtained for the counties of Montserrado and Lofa, where two thirds of Ebola cases have been concentrated. In Lofa, the survey was conducted by text message for technical reasons. All other counties were surveyed exclusively by IVR. Respondents had to opt into the survey. The survey included food-related coping questions, as well as food price and livelihood-related questions. All respondents received an airtime credit incentive, in line with best practice for this form of data collection.

The methodology has been informed by WFP's mVAM project, which has implemented remote mobile surveys in the Central African Republic, DR Congo, Kenya and Somalia. An [article](#) on mobile text message surveys published in Humanitarian Exchange (2014) informs the methodological choices implemented in Liberia.

rCSI: Coping is highest in the central zone (Bong, Margibi and Nimba)

The [reduced Coping Strategies Index](#) (rCSI) expresses the frequency and severity of the mechanisms that households use to access food. A higher score indicates more frequent or extreme coping strategies. The data shows an elevated rCSI in all districts of the country. Interestingly, the mean rCSI for Liberia (24.7) is higher than that of Sierra Leone (18.0) or Guinea (22.1).

Two factors could explain this difference. Firstly, different survey modes were used: in Sierra Leone, data was collected by text message, whereas the main data collection mode in Liberia was IVR. However, the Liberia results can be compared with those of Guinea, where data was also collected by IVR. Secondly, of the three countries, Liberia has the highest number of Ebola cases. The higher level of the rCSI in Liberia could therefore reflect a higher disease burden and its broader socio-economic impacts.

[Previous food security assessments](#) in Liberia identified Montserrado and the south east as being the areas most exposed to food insecurity. The October data shows the highest rCSI in Liberia (26.3) is observed in a central zone that includes the counties of Bong, Margibi and Nimba, along the main road from Monrovia to Ganta. This is a cash crop producing area where people's livelihoods rely on trade and markets. In the Ebola-affected county of Lofa, the mean CSI value of 21.7 is indicative of an atypical food security situation. Overall, more than 80 percent of households reported reducing the number of meals and reducing meal portion sizes. In Lofa, 9 out of 10 respondent households have switched to less preferred foods. In Montserrado, two thirds reported reducing their consumption, a proportion that rose to three quarters in other counties.

Data quality

As Figure 1 shows, the rCSI data results in a normal distribution. This indicates that the data is suited to statistical analysis. Given that the average score is around 20, the distribution is characteristic of a situation where households are implementing a number of coping strategies. In a situation where food security is more stable, the rCSI data would have a binary distribution, with peaks at 0 (no coping) and another at 15–20 (some coping).

Imported rice prices increase, while cassava prices remain stable

The majority of respondent households rely on the market as their main food source, making markets and trade essential for household food access. The initial results of the [Joint Rapid Food Security Assessment](#) conducted between 27 September and 12 October – concurrently with round one of mVAM – show evidence of declining demand and market supply in the context of quarantine measures. There are fewer traders, and food stock levels are below usual levels. While supply sources have not changed, commercial trade flows have declined in most counties.

According to the assessment, imported rice prices increased in all monitored markets between June and September 2014 and are above last year's average, as well as the four-year average. The exchange rate dropped during the same period, accounting for part of the cost increase. By contrast, cassava prices have remained relatively stable over the past few months (Figure 2-3).

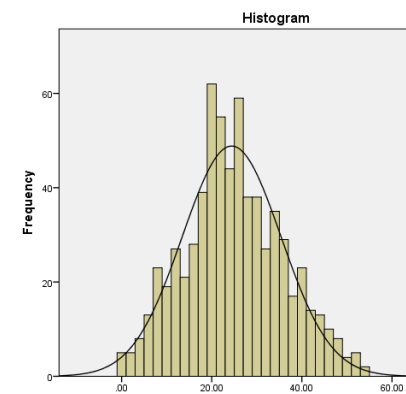
Map 1: Liberia - Reduced Coping Strategies Index (rCSI) - October 2014

LIBERIA - Reduced Coping Strategies Index (rCSI)



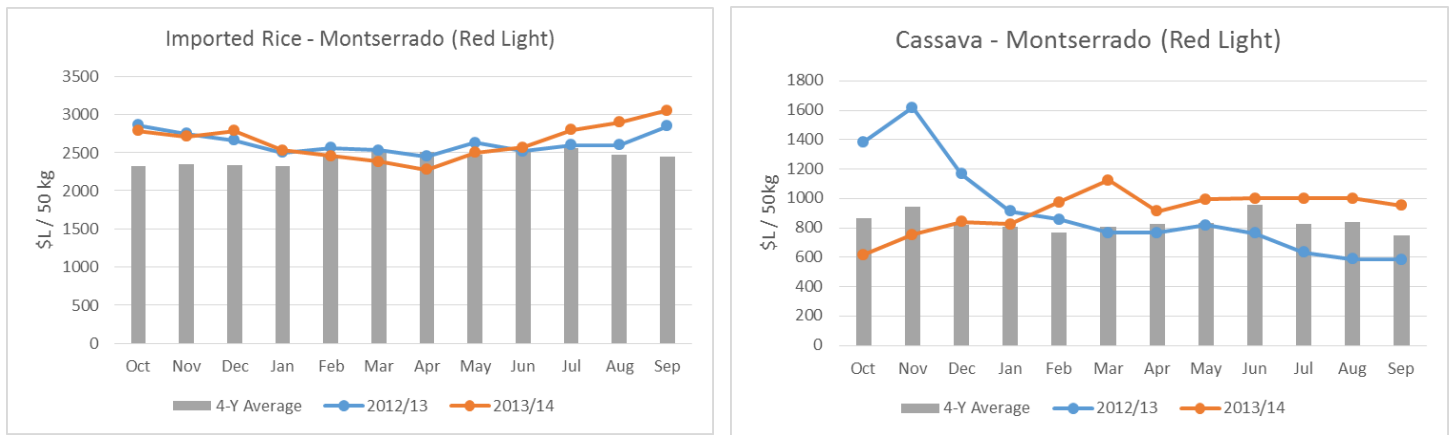
Source: WFP mVAM

Figure 1 : Distribution of the rCSI



Source: WFP mVAM

Figures 2–3 : Imported rice and cassava prices at Red Light Market (Montserrado)

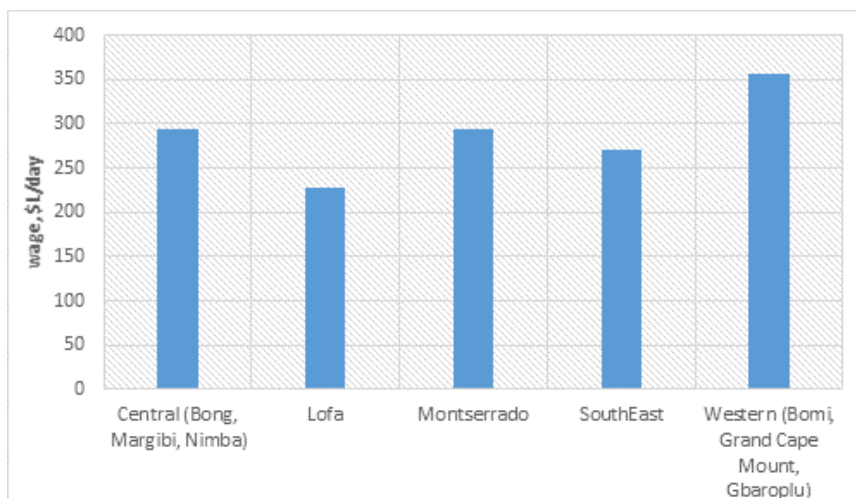


Source: LISGIS

In Monrovia, a 50kg bag of imported rice currently costs \$L3,000 ([US\\$1=\\$L84.5](#)). Owing to transportation costs, a bag of imported rice costs \$L3,300 in the central zone. This suggests that the supply chain for imported rice from Monrovia to the main towns of the central zone remains functional. In Lofa, a relatively remote rice surplus producing zone, prices for locally-produced rice seem abnormally high. The October mVAM data shows that the median price of local rice is \$L40/cup in Lofa, compared to \$L30/cup in other parts of the country. This could be because the harvest is still underway in this area. The cross-border trade in palm oil from Nimba is currently at a halt because of the closure of the border crossing point with Guinea at Ganta.

The FEWS NET [livelihood zoning report](#) suggests that casual labour is an important source of income in both urban and rural areas of Liberia. October data shows that casual wage rates are very low in Lofa (\$L227/day), around 25 percent lower than in the rest of the country (\$L300/day). The data suggests that casual labour opportunities are presently scarce, and that fear and quarantine measures may have led to less buoyant economic conditions. Respondents in Lofa, the central zone (Bong, Nimba and Margibi) and Montserrado reported a change in income sources, perhaps reflecting the impact of the EVD crisis on employment and economic opportunities. The data collected does not mention exactly how income sources have changed; in-depth face-to-face assessments could help understand the phenomenon better.

Figure 4 : Wage rates for manual labour, \$L/day

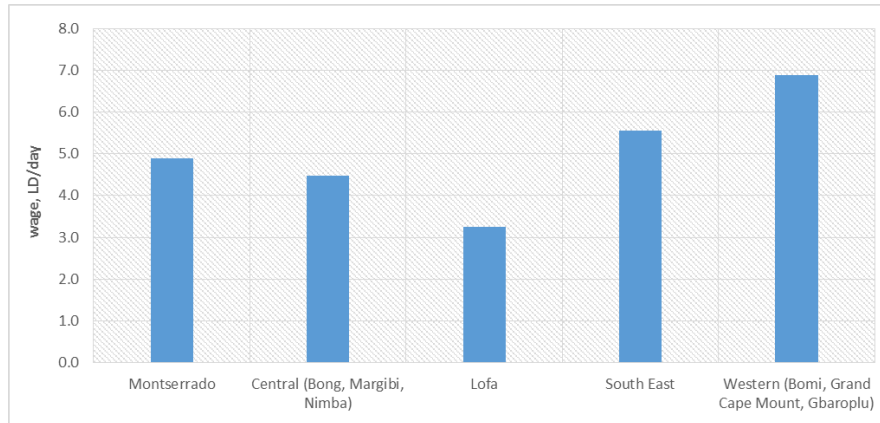


Source: WFP mVAM

Food purchasing power is low in Lofa

Lofa is the county with the poorest food purchasing power. This is true for imported rice, local rice and cassava flour. In Montserrado and the western counties, a labourer's wages are sufficient to purchase 5 to 7 kg of imported rice, but in Lofa, a day's wage is equivalent to either 5 cups of local rice or 3 kg of imported rice. Terms of trade for imported rice are also low in the central zone (Bong, Nimba and Margibi), where a day's wage also buys 4 to 5 kg of imported rice. These lower wage-to-rice terms of trade may explain why households in these areas are using more severe coping strategies.

Figures 5 : Terms of trade (daily wage to imported rice, kg)



Source: WFP mVAM

In Montserrado, it seems that the continuation of economic activity is supporting household purchasing power, relative to other areas of the country.

Conclusion and outlook

Coping levels are elevated throughout Liberia, suggesting that the EVD outbreak has had wide-ranging consequences for livelihoods and food security in the country. The impact on employment seems to be eroding food purchasing power in the Ebola-affected county of Lofa and in the central zone that includes Bong, Margibi and Nimba.

[Previous food security assessments](#) in Liberia identified Montserrado and the south east as being the areas most exposed to food insecurity. The emergence of higher vulnerability in central zone and in Lofa in October 2014 represents a change that the EVD outbreak may have provoked. In the south east, the EVD outbreak may constitute an additional shock aggravating a situation of chronic food insecurity. The main rice harvest – which is ongoing and will last through December – and the upcoming cash crop harvest will be monitored to gauge what contribution they make to livelihoods.



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

mVAM data can also be accessed at: data.hdx.rwllabs.org