Highlights

- People living in the districts of Kailahun and Kenema are using severe food coping strategies more frequently, compared to people in other areas of the country. These are the areas where most EVD cases have been reported since the start of the outbreak. According to the 2010 Comprehensive Food Security and Vulnerability Analysis, households in Kailahun and Kenema were less likely to be food insecure than in other parts of Sierra Leone.

- Low casual wage prices in the east appear to be driving down people’s food purchasing power. This may be one reason why food coping levels are higher in that part of the country.

- As the main annual harvest starts, staple food prices in the east are not showing serious anomalies compared to other regions of the country. Price trends will continue to be monitored in subsequent months.

Methodology: remote mobile phone surveys

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 in Sierra Leone 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. Rounds of data collection will take place every month. Mobile data collection is quick – an advantage in a fast-breaking crisis such as the EVD outbreak. WFP’s approach to remote data collection for food security surveys is backed up by two years of documented evidence.

When interpreting the data presented below, readers are cautioned to note that mobile surveys will skew towards better-off households in urban areas. According to the World Bank, there were 44 mobile cellular subscriptions per 100 people in Sierra Leone in 2013. While this is twice the number of 2009, a large segment of the population does not own a phone. SMS surveys will not necessarily replace the need for on-the-ground emergency assessments, particularly for targeting and response design.

The data in this bulletin was collected by SMS from 850 randomly-selected and anonymous mobile phone subscribers (from a database of 2 million). At least 200 responses were obtained from the districts of Kailahun and Kenema. Respondents had to opt into the survey. The survey included food-related coping questions (reduced Coping Strategies Index), as well as food price and livelihood-related questions. 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 mobile surveys in the Central African Republic, DR Congo, Kenya and Somalia. The article on mobile text message surveys published in Humanitarian Exchange (2014) informs the methodological choices implemented in Sierra Leone.²

¹ http://data.worldbank.org/indicator/IT.CEL.SETS.P2
The reduced coping strategy index (rCSI) is a proxy indicator of household food security. A high rCSI means that households are using more severe coping strategies more frequently to cope with shortages of food.  

September data shows that the rCSI is highest in the east, the area of the country that has been most exposed to EVD and its impacts. In the eastern districts of Kailahun and Kenema, the mean rCSI is 22 and is statistically higher than the national average of 18 (p=0.00). Over 80 percent of respondents in the east report consuming less expensive food, while three quarters report reducing the number of meals and limiting portion sizes.

These results seem to indicate that the EVD outbreak has affected household food security in Kailahun and Kenema. These two districts currently have the worst food-related coping indicators in the country. By contrast, the 2010 Comprehensive Food Security and Vulnerability Analysis survey reported that Kailahun and Kenema had above-average food consumption indicators at the time. Indeed, while 45 percent of households in Sierra Leone were severely or moderately food insecure in 2010, the proportion was just 34 percent in Kenema and 21 percent in Kailahun.

In Western Area, home to the capital Freetown, households are using fewer coping strategies than in other areas (the mean rCSI is 15). This is to be expected, as Western Area is a comparatively better-off part of the country. Interestingly, the spatial pattern of the rCSI – higher in the east, lower in Western Area – matches that of the incidence of EVD, shown in the map below. Due to the small sample size, it is not possible to present data for the individual districts of Northern Province and Southern Province.

The quality of the rCSI data is acceptable. As shown in the graph below, the data has the typical binary pattern expected of the rCSI in face-to-face surveys, which vouches for the quality of the data presented here.

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1 The rCSI captures the severity and frequency of consumption-related coping strategies. The more strategies households implement, the higher the rCSI. [http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp211058.pdf](http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp211058.pdf)

2 The districts of Kailahun and Kenema were cordoned off on 8 August 2014. The districts of Port Loko, Bombali and Moyamba were cordoned off on 24 September 2014.
Low casual labour rates in the east imply low food access for the population

Results also show that food markets, rather than own production, are the main source of food for respondents. This reflects overall dependency on markets - especially in the pre-harvest harvest period when the survey was conducted.\(^1\) Income and market trends are therefore important indicators to monitor in the future.

Figure 2: Daily wage rates, leones/day

Survey results suggest that casual wage rates are 20 to 40 percent lower in the east than in the rest of the country. In Kailahun, the current daily wage rate of 7,500-8,000 leones a day is much lower than elsewhere. This may be because Kailahun is a district with low wage rates in the first place, owing to limited urban employment opportunities in the area. The wage rate in Kenema, at 10,000 leones a day, is also below the rest of the country. While the causes of low wage levels in the east are unclear, data suggests that low incomes could limit food access for casual labour-dependent households in the area. Further analysis of unskilled labour markets in the east would help understand the likely impacts of EVD.

Figure 3: Terms of Trade, rice / day worked

Terms of trade analysis shows that low wage levels imply lower purchasing power for people in the eastern districts. For instance, while people in Western Province Area are currently able to buy more than 13 cups of rice with a day’s wage, people in Kailahun and Kenema can only buy 8-10 cups. The same is true for other staple foods, e.g. cassava flour (gari): a day’s wage is worth 15-18 cups of gari in the east, much less than in Western Area (23 cups), Northern Province (21 cups) and Southern Province (26 cups).

Food prices

The food prices data from the September survey do not seem to show large anomalies. Indeed, staple food prices are highest in Western Area, where the capital is and where a large population drives high demand. The traditional rice-producing areas of the north have the lowest prices for local rice. Cassava flour prices are lowest in Southern Province, a surplus-producing area for the commodity. In the districts of Kailahun and Kenema, the price of palm oil and local rice are below the national average, which is the typical price pattern for the country. This seems to confirm that the geographic pattern of food prices that prevailed before the crisis has not changed.

Tracking these prices in October will provide a basis for further analysis. Explicit comparisons with data collected face-to-face are not made because of the difference in methodology.

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\(^1\)This may also be due to skewed to urban respondents, who are less likely to rely on farming for food

\(^2\)One US dollar = 4,400 leones in September 2014
Conclusions and outlook

As the main harvest continues in October, local food staple food prices are poised to fall. The performance of the labour market in EVD-affected areas seems to be an important factor in food security and livelihoods. In a typical year, increased demand for labour (linked to harvesting staple and cash crops) spurs a short-term rise in wage rates. However, uncertainty surrounding how the EVD outbreak could evolve may have an impact on the near-term outlook. The data presented here suggest that the extension of the disease to new areas might trigger a degradation of household food security indicators there.

The SMS surveys will continue every month and will provide an opportunity to revisit food security trends in Sierra Leone.