

THE IMPLICATIONS OF THE EBOLA OUTBREAK ON MARKETS, TRADERS, AND FOOD SECURITY IN SIERRA LEONE

January update (based on data collected in November and December)

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IN BRIEF

- Prices for basic foods across Sierra Leone remain at or below prices in previous years. However there are some districts where prices are substantially higher than average.
- The number of palm oil and gari flour traders has declined sharply compared to previous years, though the gap appears to be closing. The rice harvest led to a modest increase in the number of domestic rice traders.
- International shipping to West Africa fell in September 2014, but returned to 2013 levels in November and December 2014.

Summary

Our latest rounds of market surveys took place between 19th-26th November and again in 17th-21st December. We find:

- Rain fall returned to more seasonal levels in November and December and the rice harvest was underway throughout the country by late November.
- Prices for most basic foods remain at or below previous year's prices.
- With the rice harvest came a modest increase in the number of domestic rice traders, which has returned to levels similar to those in 2011.
- Traders in markets for other staples like processed cassava and palm oil are still below those for previous years although the gap closed somewhat in December.
- The number of markets reported to be closed in November is largely unchanged since October, and slightly lower in December.
- Preliminary evidence suggests that international shipping in West Africa fell in September, but appears to be similar in October and November relative to 2013.

Our results are consistent with emerging results from other surveys (including surveys of households) which suggest informal activity has been depressed by the Ebola outbreak but that food prices have not been impacted.

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On a methodological note, our main comparator year for pre-Ebola conditions in this report is 2011, rather than 2012 because previous rounds of market data ended in October 2012. For August through October we show data for 2011, 2012 and 2014. As the number of market traders was lower in 2011 than it was in 2012, this new baseline year changes our trader comparisons.

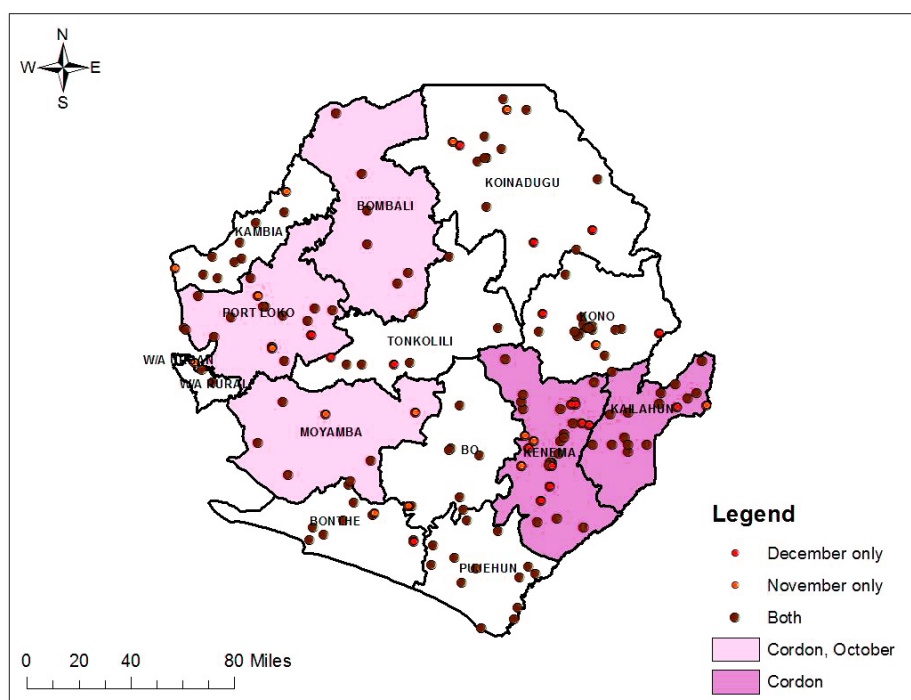
Survey details and additional data used

The data in this note come from phone surveys which took place in two rounds November 19th and 26th and December 17th and 21st. As in previous rounds, IPA staff and enumerators phoned respondents (usually traders or market officials) at a representative random sample of 185 markets across Sierra Leone. Data were successfully collected from 179 markets in November and 178 in December. Respondents answered questions about prices and the level of activity at the markets where they were based. We have pre-data for August through October for 2012 and August through December for 2011.

Figure 1 shows the geographic spread of the markets in the sample for December as well as which districts were under travel restrictions at the time of the survey (the map for November looks very similar). Data from this survey are broadly consistent with results from a monitoring survey conducted by the WFP, the reports of which can be found at:

http://vam.wfp.org/sites/mvam_monitoring/index.html

Figure 1: Locations of Markets Reached in November and December Market Survey



In addition to the market phone surveys, we present data on rainfall from the NOAA, using their Africa Rainfall Estimates for Sierra Leone. We include data from January 2014 through till the end of December 2014, which we compare to the average for each of these months for the past thirteen years.

Finally, we also present some preliminary data from shipping. These data are collected by MarineTraffic and include data from 2013 and 2014 for major ports in West Africa. These data are still being provided by the source. These numbers should be considered extremely preliminary.

Trends of confirmed cases

Cases in the first two districts to suffer from Ebola (Kenema and Kailahun) have hardly risen since the beginning of October, though the districts remain under cordon sanitaire (Figures 2a and 2b). At the time of the surveys covered in this report, the number of cases in Western Area (in and around Freetown), Port Loko and Bombali, were continuing to rise rapidly. The latter two districts and Moyamba continued to experience travel restrictions in an attempt to reduce the spread of the disease.

Figure 2a: Confirmed cases and cordon districts as of November 30th 2014

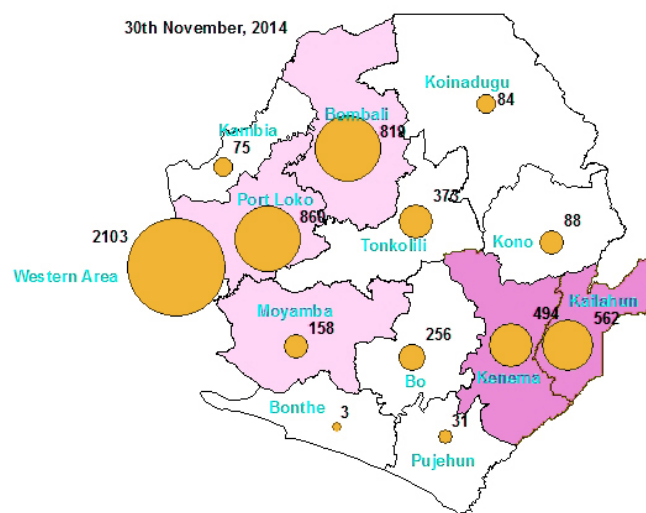
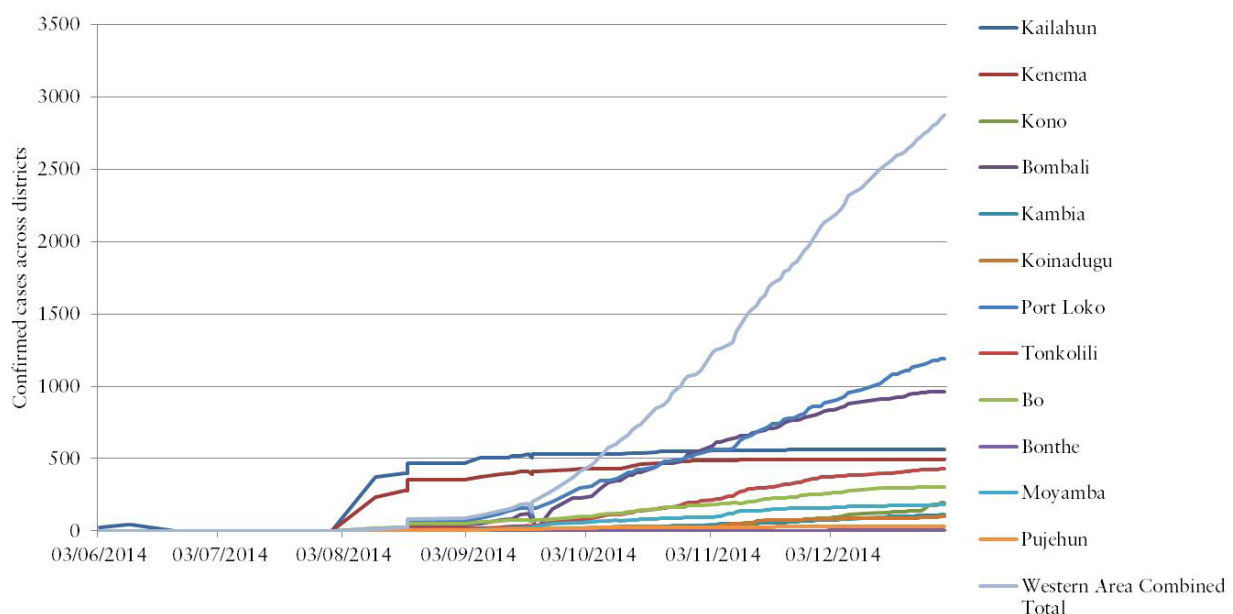


Figure 2b: Confirmed Cases across Districts from June to December 31st 2014



Price results

Average prices for domestic and imported rice, cassava, and palm oil in markets both in cordon and non-cordon districts continue to be reasonably stable. With over 90% of markets reporting the beginning of the rice harvest by late November (relative to ~60% in October), we see a fall in the price of domestic rice from October to November.

Figure 3: Markets reporting that the rice harvest has started locally

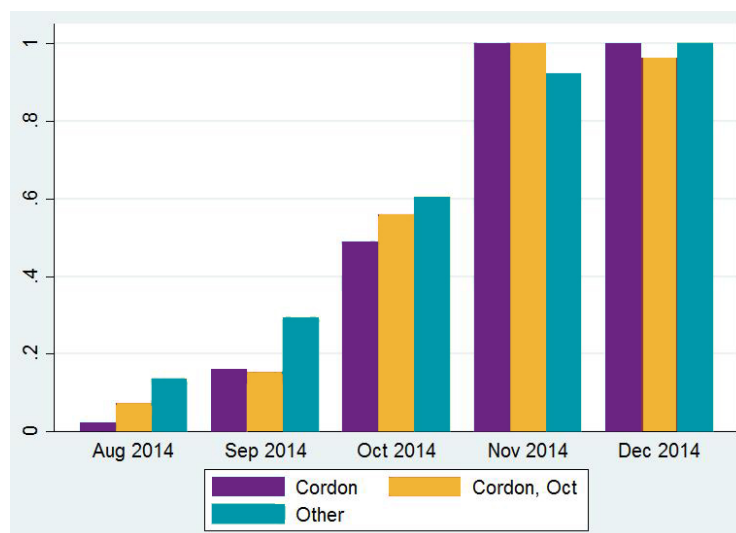
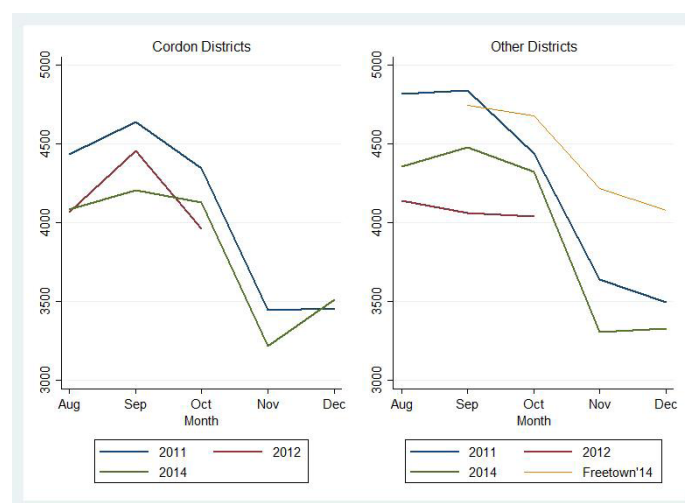


Figure 4: Domestic Rice Prices in Cordon and Non-Cordon Districts



In previous years imported rice prices have also declined during the autumn but less sharply than domestic rice prices. This year we see a sharper than usual reduction in imported rice prices in cordon areas, one of the few cases where we see a statistically significant difference between cordon and noncordon areas. As the harvest for palm oil (the main source of fat in Sierra Leone) is earlier than rice, prices tend to rise during the fall. In comparison to 2011, Mansakay prices are lower than in 2011. These results are broadly consistent with similar data collected by the World Food Program.¹

1 <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp270756.pdf>

Figure 5: Imported Rice Prices in Cordon and Non-Cordon Districts

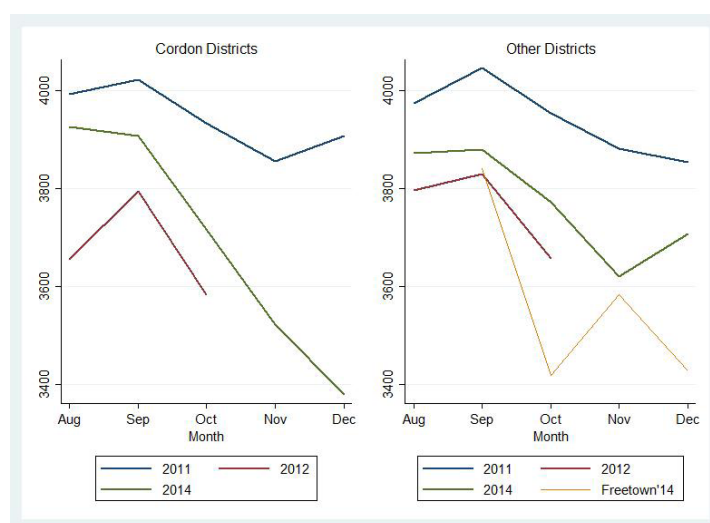
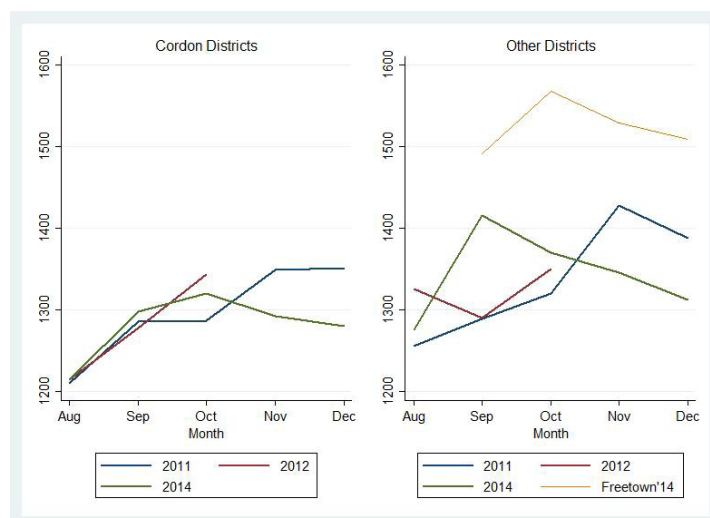


Figure 6: Masankay Palm Oil Prices in Cordon and Non-Cordon Districts

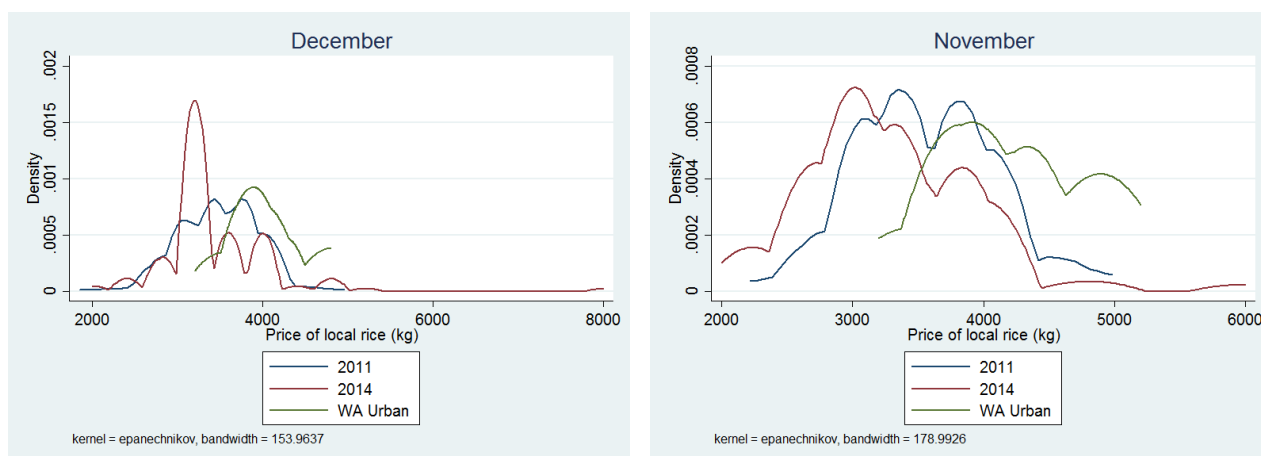


The prices reported here are the price at which commodities are sold by traders at local markets. Prices paid by households may deviate from these prices, particularly in more remote communities, if the commodity needs to be transported from the market to the village. Preliminary results from phone based household surveys, however, are in line with these results, although the coverage of households in remote areas is limited given lack of cell phone ownership and reception. Results from this survey will be released shortly.

There are also important outliers among markets where prices are substantially higher than average and there are more such outliers in 2014 than in previous years. Figure 7 shows the distribution of domestic rice prices in 2011 and 2014 for the month of November and December respectively. Because we did not collect data on domestic rice prices in markets in Western Area Urban (Freetown) in earlier years, we show this distribution of prices in Freetown separately. We see a small but significant tail of outliers with prices at or above 6,000 Leones per kg in 2014. Western Area Urban has higher domestic rice prices than other districts because of transport costs, but it also has lower prices of imported rice. The distribution of prices for imported rice

does not look very different to that seen in previous years. However, the distribution of prices for palm oil also suggests there are a larger number of high price outliers this year than in previous years even though for most markets prices are similar.

Figure 7: Distribution of Domestic Rice Prices by Year



Trader activity

The onset of the rice harvest usually prompts an increase in the number of domestic rice traders. We see this between September and October in previous years with a particularly dramatic rise in 2012. We do see a modest uptick in the number of traders between October and December this year. Results for domestic rice traders look much more similar to 2011 than they did to 2012 (the comparator year in previous reports). The number of imported rice traders normally falls as the domestic rice harvest comes in. We do not see these falls this year so again, the number of traders is more similar in November and December to previous years than it was in October. For both palm oil and gari (processed cassava), the number of traders in 2014 is sharply below previous years although this gap does appear to be closing. In particular, there is an encouraging (and statistically significant) uptick in palm oil traders in cordon and noncordon districts (in December and November respectively).

Figure 8: Number of Domestic Rice Traders per Market

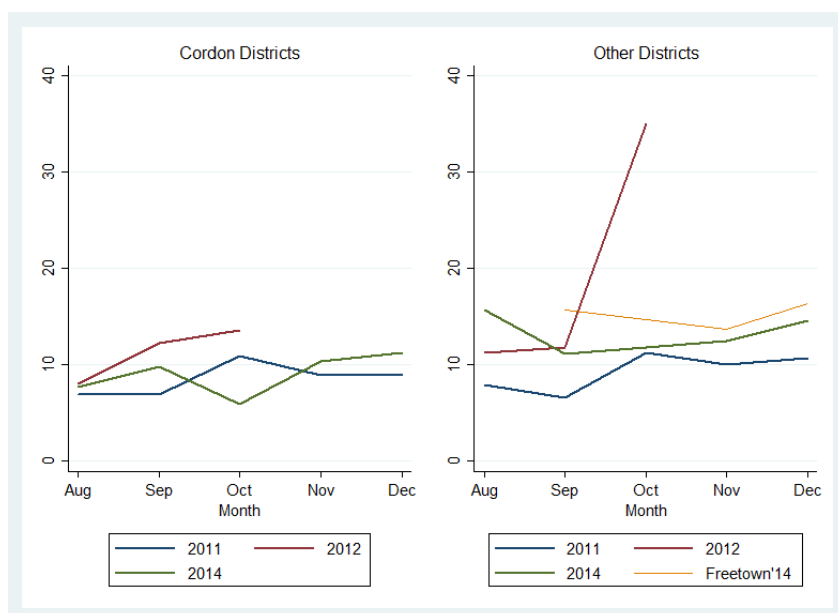


Figure 9: Number of Imported Rice Traders per Market

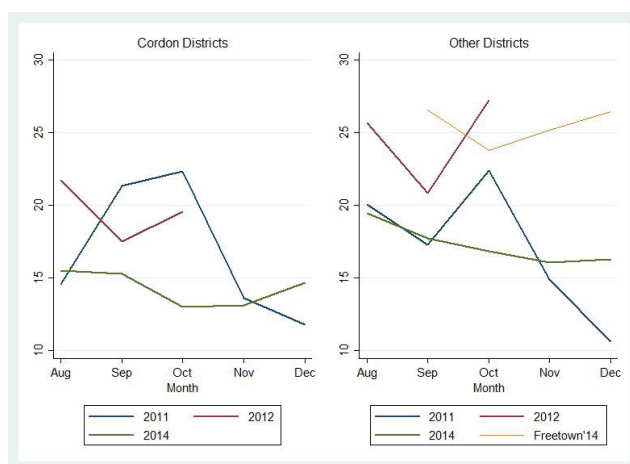


Figure 10: Number of Mansakay Palm Oil Traders per Market

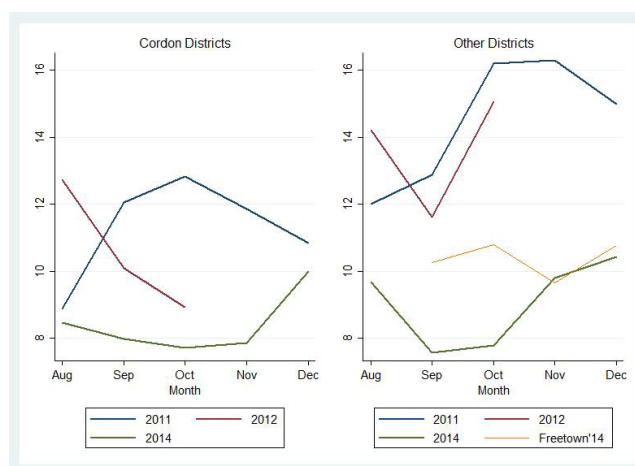
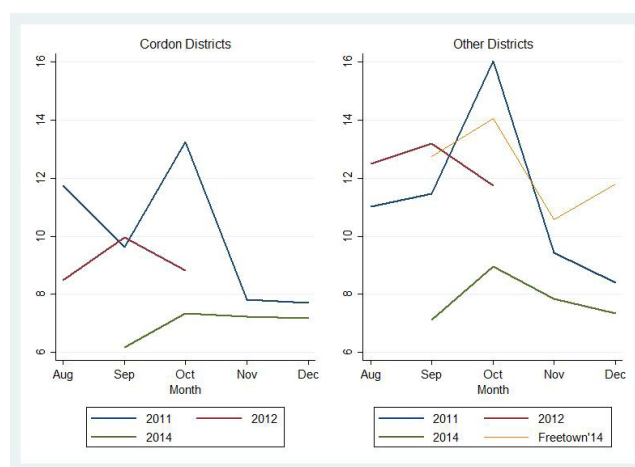


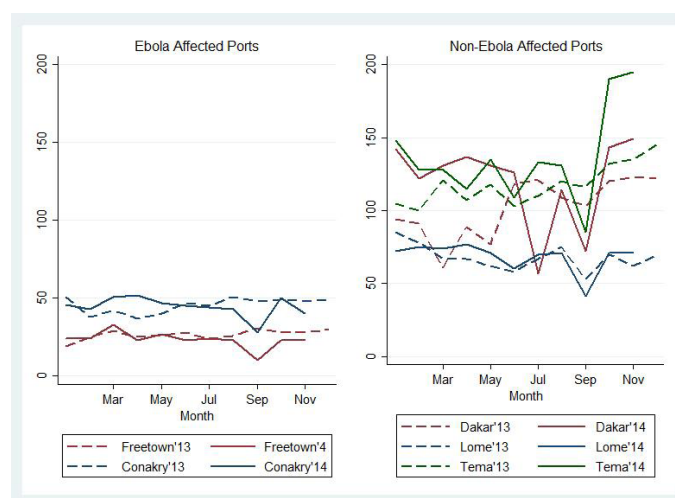
Figure 11: Number of Processed Cassava (Gari) Traders per Market



International trading activity

While considerable attention has been paid to the decline in flights to and from Ebola affected countries, most of the international trade takes place over land or by boat. Land borders have been closed since mid-June.² Very preliminary data suggests that shipping trade was down in September across all ports, particularly in Freetown and Conakry, it appears to be comparable to 2013 in October and November. We show below preliminary numbers on the unique number of cargo ships entering and exiting the major ports in West Africa. Some of the ships entering in October and November will be related to the relief effort but it is not possible from these data to track the distribution of ships by type of cargo.

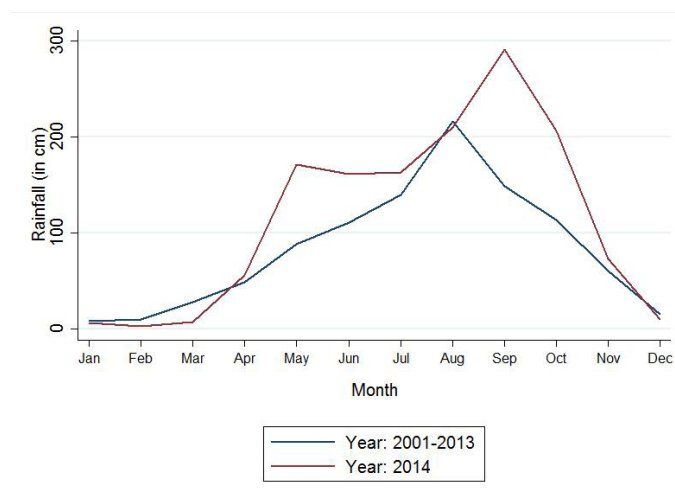
Figure 12: Number of Cargo Ships Entering Ports in West Africa



Rainfall

Rainfall has returned to more seasonal levels in November and December. Results from a household survey showed that for agricultural households who reported unharvested rice in November the main reason was continued rains. It is not possible to tell how the unseasonal rains in October impacted yields of rice or the quality of the cocoa harvest, which normally dries during October.

Figure 13: Average Rainfall by Month in Sierra Leone



Conclusion

Average food prices at markets continue to follow normal seasonal patterns. However, the dispersion of prices is higher than normal with some markets seeing unprecedented spikes in prices and prices for imported rice falling sharply in cordon areas. The challenge for the Ebola response is to effectively target aid to areas that have been impacted by transport disruptions without flooding the market. The number of rice traders in rural markets is similar to what it was in 2011. While this is in some ways encouraging it should be remembered that overall the economy has grown since 2011 and we might have expected an increase in the number of traders over this time as we did between 2011 and 2012. Traders in gari and palm oil were still below previous years although the gap did close substantially by December. There is a fall in the number of cargo ships report by Marine Traffic entering West African ports in September compared to previous years but the rates are similar for October and November.

IGC Bulletins: The Economic Impact of Ebola

In recent weeks there has been speculation regarding the short and long term impact of Ebola on West African economies. In a set of bulletins on the economic impact of Ebola, the IGC will disseminate the data collected, including key facts and policy recommendations. The IGC will be sharing these bulletins with the broad group of aid agencies, NGOs, and journalists with an interest in the Ebola epidemic.

As soon as the data has been collected, the IGC plans to publish further bulletins on the impact of Ebola on firms and households in Sierra Leone and Liberia.

Previous editions of the IGC's economic impact of Ebola bulletin are available online here: <http://www.theigc.org/project/the-economic-implications-of-ebola/>

About the International Growth Centre (IGC)

The International Growth Centre (IGC) aims to promote sustainable growth in developing countries by providing demand-led policy advice based on frontier research. The IGC directs a global network of world-leading researchers and in-country teams in Africa and South Asia and works closely with partner governments to generate high quality research and policy advice on key growth challenges. Based at LSE and in partnership with the University of Oxford, the IGC is funded by the UK Department for International Development (DFID).

The IGC Sierra Leone programme started in 2010 and focuses on the issues of trade, governance, health and agriculture. Current projects are addressing the government's requests to help evaluate the national health insurance scheme, monetary policy, managing natural resources, urban planning and agricultural production.

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