

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

May 2015 update (based on data collected in January-March 2015)

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In brief

- Agricultural trade appears to be returning to close to normal across Sierra Leone.
- The number of markets closed in Sierra Leone peaked in October but has since been in decline.
- Average prices for domestic and imported rice remain below their price in 2012. The price of imported rice, for example, is 8% lower than in 2012. The price gap was larger in areas that had been cordoned than in areas that were not.
- The number of traders for local and imported rice is now similar to previous years.

Summary

This note provides updated information based on four rounds of market surveys which took place: i) 17 to 21 December; ii) 26 January to 3 February; iii) 25 February to 3 March, and iv) 23 to 31 March. We find:

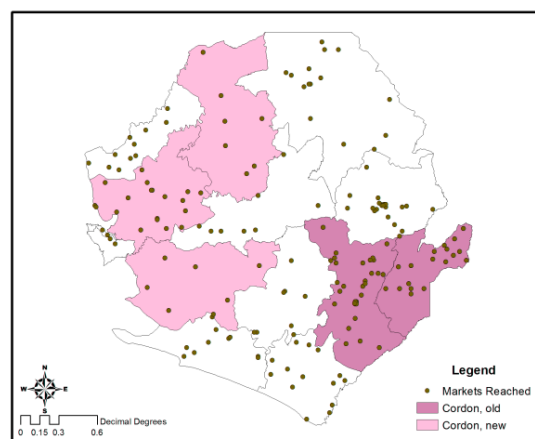
- Harvests of rice concluded in January for most of the country.
- The number of traders is now similar to previous years for the main staple commodities we track.
- The price of local and imported rice at markets continues to be slightly lower than at the same time in the 2011/12 season. The largest gap is for imported rice – the commodity commonly used for food assistance – in previously cordoned districts.
- Prices for gari and palm oil are slightly higher than during the 2011/12 season.
- The number of markets reported to be closed continues to decline steadily from its peak in October 2014.
- The number of ships reported entering and leaving ports in West Africa on MarineTraffic is relatively unaffected with the exception of September 2014 when there was a drop across the region.

Survey details and additional data used

The additional data in this note comes from four rounds of phone surveys which took place between 17 December and 31 March. As in previous rounds, IPA staff and enumerators phoned respondents (usually traders or market officials) at a representative random sample of 208 markets across Sierra Leone. Data were successfully collected from 178 markets in December, 189 in January, 190 in February, and 195 in March. Respondents answered questions about prices and the level of activity at the markets where they were based. We have pre-data for these months from 2012, but not from 2011.

Figure 1 shows the geographic spread of the markets in the sample as well as the districts that were under quarantine (old cordon) or special transport restrictions (new cordon) at some point during the survey period. We note that the price data from this survey is similar in magnitude to data from a monitoring survey conducted by the WFP. Their latest February 2015 report can be found at http://vam.wfp.org/sites/mvam_monitoring.

Figure 1: Locations of markets reached at least once from December to March, Market Survey



In addition to the market phone surveys, we present data on weekly cases of Ebola from the patient databases made publicly available by the WHO as well as some preliminary data for shipping. These data are collected by MarineTraffic¹ and include data from January 2013 to February 2015 for major ports in West Africa. The shipping data should be considered extremely preliminary.

Changes in travel restrictions

On 22 January, the Government of Sierra Leone lifted the district quarantines. Nationwide regulations on market operation hours and transport restrictions were lifted but transport restrictions were re-imposed on 27 February and are likely to remain in place until Sierra Leone is declared Ebola free. These transport restrictions include a ban on trucks carrying commercial goods entering Freetown after 6pm and limits on the number of people riding on motor bikes and in shared taxis.

Liberia reopened its borders to Sierra Leone on 23 February. While Guinea had opened its borders with continued monitoring of the health of people crossing the border, it shut its border on 30 March, restricting trade once again.²

Confirmed cases of Ebola

In Figure 2 below, we illustrate the number of confirmed cases³ in all districts of Sierra Leone as of 13 May 2015 as well as additional cases since 28 December 2014. While the outbreak was initially concentrated in the east, most cases in 2015 have been in Western Area (in and around the capital) and Port Loko in the west.

1. These data can be requested through www.marinetraffic.com.

2. <http://www.usnews.com/news/world/articles/2015/03/30/guinea-shuts-border-with-sierra-leone-in-effort-to-end-ebola>

3. Based on WHO data found at <http://apps.who.int/gho/data/view.ebola-sitreprebola-summary-latest>. Our previous reports used data circulated by the Ministry of Health and Sanitation which we stopped receiving. There are some discrepancies between the two data sources but these are small.

Figure 2a: Total cases as of 13 May; New cases added in 2015

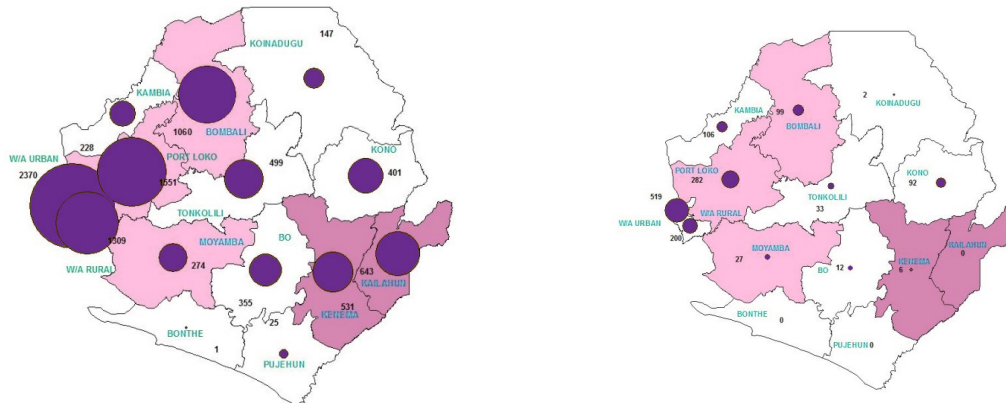
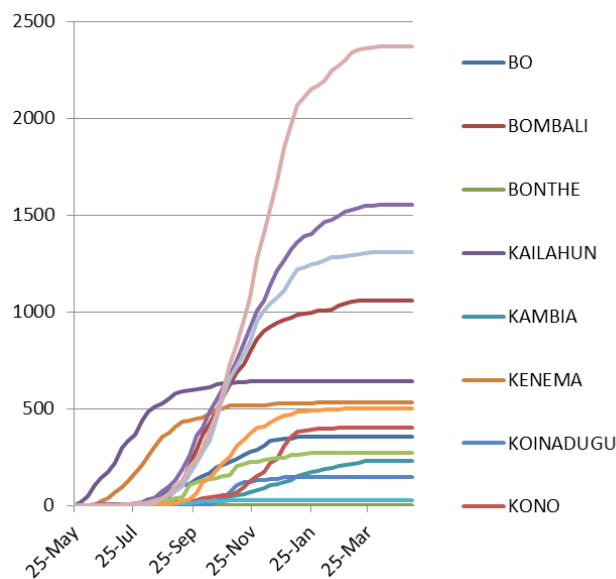


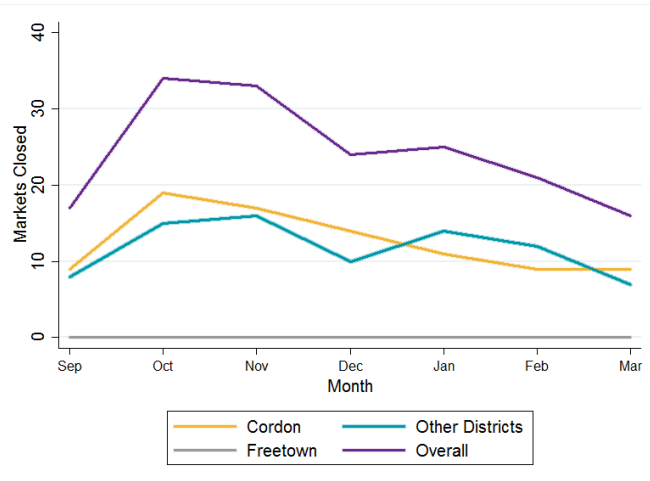
Figure 2b: Trends in confirmed cases across districts



Markets closed

The number of markets (in our sample) that are reported to be closed peaked in October and has been on a steady decline since then.

Figure 3: Trends in market closures by district category



Price results

Average prices for domestic and imported rice remain below the 2012 levels (Figure 4a, and 4b). The largest gap was for imported rice where prices were 8% below their level in 2012 in March and the gap was larger in cordon than non-cordon areas. Note however, that domestic rice is the main rice purchased at this time of year. As in previous years the onset of the harvest in October/November was associated with a sharp fall in domestic rice prices followed by a steady rise in subsequent months.

Figure 4a: Domestic rice prices in cordon and non-cordon districts

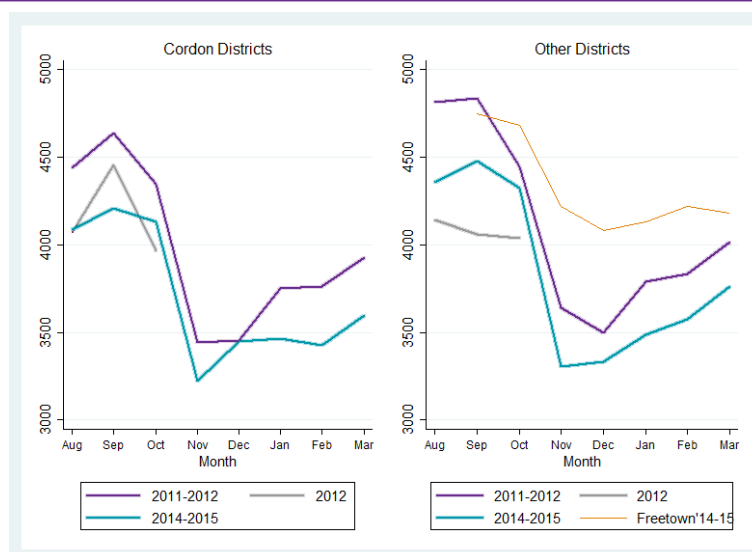
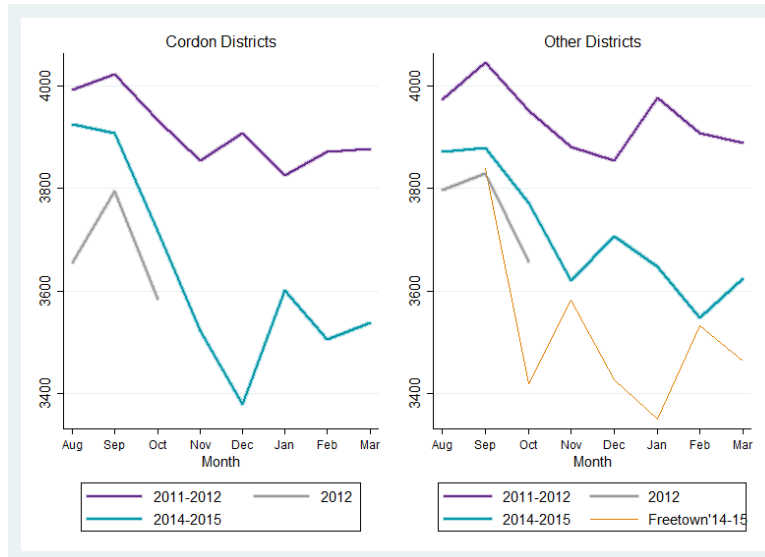


Figure 4b: Imported rice prices in cordon and non-cordon districts



Gari (processed Cassava) and palm oil prices (the major source of fat in the Sierra Leone diet), continue to be reasonably stable though the price of gari is considerably higher than during the 2011/12 season (Figures 4c and 4d). The results for Masankay Palm oil, not shown, are similar.

Figure 4c: Gari prices in cordon and non-cordon districts

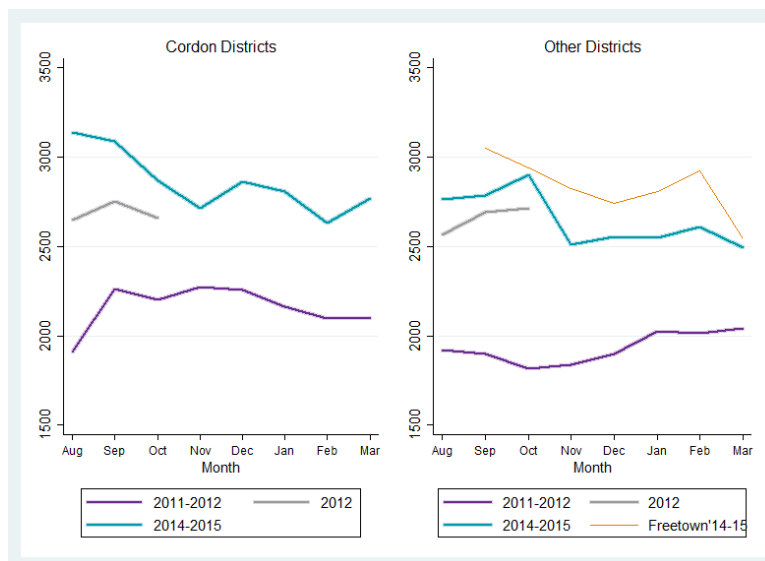


Figure 4d: Palm oil (red) in cordon and non-cordon districts



While prices reported here are those at which traders sell commodities in markets, our household survey suggests similar magnitudes and trends. Results from our household survey are available online.⁴

While average rice prices are similar to previous seasons, the peak of the crisis (September through December) saw a larger number of high price outliers than normal. This is less true now (Figure 5). In September-November there were more markets with prices above 6,000 in 2014 than in 2011. In the period December through March, the right tail of outliers with prices around 6,000 Leones per kg is similar in both seasons. Because we did not collect data on domestic rice prices in markets in Western Area Urban (Freetown) in earlier rounds, we show the distribution of prices in Freetown separately.

The geographic distribution of these outlier markets can be seen in Figure 6. Here we use a slightly different definition of outlier, as the number of markets selling rice above a given price level depends on the time of year and thus the average price level. Here we define outlier as having a price more than 90 percentiles above the mean of that time period in the 2011/12 season. Outlier markets are concentrated in Kailahun (a cordon district bordering Guinea) and Pujehun (low Ebola district but bordering Liberia). In 2015 there is a concentration of outlier markets in Port Loko, which saw a large number of cases in 2015. Outlier markets are shown in red, while non outliers are in green.

4. [http://www.worldbank.org/content/dam/Worldbank/document/Poverty%20documents/Socio-Economic%20Impacts%20of%20Ebola%20in%20Sierra%20Leone,%20April%202015%20\(final\).pdf](http://www.worldbank.org/content/dam/Worldbank/document/Poverty%20documents/Socio-Economic%20Impacts%20of%20Ebola%20in%20Sierra%20Leone,%20April%202015%20(final).pdf)

Figure 5: Distribution of domestic rice prices by year

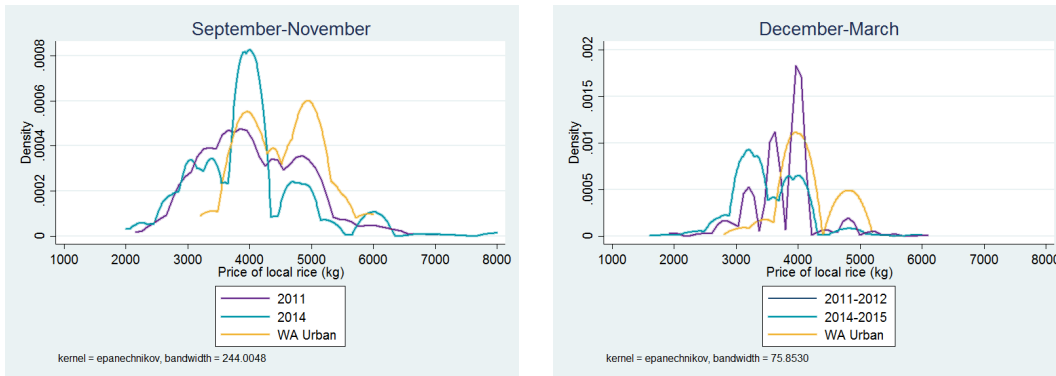
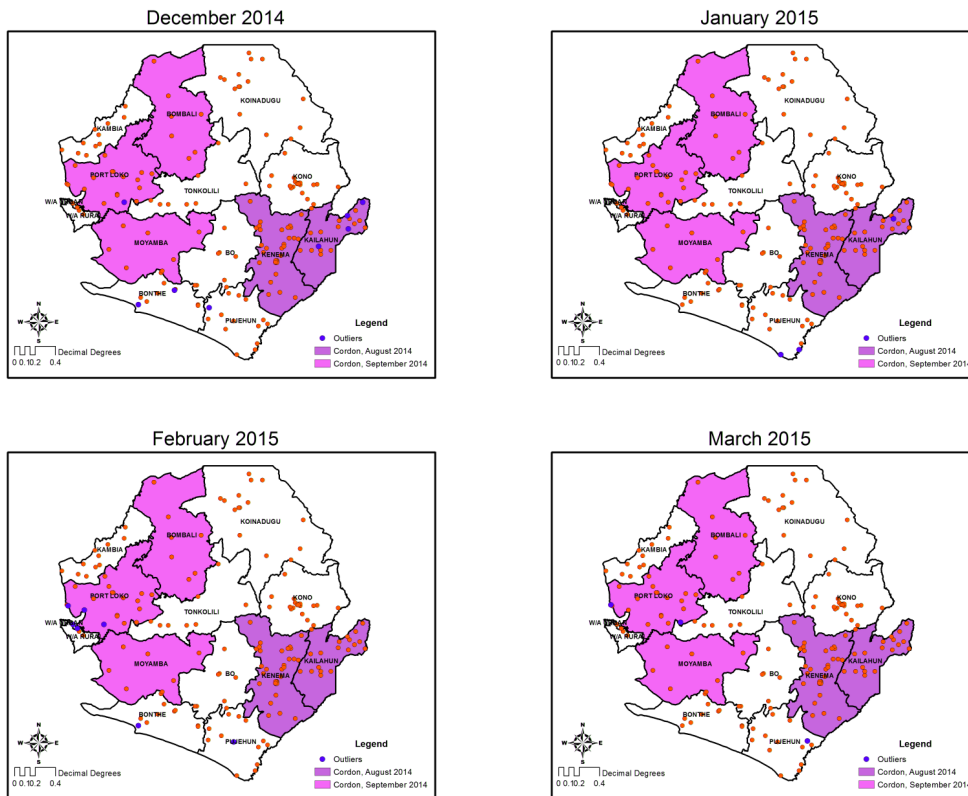


Figure 6. Maps of outlier markets



Trader activity

The number of traders for local and imported rice is now similar to previous years (Figure 7a and 7b). For imported rice, there were fewer traders this year during September and October than in previous years, especially in cordon districts, but the gap disappeared in November and has not reappeared. Interpreting the trends for domestic rice traders is harder because of the big difference in traders in the fall of 2011 and the fall of 2012. This is complicated by the fact that we stopped collecting data at the end of 2012. Looking just at 2011/12 season, the number of traders this year has not been very different. The number of traders for Gari and Palm oil in 2014/15 season has been persistently below that for 2011/12 but the gap closed in March (Figure 7c and 7d).

Figure 7a: Number of domestic rice traders per market

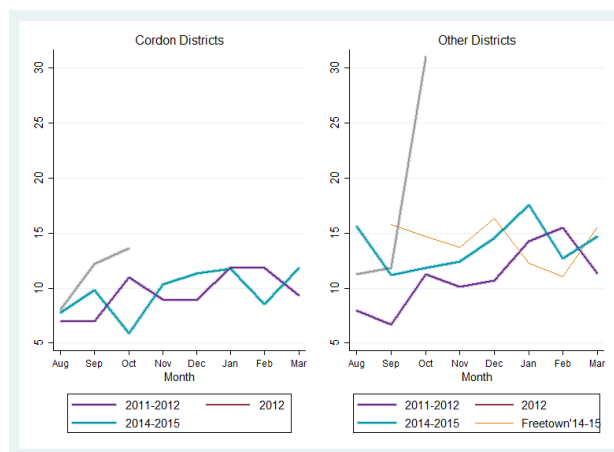


Figure 7b: Number of imported rice traders per market

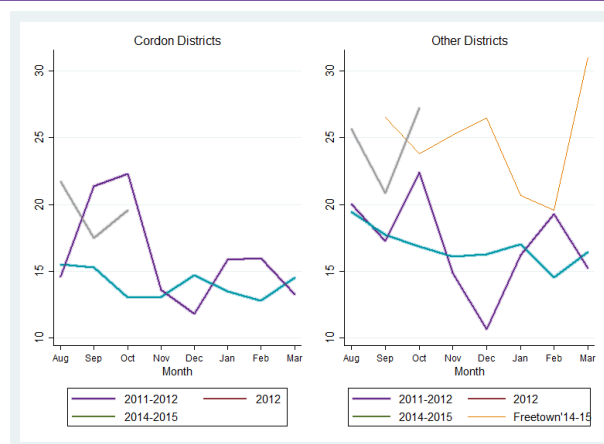


Figure 7c: Number of Gari traders per market

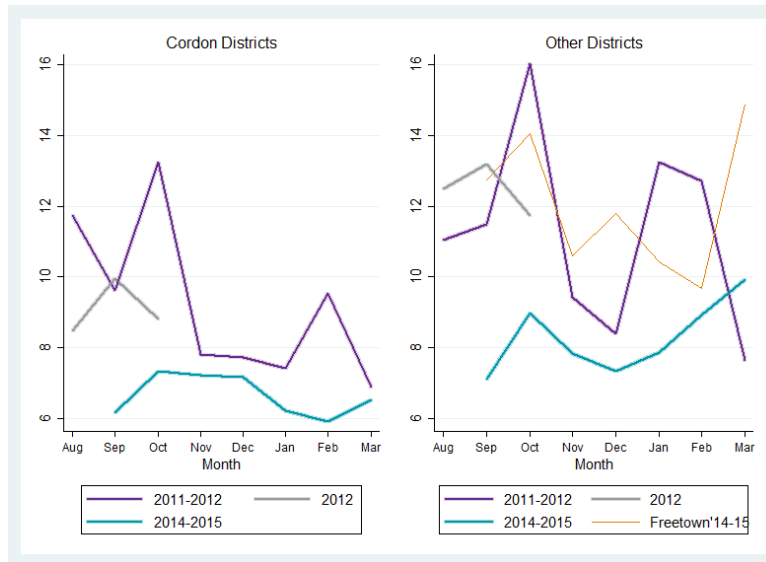
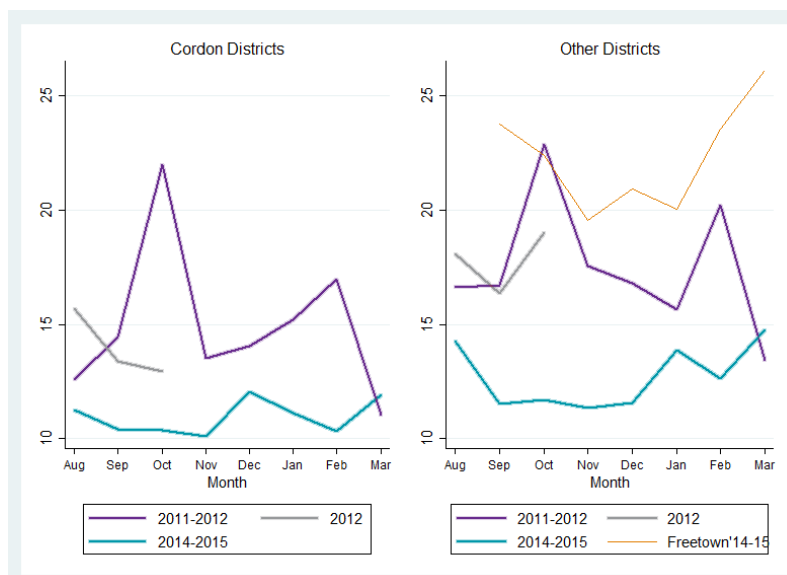
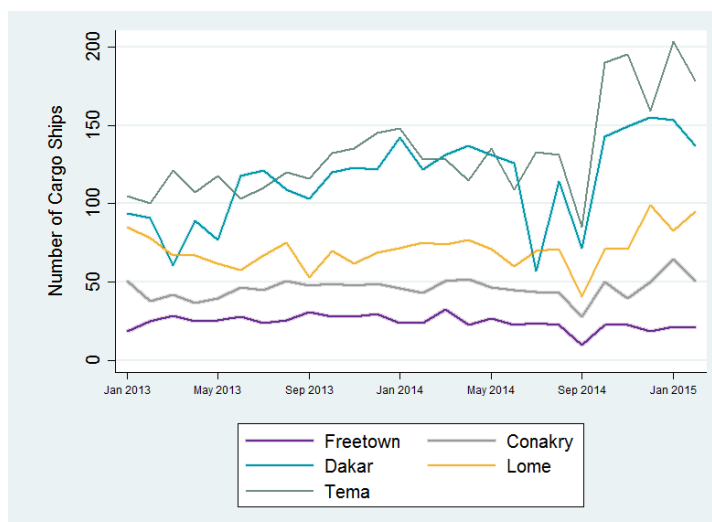


Figure 7d: Number of Palm oil (red) traders per market



International trading activity

Figure 8: Number of Ships Entering Ports in West Africa from Jan 2013 to Feb 2015



Since the dip in cargo ships entering West African ports in September, the non-Ebola affected ports are showing upward trends that are not seen for Freetown. Conakry shows a mild increase since November 2014 as well.

Conclusion

While transport restrictions which are likely to increase transport costs (including restrictions on the number of riders per vehicle) remain in place, agricultural trade appears to be returning to close to normal across Sierra Leone. The number of traders and the number of markets with very high prices for rice are now similar to rates seen in pre-crisis years.

Imported rice, the commodity commonly used for food assistance, is somewhat below its price in previous years with the largest gap being in previously cordoned districts, which tended to receive more food aid. Other products (palm oil and gari) are somewhat above previous years. Further work on the relationship between food aid and market prices is ongoing.

Economics of Ebola initiative

Continued analysis indicates that the economic costs of the Ebola outbreak are significant, including panic, loss in confidence, reduction in market interactions, the breakdown of formal systems and institutions, a reduced supply of essential goods, and potentially increased prices. The IGC is committed to providing the Governments of Sierra Leone and Liberia, as well as their development partners, with demand-led research and analysis to ensure that policy responses are evidence-based and that corrective actions are effective and well targeted.

In this set of bulletins on the economic impacts of Ebola, the IGC is disseminating the data collected, including key facts and policy recommendations. The IGC shares these bulletins with the broad group of aid agencies, NGOs, and journalists with an interest in the Ebola epidemic.

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

The IGC has also developed a web page collating the results of IGC and non-IGC research on the economic impacts of Ebola in order to make their policy implications more accessible. This page is available here: <http://www.theigc.org/economics-of-ebola-research/>

About the International Growth Centre

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).

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