

Recurrent Monitoring

Interim Monitoring Survey in Ethiopia

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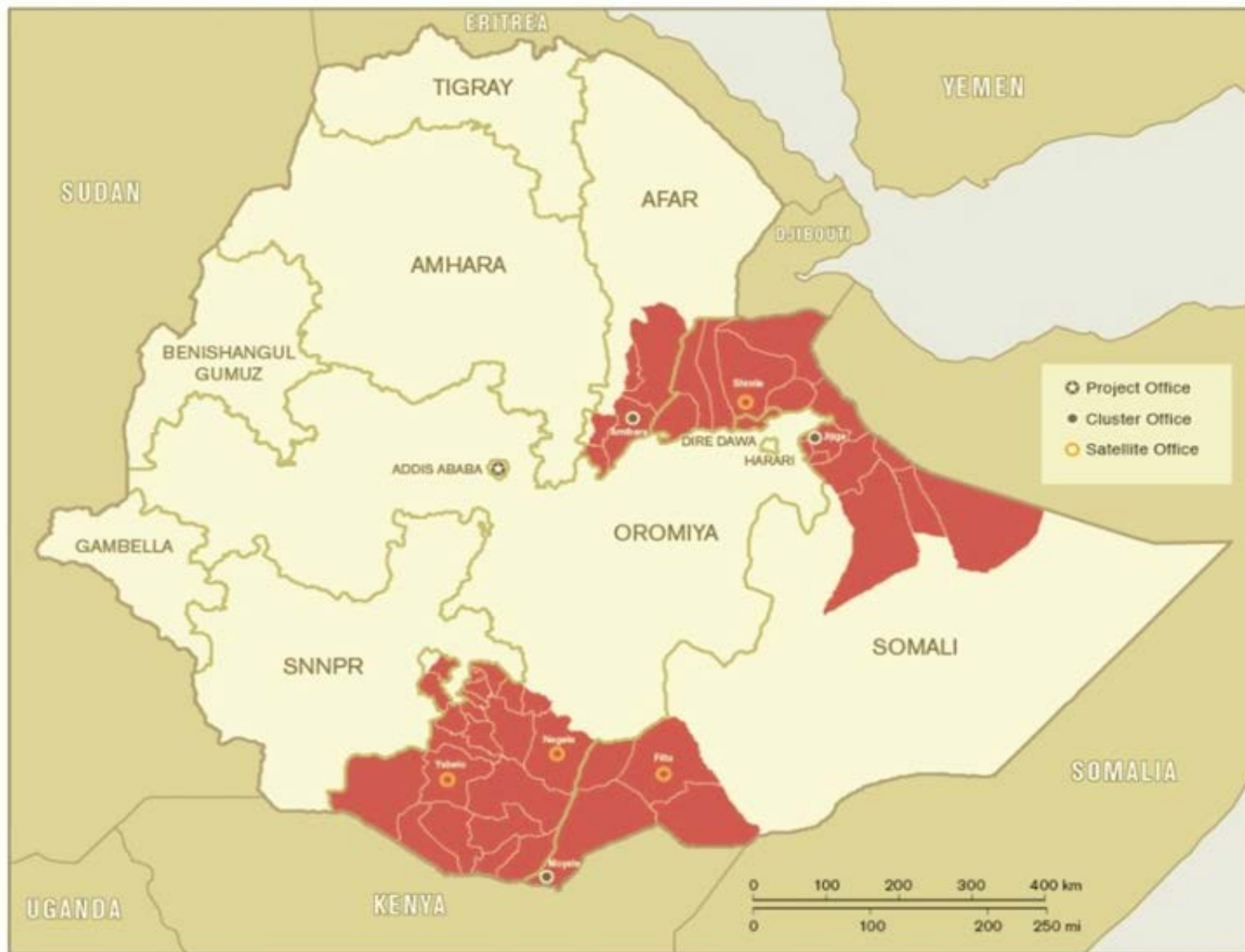
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Background

- The Pastoralist Areas Resilience Improvement and Market Expansion (PRIME) project, funded under the United States government's Feed the Future initiative, was launched in October 2012 in one of the most shock-prone areas of the world, the dry lands of Ethiopia.
- A key objective of the project is to enhance the resilience of households to shocks. In particular, it aims to enable households to withstand and recover from the recurrent climate-related shocks—mainly drought—to which they are subjected.
- The analysis presented is being undertaken as part of an impact evaluation (IE) whose goal is to determine whether the PRIME project has a positive impact on households' resilience to shocks and, thus, on well-being outcomes including poverty, food security, and children's nutritional status.



Background

- The PRIME IE was launched with a baseline survey undertaken in two zones of the project area, Borena and Jijiga, in November/December 2013.
- In addition, two Interim Monitoring Surveys (IMS) are being carried out in order to capture real-time household and community responses to any actual shocks that might occur during a project's five-year implementation period.
- IMSs would be launched after “trigger indicators” being monitored reach shock levels.

Resilience Measurement

- **Need for High (and appropriate) Frequency Data**
 - To be sensitive to resilience dynamics, data should be collected with a degree of frequency to map out the trajectory of well-being over time.
 - Collecting data more frequently will reveal path dependencies of well-being states with special reference to shock exposure
 - Observations of a consistent upward trajectory may reflect a resilience pathway even in cases where acceptable levels of food security or poverty have not been reached
- **Intervention Planning and Trajectories-**
 - Insights gained from data on how well-being shifts up and down over time in the face of shocks could help to identify optimal points of entry for launching an intervention.

Methods

- A quantitative questionnaire was administered to a representative sample of a panel of households (430) selected from among a baseline of households (3200). Starting in October 2014, data were collected from 17 kebeles on a monthly basis for 6 rounds through March 2015. This was done to determine how households were coping with shocks.
- Qualitative data collection, including focus group discussions and key informant interviews, also took place in each round.

Research Questions

- (1) What downstream impacts of the shock did households experience and how did the incidence of these impacts evolve over the IMS period?
- (2) What coping strategies did households employ to deal with the shock? Do these change over time?
- (3) How did households' food security change over the shock period? Which types of households were able to maintain their food security in the face of the shock, i.e., which were resilient to its impacts?

Research Questions

(4) How did the severity of exposure to the shock affect households' ability to recover from it?

(5) Did households' resilience capacities before the onset of the shock help protect them from its negative impacts?

(6) Did households' resilience capacities before the onset of the shock prevent them from using negative coping strategies that undermine their future resilience to shocks?

Main Objective

- Providing real-time data collected during an actual shock in progression, the IMS data present a unique opportunity to understand how, in a time of increasing climatic variability throughout the world, climate shocks affect households, their responses, and whether their resilience capacity can help them recover.

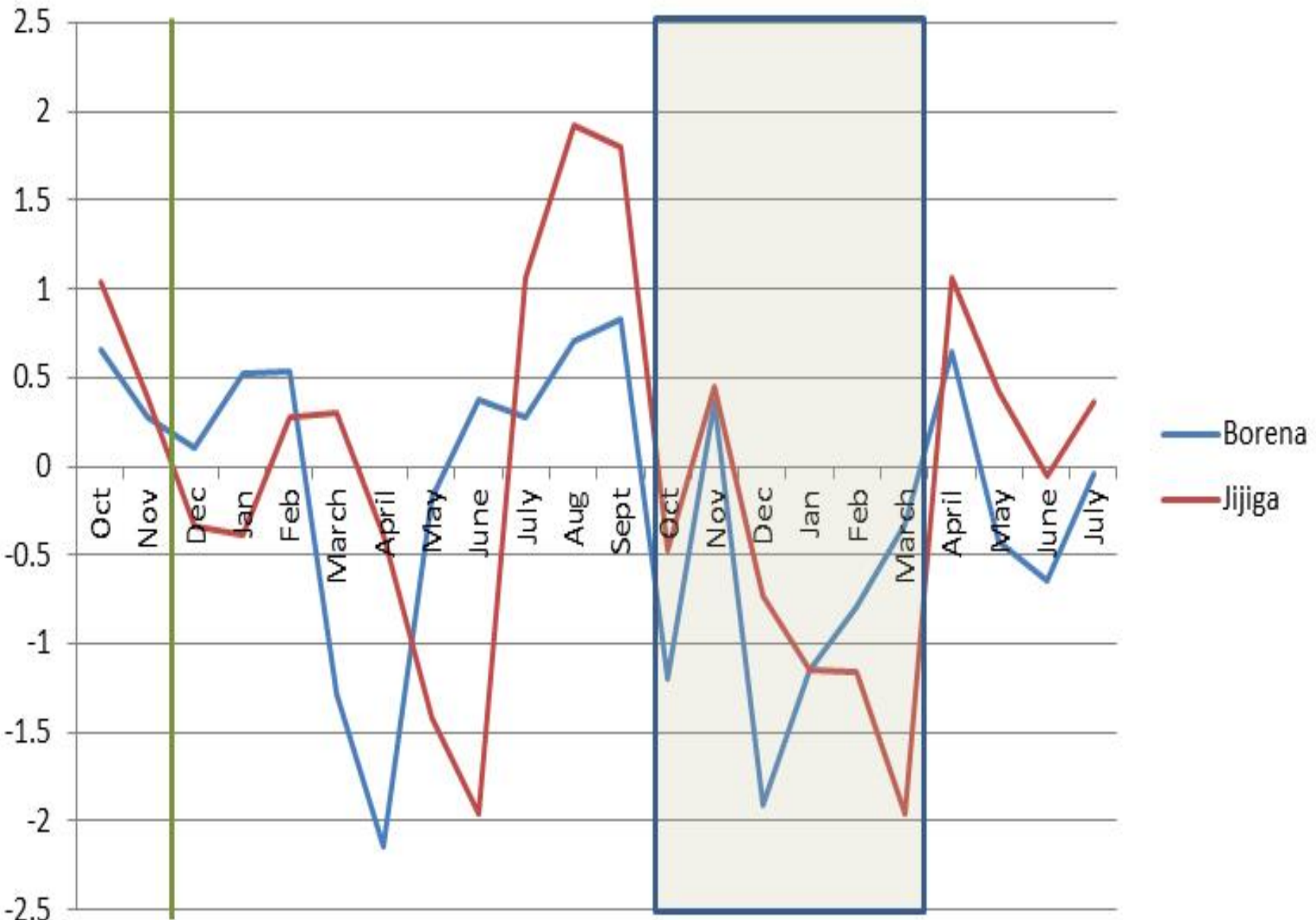
Monitoring Shocks

- Understanding how different types of shocks affect household and community well-being is fundamental to designing appropriate resilience-building programs.
- Collecting data on shocks and stressors and understanding their relationships with well-being is therefore an essential element of resilience measurement.

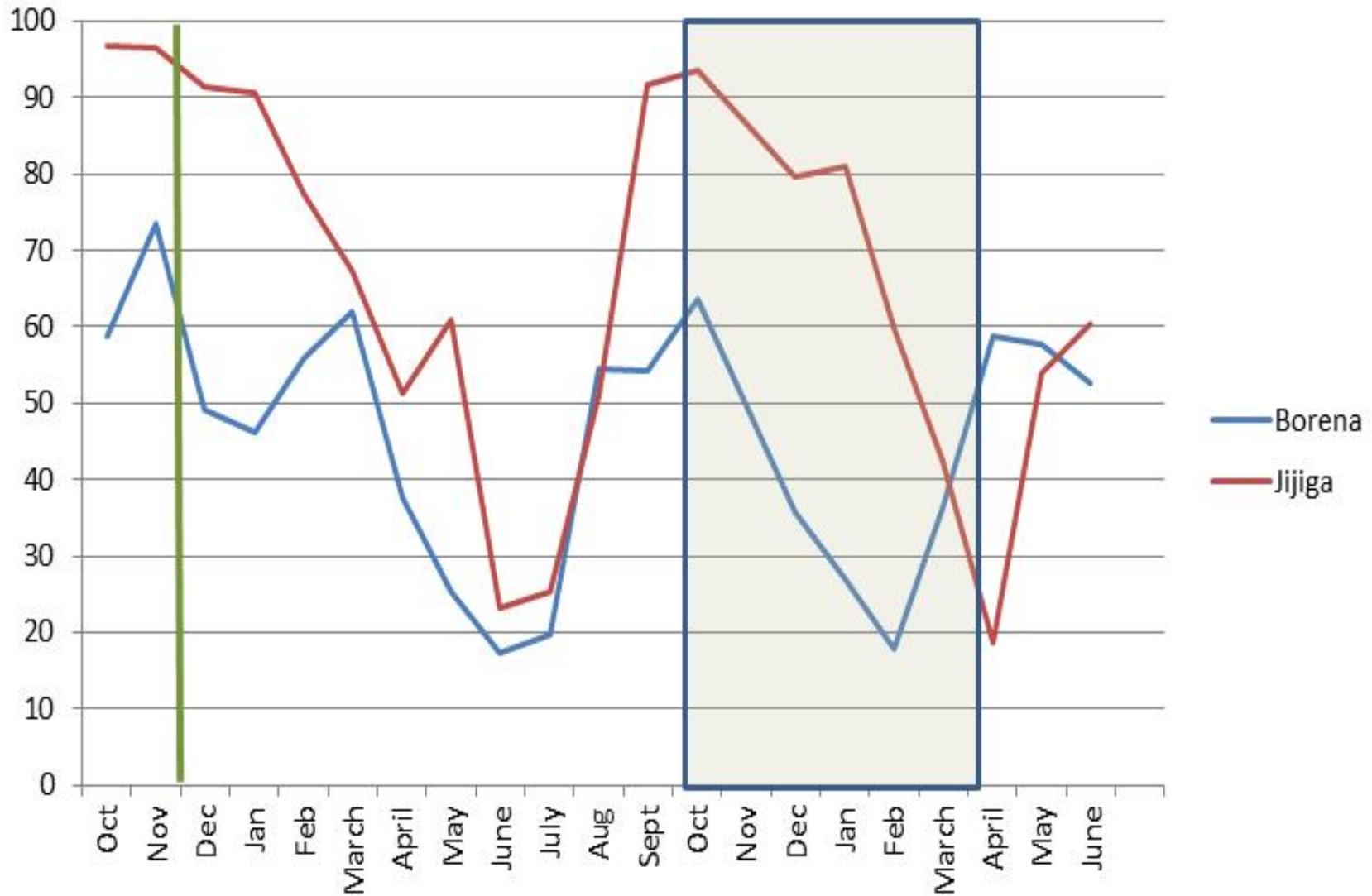
Evolution of the Drought and its Downstream Effects

- The study used external data sources to map out the progression of the 2014-15 drought in the two PRIME IE areas.
- The data sources include FEWS NET *Food Security Outlook* publications, PRIME trigger indicator data, rainfall classifications provided by the Ethiopian government, and satellite remote sensing data from the African Flood and Drought Monitor (AFDM).
- In both areas, the drought unfolded in two waves roughly corresponding to March-September 2014 (between the PRIME baseline survey and IMS Round 1) and October 2014-April 2015 (between IMS Rounds 1 and 6).

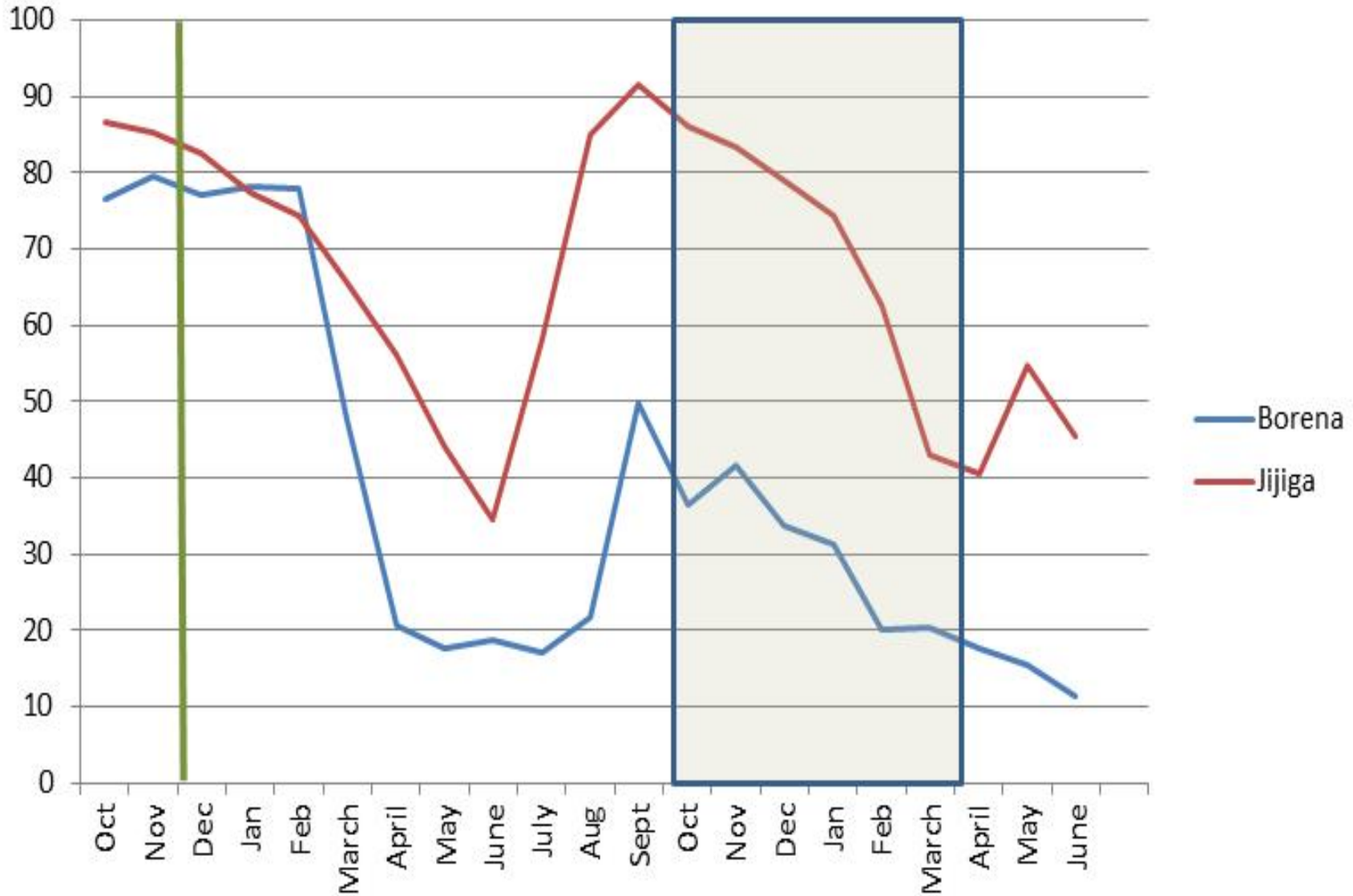
Rainfall deviation from norm in Borena and Jijiga, October 2013-July 2015



Soil moisture percentage of norm in Borena and Jijiga, October 2013-July 2015¹



Normalized difference vegetation index percentile in Borena and Jijiga, October 2013-July 2015



Evolution of the Drought and Downstream Effects

- During the initial wave of the drought, the first rains (*Ganna* in Borena, *Diraa* in Jijiga) failed in the regions, leading to abnormal precipitous drops in soil moisture and vegetation coverage.
- Critical water and pasture shortages ensued, followed by unusual mobility patterns among pastoralists, a deterioration of livestock body conditions, and crop failures.
- Cereals prices sharply increased and livestock prices fell, leading to a livestock-to-cereal terms of trade far below normal in markets, to the detriment of pastoralists.
- Many areas in both regions were elevated to Priority 1 Nutrition Hotspot status by the Ethiopian government as malnutrition cases increased.

Evolution of the Drought and Downstream Effects

- The second wave of the drought evolved differently in Borena than Jijiga.
- In Borena, the second rains, the *Hagaya* rains, failed. Thus the region experienced successive below-average rainy seasons.
- The lack of water and pasture reached critical levels, desperate livestock movements both within Ethiopia and cross-border ensued, and local crop production failed, necessitating cereal imports from other areas in Ethiopia.
- Conflict also increased between tribes over access to pasture and water.
- Many households were dependent on humanitarian assistance to meet their food needs, and malnutrition continued to rise.

Evolution of the Drought and Downstream Effects

- In Jijiga the second rainy season, the *Karan* rains, followed a near-normal pattern, improving water and pasture availability.
- FEWS NET and the PRIME trigger indicators reported that water and pasture availability had returned to normal, there was a normal harvest, and households' access to food was stabilizing.
- However, remote sensing satellite data show that these favorable conditions were only the beginning of a sharp drop-off in soil moisture and vegetable coverage below the norm over the post-*Karan* dry season.
- Overall, Borena faced more severe drought conditions over the two drought waves, and this additional climate shock put Jijiga households under further stress.

Evolution of the Drought and Downstream Effects

- With respect to downstream drought impacts, the quantitative data reveal that those most commonly felt by households in Borena were livestock or crop disease, food price inflation, and increases in the prices of inputs.
- Those most commonly felt in Jijiga, where agro-pastoralism and non-pastoralism are more common, were livestock or crop disease, food price inflation, and “very bad harvest.”
- The IMS data confirm that the downstream effect of the drought on prices was very strong in both areas. After food price inflation, the most common economic shocks experienced were: decreases in the prices of livestock, increases in agricultural inputs, drops in the prices of products sold, and lack of demand for products sold.

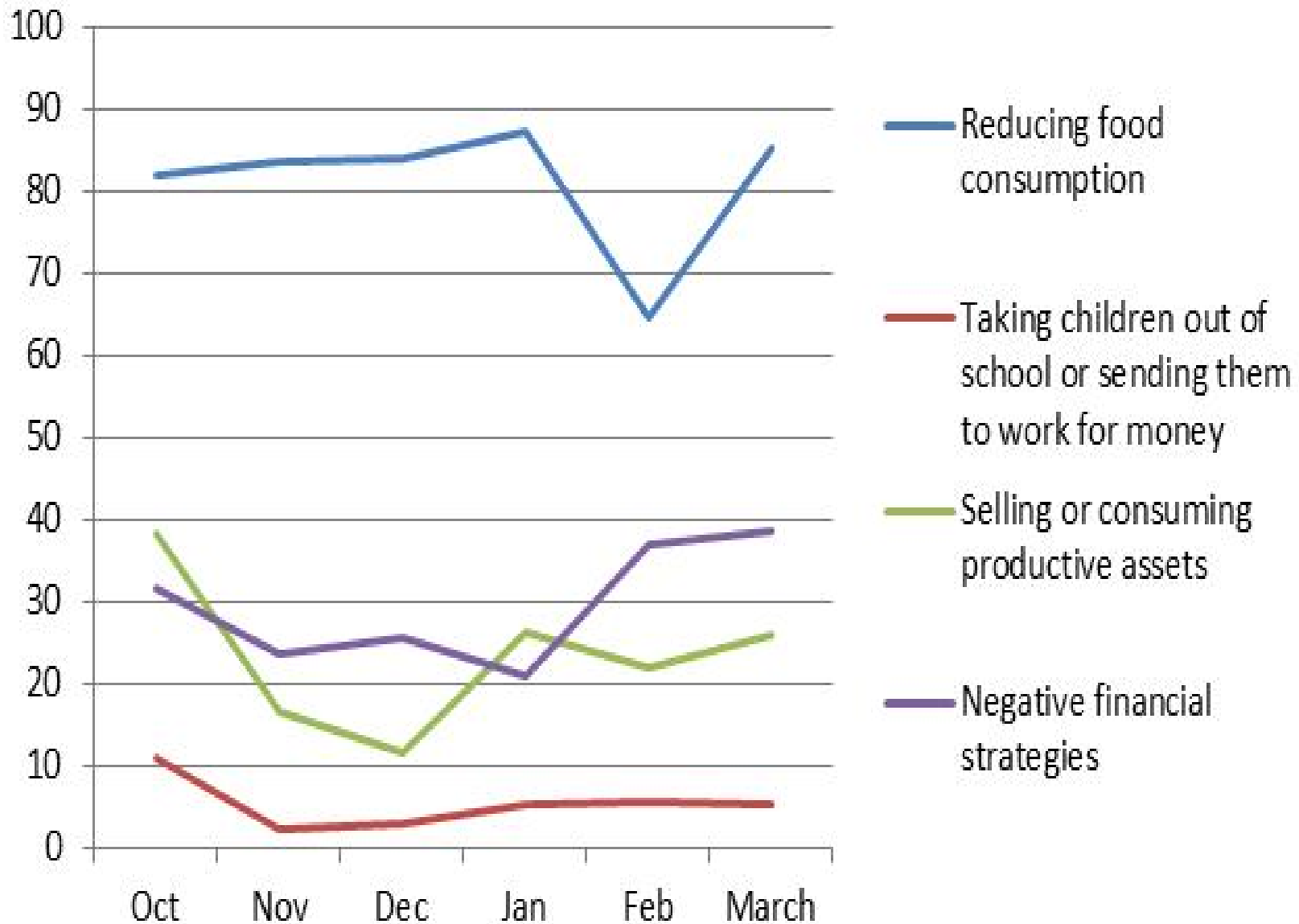
Evolution of the Drought and Downstream Effects

- There was a noticeable increase in conflict-related shocks since the baseline, including theft of crops and livestock, and in deaths of household members, the ultimate negative impact.
- The qualitative data provide a rich source of detailed information on how households experienced these downstream impacts as well as others, including reduced access to fodder and water, cattle raids, and illness due to exposure to polluted water.

Household Response: Coping Strategies for Dealing with the Drought

- Households were using both positive and negative responses.
- Reducing food consumption, a negative coping strategy, was used by almost all households and is a strong indication that the drought and its downstream impacts were exacerbating food insecurity in both regions.
- It can explain why 50 percent of households planned to rely on some type of humanitarian assistance (food aid or cash) at some time over the IMS period.
- The use of other negative coping strategies that undermine future resilience to shocks, for example, taking children out of school and selling productive assets, increased in the last two rounds of the IMS when drought conditions were getting worse.

Trends in use of negative coping strategies over the IMS period



Household Response: Coping Strategies for Dealing with the Drought

- A very common positive coping strategy was to rely on assistance from friends and relatives, including receiving money for food and borrowing money.
- The qualitative data concur that people's reliance on social capital to get them through the drought period was critical.
- However it was only a reliable coping strategy in the early months of the survey, because over time social capital was eroded.
- As the downstream impacts of the drought began to accumulate, there was a steady erosion of social support making it harder for better off households and community leaders to support those in need.

Household Response: Coping Strategies for Dealing with the Drought

- As the food security situation deteriorated over time, more households in Borena were taking children out of school either to migrate with the animals, to work to support the family, or to live with relatives.
- This response can negatively affect the long term human capital of a household and degrade their opportunities to escape from poverty and food insecurity in the future.
- In Borena, the **governance systems** in communities were starting to be negatively affected because community leaders were migrating to distant locations in search of water and pasture, making it more difficult to hold clan meetings.
- It is at these meetings that support is mobilized for the poor. Other traditional ritual ceremonies where food redistribution takes place were also neglected.

Household Response: Coping Strategies for Dealing with the Drought

- In Jijiga, indications that coping abilities were becoming strained as the drought progressed were reports of quarrels between spouses over food shortages, sometimes leading to divorces.
- Patterns of migration where males of households leave for long periods of time seeking water and pasture for livestock can lead to stressful conditions for families.
- Children, women and the elderly are often more negatively affected by the drought and its downstream impacts because they are the ones who remain behind in the villages.

Household Food Security and Resilience in the Face of the Drought

- Resilience to the drought is measured using two indicators: (1) the change in food security over the drought period; and (2) an indicator of whether households were able to maintain or increase their food security over the period.
- The IMS data show that changes in food security over time differ for Borena and Jijiga. In Borena, food security was lower in all IMS rounds than it was at baseline, indicating a decline in the average households' food security over time.
- In Jijiga, food security was higher in all IMS rounds compared to the baseline. This indicates a greater resilience to both waves of the drought than in Borena.

Household Food Security and Resilience in the Face of the Drought

- The qualitative data from both regions on households' experiences of food and livelihood insecurity during the second drought wave highlight common conditions of economic hardship and simply not having enough food to eat.
- Children and women felt special burdens. Children were taken out of school due to the need to use funds to buy foods that previously were used for schooling expenses.
- Children, the main consumers of milk, saw a reduction or complete stoppage in their milk consumption.
- Women were finding it difficult to feed children and other family members and perform their domestic chores due to the disruption caused by the drought.
- Further, their income generating activities, such as retail sales, were disrupted, reducing their incomes and money available for food.

Household Food Security and Resilience in the Face of the Drought

- Overall, only about one-third of households were resilient to the first wave of the drought, 26 percent in Borena and 48 percent in Jijiga.
- Pastoralists were less likely to be resilient than agro-pastoralists, and agro-pastoralists less likely to be resilient than non-pastoralists (different risk environments).

The Relationship between Household Resilience, Drought Exposure and Pre-drought Resilience Capacity

- Resilience capacity is measured using indicators of its three dimensions—absorptive capacity, adaptive capacity, and transformative capacity.
- The regression analysis confirms that the more severely a household was exposed to the drought, the less likely it was to recover from it, that is, the less resilient it was.
- The analysis suggests that households' absorptive capacity had a positive impact on their resilience to the drought In Borena.
- This result is strongly robust to the measure of shock exposure employed, whether that is based on agro-climatic conditions or households' own perceptions of their exposure to the drought.

The Relationship between Household Resilience, Drought Exposure and Pre-drought Resilience Capacity

- We found no impact of absorptive capacity on resilience to the drought in Jijiga, perhaps due to the combination of lower drought exposure and low pre-drought absorptive capacity in the region.
- While the evidence is not as strong for adaptive capacity and transformative capacity, the analysis is suggestive that they do play a role in supporting households' resilience to shocks as well.

The Relationship between Household Resilience, Drought Exposure and Pre-drought Resilience Capacity

- **Specific factors supporting households' resilience capacities that contributed to their resilience to the drought**
 - Bonding and Bridging Social Capital
 - Access to informal safety nets
 - Human capital (education and skills)
 - Access to financial services
 - Access to markets
 - Access to communal resources

Does Resilience Capacity Prevent the Use of Negative Coping Strategies

- Four types of coping strategies are explored:
 - reducing food consumption,
 - selling or consuming productive assets,
 - employing negative financial strategies (taking out a loan from a money lender or purchasing food on credit)
 - employing negative strategies related to the care of children (taking children out of school and/or sending them to work for money).
- For Borena, the regression analysis gives evidence that all three dimensions of resilience capacities helped to prevent households from reducing their food consumption as a response to the drought.

Does Resilience Capacity Prevent the Use of Negative Coping Strategies

- Additionally, in Borena adaptive and transformative capacity helped to prevent them from depleting their productive assets.
- Transformative capacity helped prevent them from undermining the human capital of their children by taking them out of school or sending them to work for money.
- The analysis suggests that resilience capacity had less of a preventative effect in Jijiga than Borena at the time of IMS Round 1.

Does Resilience Capacity Prevent the Use of Negative Coping Strategies

- When looking at the use of coping strategies over the entire six-month IMS period (a period in which the second drought wave was in full progress), we find strong evidence that both adaptive and transformative capacity helped to prevent households from either taking their children out of school and/or sending them to work for money in both regions.
- Absorptive capacity helped to prevent households from employing negative financial strategies in Borena.
- Adaptive capacity helped to prevent them from reducing their food consumption in Jijiga.

Conclusion

- The majority of households in the PRIME IE area were not able to maintain their food security in the face of the drought, that is, they were not resilient in the face of the drought.
- Their absorptive, adaptive and transformative capacities did buffer them from the shock.
- But for most households, they were not enough to maintain their food security and prevent them from employing negative coping strategies that undermine their ability to manage future shocks and stressors.
- Any future interventions should be focused on both strengthening resilience capacities to manage shocks and timely social protection interventions that are carried out over a long enough period and appropriately targeted to protect households from the most severe drought impacts.