



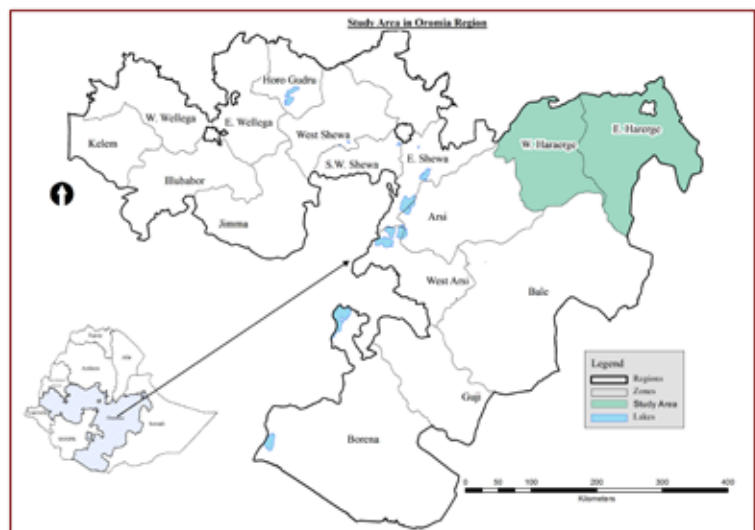
El Niño in Ethiopia

Early impacts of drought in Oromia National Regional State

Introduction

In December 2015 the AKLDP produced a Technical Brief that presented detailed information of the impact of the El Niño on the summer *kiremt* rains in Ethiopia, using June to September monthly rainfall maps show deviations against the 30-year average rainfall.¹ The maps were consistent with National Meteorological Agency (NMA) reports that the *kiremt* rains started late and finished early, were erratic in coverage, the amount of rain was below normal. The impact of the 2015 El Niño episode on rain-fed farming was forecast to be very substantial.

In these **Field Notes** the AKLDP describes some of the impacts of the failed spring *belg* and the 2015 El Niño-induced erratic and poor summer *kiremt* rains on rain-fed smallholder farming communities in East and West Haraghe zones, Oromia National Regional State. The Field Notes are based on visits to communities in November and December 2015, and the use of focus group discussions, key informant interviews and participatory methods² with smallholder farmers, traders and government staff. Secondary data was gathered from zonal and *woreda* Early Warning and Response Departments, and from the 2016 Humanitarian Requirements Document.³ The fieldwork also enabled smallholder farmers to prioritize emergency response interventions that might best mitigate the impact of the El Niño at household and community level.



Rural livelihoods

Typically, smallholder farmers in the two zones depend on rainfed crop and livestock farming (see Table 1). These areas include both spring *belg* and summer *meher* dependent areas. Wheat and barley are the staple crops in the spring *belg* areas, which are usually planted in March and April; crops are harvested in June and July. In contrast, sorghum and maize are the dominant staple crops grown in summer *meher* dependent areas. Slow-maturing or 'long-cycle' sorghum varieties are usually planted in April and May, and then harvested in November and December, while early maturing or 'short-cycle' sorghum varieties are planted in July.

Maize is planted in April and May and ‘green maize’ is harvested August. Smallholders particularly value ‘long-cycle’ sorghum as yields are far more than the ‘short-cycle’ varieties. *Khat*, groundnuts and haricot beans are widely grown as cash crops.

Smallholders also keep livestock - cattle, small ruminants and in some *woredas*, camels - with wealthier households keeping more cattle and camels. Livestock serve many functions, including milk supply for the household, and a form of ‘savings’ that can be monetized in times of hardship to meet household needs, such as food and health care. Many smallholders in the two zones fatten cattle and these animals are prized throughout the country.

Table I: Combined spring *belg* and summer *kiremt* seasonal calendar

Agriculture activity	2014		2015										
	N	D	J	F	M	A	M	J	J	A	S	O	
Rains:													
Spring <i>belg</i>						√	√	√					
Summer <i>kiremt</i>									√	√	√	√	
Land preparation	√	√	√	√	√		√						
Planting - sorghum						√	√	√	√				
Planting - maize							√	√					
Replanting								√	√	√	√	√	
Harvesting & threshing	√	√											√
Food stocks	**	**	**	**	*	*	*	*	*	*	*	*	*
Food prices	*	*	*	*	**	**	**	***	***	***	***	***	***
Livestock prices	***	***	***	***	**	**	**	*	*	*	*	*	*

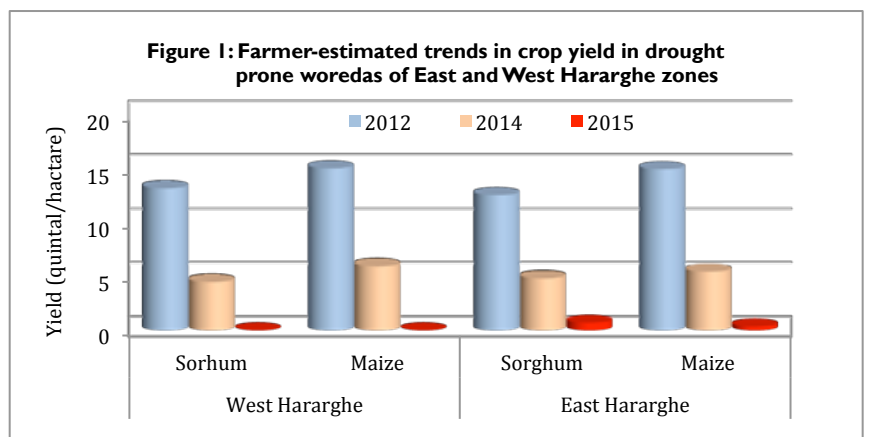
Key: * - low, ** - medium, *** - high

Impact of the failed 2015 spring *belg* rains and poor summer *kiremt* rains

The failure of the 2015 spring *belg* rains resulted in delayed and reduced spring planting. Crops that were planted became wilted, and were grazed by livestock well before the usual harvest time in June and July. Therefore, spring *belg* dependent households had been food insecure since mid-May 2015. The failure of the spring *belg* rains also resulted in delayed and reduced planting of slow maturing ‘long-cycle crops’, which are usually planted with the onset of summer *kiremt* rains. Despite the failure of the *belg* rains and erratic onset and reduced summer *kiremt* rains, smallholders confirmed that they planted/replanted an estimated 80 to 90 per cent of their holdings at some point during the cropping season.⁴ However, as the rains were poor, large areas of arable crops failed and were grazed by livestock from July onwards.

Replanting continued with short-cycle wheat, emmer wheat, barley, chickpeas, other pulses and early maturing varieties of maize and sorghum, as late as August and September 2015. Despite the effort, smallholders in some areas – including the drought prone *woredas* of Mieso, Guba Koricha,

Kurfa Challe and Babile – reported losses of between 80 to 85 per cent through the 2015 cropping season. These estimates were confirmed by zonal officials, who had previously reported losses of up to 85 per cent.⁵ Notably, smallholders also reported that crop production has been poor in the previous two to three years, and that the last good harvest was in 2012 (Figure 1).





Failed sorghum in Guba Koricha woreda, West Hararghe



Stunted replanted wheat in Fadis woreda, East Hararghe

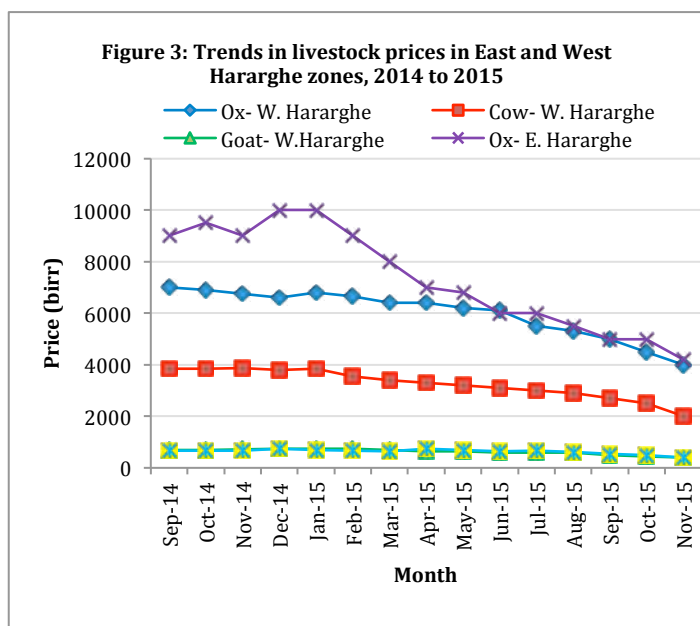
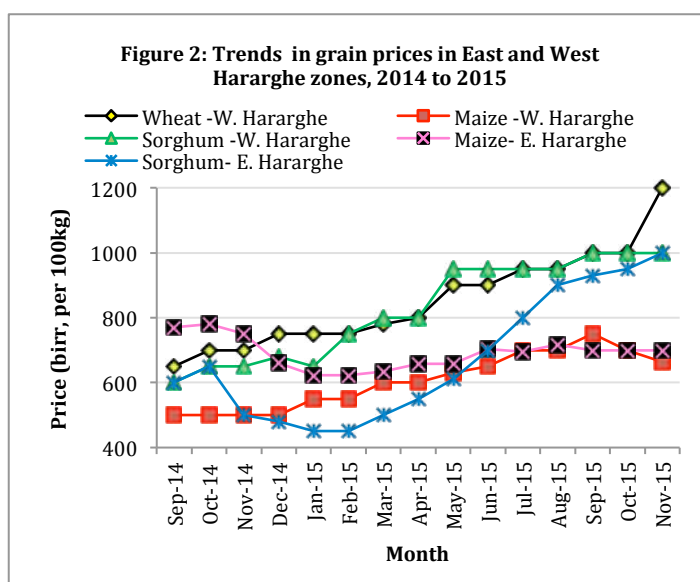
Impact of the El Niño drought on market and labour prices

The low crop yields due to the poor spring and summer rains led to rising grain prices, including sorghum, with increases of up to 100 per cent between 2014 and 2015 (Figure 2).

In contrast, the change in pulse prices was less dramatic, and local interviewees explained that local traders were able to import stocks from surplus producing areas in the region. Farmers reported that the price of cash crops, in particular groundnut, has fallen by around 20 per cent in East Hararghe over a period of seven months since May 2015; smallholders now had less income from the sale of their cash crops.

Livestock prices also declined across all the markets in the study area. This was due to the poor body condition of livestock due to poor pasture, and long treks to ponds and rivers.⁶ Livestock prices were also being forced down by traders due to a substantial increase in the numbers of livestock being presented at market – it is a ‘buyers market.’ For example, between November 2014 and November 2015, ox prices fell by between 40 to 50 per cent, and the price of dairy cows by 45 to 50 per cent (Figure 3).⁷ This accelerated sale of livestock potentially halts and/or reverses a long-term trend in household asset building.

Based on a standard 100kg of cereals, the terms of trade of cereals against livestock deteriorated sharply, as cereals increased and livestock prices fell (Figure 4). In a normal year this dip in the terms of trade does happen until April or May, so the decline in 2015 was almost six month early.

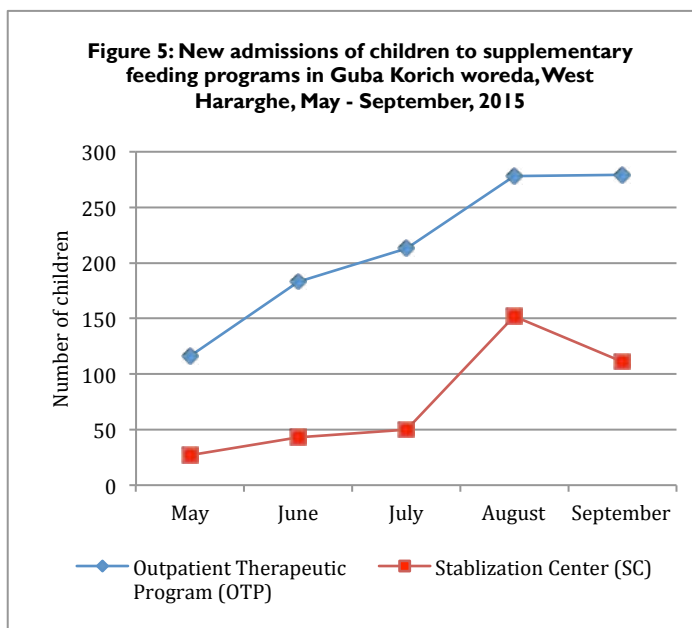
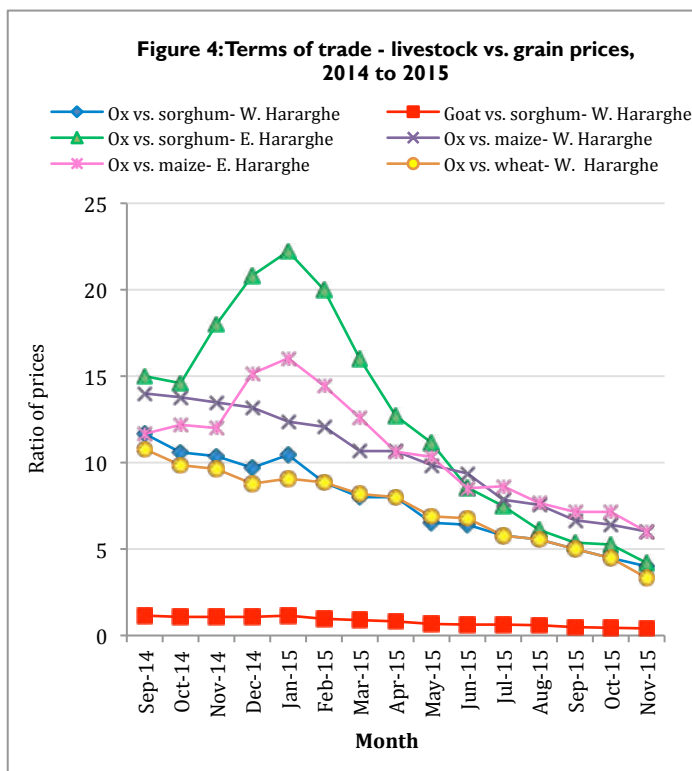


Due to the drought and poor crop yields, on-farm employment opportunities were much reduced and so employment opportunities in urban areas were in great demand. This led to a 50 per cent reduction in wage rates from between Eth Birr 70-100 in 2014, to less than Eth Birr 30 in 2015. Interviewees reported that large numbers of young people had moved to Metehara, Adama, Dire Dawa and Jijjiga in search of employment, and that some had moved to Somaliland, Djibouti and Middle East countries.

Other impacts of El Niño-induced drought

Interviewees also reported other impacts of drought in rural areas.

- *Impact on water availability:* the early drying of streams, rivers, springs and ponds had reduced the availability of drinking water. Local authorities reported that water tankering was needed for 150,000 people in West Hararghe and 242,650 people in East Hararghe.⁸
- *Impact on nutrition:* the poor harvest had led to substantial increases in household food insecurity and under-nutrition, especially in the most vulnerable households and within these households, pregnant and lactating women, and young children. Health Extension Workers reported an increase in the number of children admitted to outpatient therapeutic programs and stabilization centers (Figure 5), and other supplementary feeding programs.⁹
- *Impact on health:* interviewees reported that they were less able to cover medical costs, especially when household members were referred to hospital. This problem was verified by health officers and health extension workers, who reported declining numbers of visits to their centers; this was most notable for poorer households in the most drought affected woredas.
- *Impact on education:* there was been a substantial increase in the number of children ‘dropping out’ of school as their families were no longer able to cover education-related costs – uniforms, school books, etc. The problem was particularly acute for those with children that are studying away from home and who incur the additional costs of accommodation. Interviewees reported that that children – especially girls – who dropped out of secondary schooling for more than six months were unlikely to continue their education after the drought ends, and more likely to marry earlier.
- *Impact on family life:* an increase in the migration of family-heads in search of employment was reported. This led to an increase in the workload for women and also the rate of divorce, as some men abandoned their families altogether.



- *Impact on livestock:* the reduced availability of livestock feed had lowered livestock productivity and led to a substantial reduction in livestock prices.¹⁰ In response, the demand for livestock feed had increased. Early warning reports identify the need for feed supplementation for 117,000 animals in West Hararghe alone.¹¹
- *Impact on natural resources:* even in normal years poor households collect and sell firewood, and also make and sell charcoal to supplement their incomes. In 2015 there has been a marked increase in the sale of firewood and charcoal with a resulting decline in prices of around 40 per cent. To protect their incomes households are forced to sell more with the result that mature and healthy trees are being chopped down, with negative impacts on the environment.



Increased charcoal sales – but lower prices – due to drought in West Hararghe



Increased trekking distances to collect drinking water, Guba Koricha woreda, West Hararghe

Coping strategies

Interviewees were asked about current coping strategies and the following examples were reported:

- increased consumption of cheaper and less preferred foods including poor quality maize and a local cereal-based soup *bulluqa*¹² - this food is not consumed in the study area in normal years;
- few poorer households are able to afford the price of pulses – the main source of protein for poorer households – and other supplements;
- fewer meals are eaten each day and portion size is also reduced in particular for women as priority is given to children; few adults reported that they are eating breakfast;
- increased borrowing of money from relatives and neighbors to support food purchases;
- increased requests for remittances from relatives living in urban areas and overseas;
- distressed livestock sales – for the purchase of food and other essential household needs;
- increased child labor and out-migration to neighboring market towns and cities and onward migration to Somaliland, Djibouti and the Middle East;
- leasing of farmland for periods up to five years for cash payments to better off smallholder farmers and non-farming households;
- sale of firewood, charcoal and wild game;
- sale of household assets.

Priority emergency assistance interventions

Householders in the most severely drought affected areas were asked to identify and prioritize short-term humanitarian and medium-term recovery interventions that they thought would help mitigate the effect of the drought and support rapid recovery after the drought ended. The responses are summarised in Table 2.

Table 2: Short and medium-term priority emergency assistance intervention

Short-term priorities	Medium/long term priorities
1. Food aid and school feeding for school children	1. Early maturing, drought tolerant varieties of sorghum, maize, wheat and barley
2. Drinking water supply/ water tankering	2. Restocking including with plough oxen
3. Supplementary livestock feed in particular of plough oxen and dairy cows	3. Small-scale irrigation development

Conclusion

Visits to rural areas confirmed the failure of the spring *belg* rains and the erratic and poor summer *kiremt* rains, resulting in poor and failed harvests across East and West Hararghe. With substantial declines in household food production there has been a substantial increase in dependency on purchased food; there has been a large increase in the price of sorghum. In contrast, livestock prices fell markedly with the result that households have to sell more animals to secure the same amount of food relative to 2014. These trends started in July and August 2015, and continued to November and December.

In response to food insecurity, the number of new admissions to outpatient therapeutic programs and supplementary feeding has increased in 2015. Interviewees reported that these trends would continue through to the *belg* harvest in 2016, at which point there would be some recovery. However, a fuller recovery would not start until after the autumn *meher* harvest in October and November 2016.

Drought affected communities prioritized food assistance including school feeding for children and emergency water interventions¹³ followed by supplementary livestock feed to protect their livestock assets – plough oxen, dairy cows and core breeding animals. In the recovery phase, smallholder farmers identified drought tolerant crop varieties and small-scale irrigation – both of which reduce dependence on rainfall – and restocking to replenish the animals that they are trading out to secure food.

For the long-term it would seem clear that the young people will abandon the agriculture sector in increasing numbers and move to nearby towns and cities, neighboring countries or to the Middle East in search of employment. Out-migration from over-populated rural areas is a global phenomenon that typically results in a rapidly aging rural population and declines in agriculture output. In the case of East and West Hararghe however, rural depopulation may facilitate land consolidation, the adoption of improved technology and an increase in agriculture output. It is therefore increasingly important that development programs in these areas provide appropriate support, training and skills transfer for both agriculture and livelihood transformation. The latter that will enable young people in particular to establish themselves in alternate non-farm employment.

For further information:

- Visit www.agri-learning-ethiopia.org
- Email Adrian Cullis, AKLDP adrian.cullis@tufts.edu

Disclaimer

The views and information in this brief are an output of the AKLDP project and do not necessarily reflect the views of USAID or the United States Government.

Endnotes

¹ AKLDP (2015). El Niño in Ethiopia: Analyzing the summer *kiremt* rains in 2015. AKLDP Technical Brief, December 2015 <http://www.agri-learning-ethiopia.org/wp-content/uploads/2016/01/AKLDP-El-Nino-Rains-Technical-Brief.pdf>

² Including proportional piling and ranking, seasonal calendars, coping strategies index, year ranking, transect walks and observations.

³ Humanitarian Requirement Documents (released in January and August 2015) as well as products of the Ethiopia Humanitarian Country Team-EHCT (released in September and November 2015).

⁴ East and West Hararghe zones Early Warning and Response Reports (2015).

⁵ Early Warning and Response analysis as well as monthly marketing Reports in East and West Hararghe zones

⁶ Some households in the study area walking up to 20km round trip once every two days in search of drinking water.

⁷ Monthly Marketing Reports for East and West Hararghe Zones, 2014 to 2015.

⁸ East and West Hararghe zones Early Warning and Response Departments Report (2015).

⁹ Guba Koricha woreda and West Hararghe zone Early Warning Report (2015); East Hararghe Zone DPPO December Early Warning Monthly Bulletin (2015).

¹⁰ Low livestock prices result in poorer terms of trade and reduced cereal purchasing capacity.

¹¹ East and West Hararghe zones Early Warning and Response Departments Report (2015).

¹² *Buluka*- a local watery soup prepared from cereals (wheat, sorghum, maize, barley etc.) flour, and with this strategy all the household members could have access to limited food.

¹³ Subsequent to the field work the AKLDP researcher has been informed that as increasing numbers of water points fail, that water is now prioritized over food in some areas.