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Livestock insurance payouts and coping strategies of pastoralists during drought

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Introduction

Index-based livestock insurance (IBLI) was introduced in the drylands of northern Kenya in 2010 and southern Ethiopia in 2012 to help households cope with drought, a chief cause of livestock mortality and loss of wealth among pastoralists. IBLI contracts rely on Normalized Different Vegetation Index (NDVI) satellite imagery, a proxy for available biomass, to make indemnity payments to those policyholders living in regions that are affected by poor forage availability compared to the average conditions. IBLI coverage has been shown to increase investments in livestock health services, improve household income and reduce distress sales of livestock during drought when prices are low.[1,2]

Since its introduction to the region, IBLI has scaled to additional arid and semi-arid regions and has provided insurance coverage for more than 300,000 cattle equivalents with a value of USD145 million.[3] While IBLI is a commercial product sold by local insurance companies, in 2015 the State Department of Livestock with support from the World Bank began purchasing IBLI policies on behalf of targeted vulnerable pastoral households in northern Kenya under the Kenya Livestock Insurance Program (KLIP). At the same time, pastoral households in Ethiopia and Kenya continue to purchase the IBLI product on the commercial market.

Severe drought in 2016 and 2017 caused the largest IBLI payouts on record over three consecutive seasons.[4] By the end of the short rain/short dry season in 2017, over 18,000 (both KLIP and commercial policyholders) herders in Kenya and Ethiopia had received more than USD7 million from insurance companies through the IBLI product.[5]

This brief summarizes the results of a study examining how IBLI clients changed their coping strategies in anticipation of the coming of indemnity payments and how they spent those funds once they arrived. This analysis is especially timely as insurance companies, humanitarian agencies and policymakers are looking more and more at IBLI and the related KLIP program as a model on how a public-private partnership can take research to scale. Here, we present impact of payouts in Ethiopia, who are entirely commercial clients; and Kenya, where more than 90 percent of the indemnity recipients are part of the government's KLIP program.

1. Jensen, N. D., Barrett, C. B. and Mude, A. G. 2017. Cash transfers and index insurance: A comparative impact analysis from northern Kenya. *Journal of Development Economics* (129) 14–28.
2. Janzen, S. A. and Carter, M. R. 2018. After the drought: The impact of microinsurance on consumption smoothing and asset protection. *American Journal of Agricultural Economics* (forthcoming).
3. As of January 2019, the total cumulative value of commercial IBLI purchases in Kenya was 20,577 cattle equivalents valued at USD2.6 million; and in Ethiopia 20,700 cattle equivalents valued at USD2.9 million. Furthermore, Kenya's State Department of Livestock provided coverage for 275,200 cattle-equivalents totaling USD38.5 million through the Kenya Livestock Insurance Program (KLIP).
4. In regions where IBLI is available, there's a bimodal precipitation pattern. The insurance contracts account for this, offering coverage for two periods, the long-rain/long-dry season (Mar–Sep) and the short-rain/short-dry season (Oct–Feb).
5. Kenyan herders had received more than USD7 million and Ethiopian herders had received USD310,000.

Survey data

This study draws on two databases—one from Ethiopia and one from Kenya—both collected in 2017. Data from Ethiopia was collected using a household survey from a total of 80 pastoralists. The sample was drawn from the roster of clients that had purchased IBLI and received indemnity payments in 2017 from Oromia Insurance Company, a commercial insurance firm in Ethiopia. Clients were stratified by location and amount of indemnity payment (low, medium and high) before a random sample was selected and surveyed in May 2017.

Data from Kenya was collected from households in four rounds—February, May, October and December 2017—to obtain information before and after each of the short-rain/short-dry 2016 and long-rain/long-dry 2017 payouts. The survey sample was selected randomly from a roster of KLIP beneficiaries from Marsabit and Wajir counties with registered phone numbers and was surveyed by phone.[6] Although this selection process likely introduced some bias in our sample, the survey captured households with a wide variety of experiences and diverse socioeconomic and geographic contexts. In total, 2,490 households were called and about 45% (n=1,120) of those called were reached and consented to the survey.

The survey questions were not identical across the various survey tools in Kenya and Ethiopia, but the findings and analysis made for this report tried to present those that overlap in the types of data collected. To address inconsistencies between survey tools, we kept the data from the two countries separate and presented country-specific results side by side. This is not done for comparison but to maintain the integrity of the data as much as possible. In some cases, we will draw on only one country to support a point.

6. About 50% of the households listed on KLIP's rosters had registered phone numbers.

The impact of the 2017 drought and coping strategies of pastoralists

The 2016/2017 drought caused high livestock mortality rates and a humanitarian crisis across northern Kenya and southern Ethiopia.[7] The impact of drought conditions on the welfare of households is evident in our survey data across both seasons and both countries examined in this research. For example, during the short-rain/short-dry seasons, the median Kenyan respondent lacked sufficient food for eight of the last 30 days of the season (Figure 1.a). When the next long-rain/long-dry season came, the median Kenyan respondent did not have enough food for 14 of the last 30 days. While much less common, 20% of Kenyan respondents report going an entire day and night without eating a meal because of the drought during this period. In Ethiopia, the food security conditions were similar with 25% of households reporting consuming food less frequently because of the drought.

Households relied on various strategies to cope with the extreme drought conditions, the most common of which was locating additional food whether by purchasing food on credit, relying more on food aid, or asking neighbors and family members for food (Figure 1.b). They also frequently sold or slaughtered livestock—often known as distress offtake of assets—and diversified into other non-livestock activities such as making and selling charcoal. At the same time, households worked to ensure that some of their herd survived the drought by migrating to other pastures and purchasing livestock inputs such as veterinary services, fodder and water.[8] More than 10% of households also reported pulling children from school to help their households cope with the drought.[9]

7. For more information on the broader impact of this drought in the Horn of Africa, see OCHA's Horn of Africa: Humanitarian Impacts of Drought – Issue 9 (10 Aug 2017)

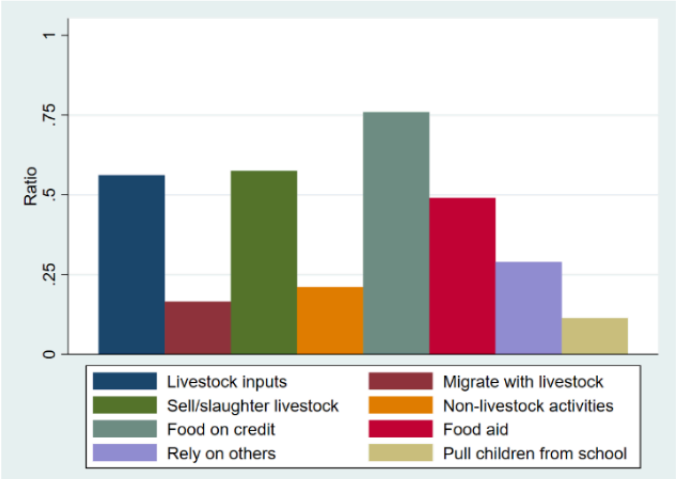
8. Although the figure does not show this level of detail, it is worth mentioning that an extraordinarily high percentage (93%) of surveyed household in Ethiopia purchased vaccination and/or other veterinary services in response to the drought.

9. It is well documented that pulling children from schools to avoid school fees and increase labor for income generating activities is a common coping strategy for smallholder households during shocks.

Figure 1. Reported impact of the 2016/2017 drought on households

a. Mean of indicators of food insecurity in Kenya

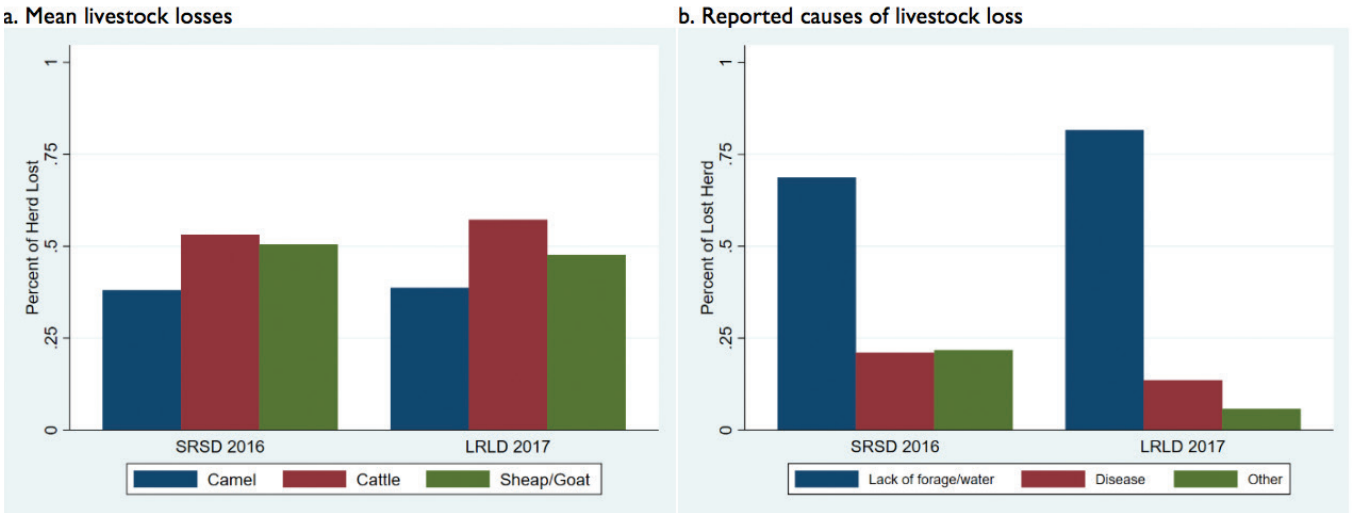
b. Ratio of Kenyan and Ethiopian households that reported adopting each coping strategy in response to the drought



The drought had a large and negative impact on households' primary asset, livestock. Among our survey sample, Kenyan households lost nearly half of their herds during each of the droughts and the vast majority of those losses were due to lack of forage and water (Figures 2.a and b).

Over the same period, the median household in Ethiopia saw their cattle and small ruminant herds die at rates above 25% and more than a quarter lost over half of their cattle herds. The primary objective of IBLI and the KLIP programs are to reduce such losses while also mitigating their impact on household welfare.

Figure 2. Reported impact of drought on households in northern Kenya



Impact of insurance payouts

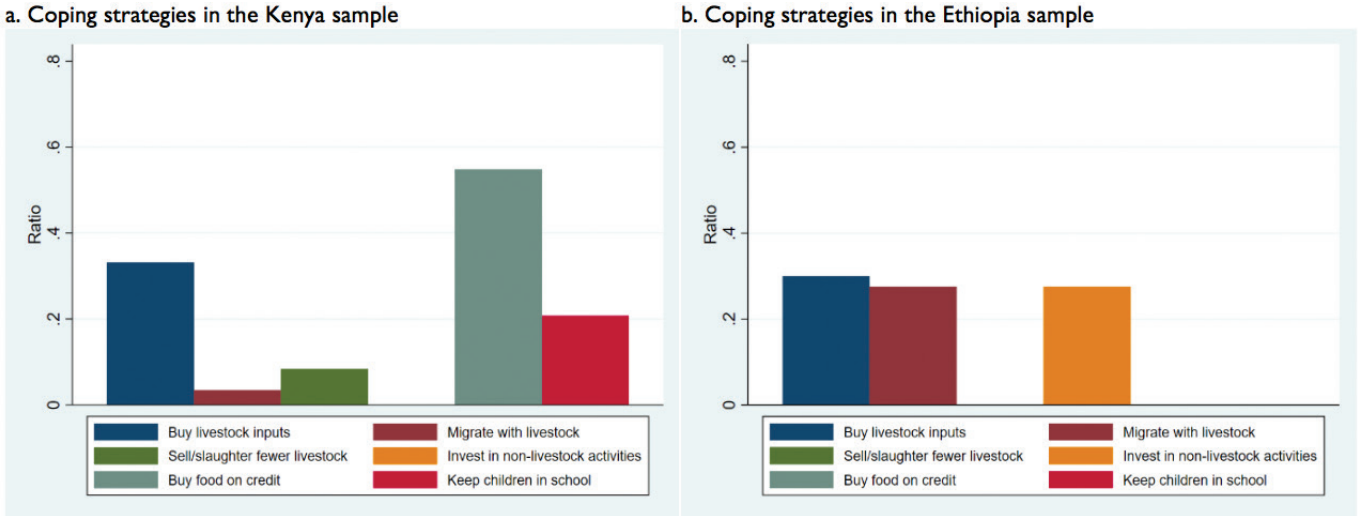
Anticipation of the payout

The promise and anticipation of indemnity payments during droughts can influence the way households respond to risk and drought long before payouts are triggered. Indeed, one of the primary advantages of insurance coverage over food aid is that households can incorporate the reduction to drought risk exposure provided by insurance coverage into their production and coping strategies.

This research sought to find out how livestock insurance policyholders adjusted their coping strategies mid-drought, in response to hearing they would soon receive an indemnity payment. In Kenya, 80% of households that expected to receive a payout reported that their response to drought changed because they knew that payment was coming. The most common responses that households had were to buy more food on credit, purchase more livestock inputs (forage/fodder and veterinary services in this case) and keep their children in school (Figure 3.a). Furthermore, some households responded by reducing the sale/slaughter of livestock, which, along with investments in livestock inputs, is consistent with perception by clients that the upcoming indemnities would help them cushion their livestock in the face of drought.

In Ethiopia, policyholders also reported that the announcement of coming payouts changed their drought management decisions; 93% of households reported changing behaviors because they knew there was a payment coming. A large portion of the households reported increasing purchases of livestock inputs in response to the indemnity announcement, as well as migrating with their livestock and investing in non-livestock activities (Figure 3.b).

Figure 3. Ratio of households that adopted each coping strategy when they heard of upcoming payouts



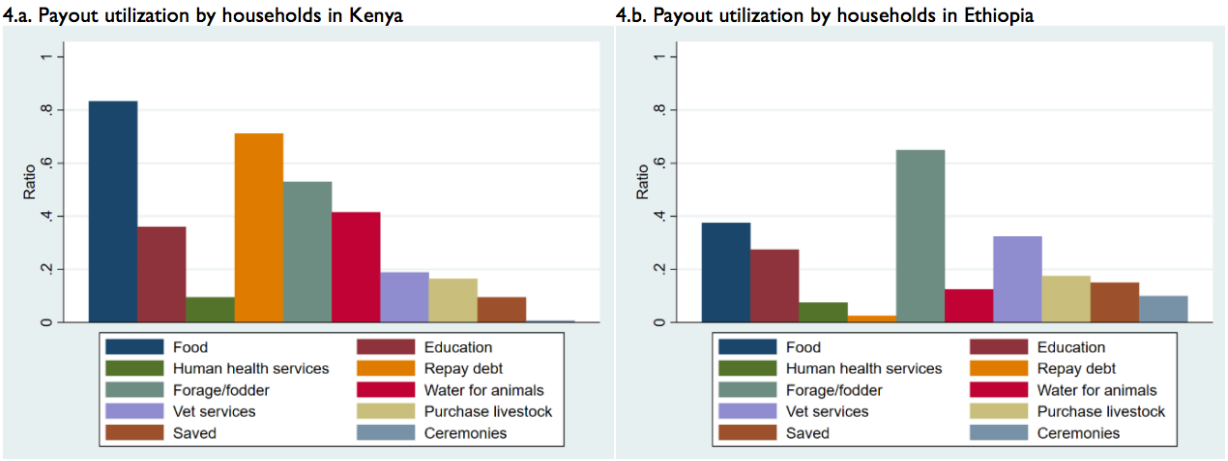
Note: The survey in Ethiopia examined only changes in decisions on livelihood and pastoral production as a result of information about payouts.

The payout

Nearly all households in both countries invested their IBLI indemnity payments on maintaining the health of their livestock during the drought (Figure 4). While the inputs varied across countries, 70% of households in Kenya and 80% in Ethiopia reported spending indemnity payments on livestock inputs such as fodder, water, or vet services; as well as improving human welfare. Food and education ranked in the top five most common expenditures in both countries and between 5% and 10% of households reported spending expenditures on human health services.

The study also found some considerable differences in expenditures reported between the two countries. The majority of Kenyan households said they used their indemnity payments to repay debt, which is almost unheard of in the Ethiopian sample. It is also much more common for Kenyans to purchase water than Ethiopians. Ethiopians are more likely to spend the indemnity payments on veterinary services and ceremonies (weddings, rituals and social events) than their Kenyan counterparts.

Figure 4. Ratio of households that received payout and reported using it for each activity



Discussion

IBLI's principal objective is to enhance the resilience of pastoralists by protecting them from the negative impact of droughts. Insurance can impact households through several channels; one is related directly to indemnity payments, and another related to the promise of payouts in bad periods. In this case, we found that both channels are important. During the severe 2016/2017 drought, IBLI clients in Ethiopia and Kenya responded to knowledge of upcoming payouts by investing in veterinary services, purchasing animal feed and water and/or migrating with their animals. Once payments arrived, the majority of households continued to invest in health services. These results are consistent with other studies, which found that IBLI coverage increases investments in livestock inputs.[10]

While the changes to coping strategies and the expenditures themselves are important in showing the impact of payouts, they also reveal important characteristics of the market environments households face during droughts. There is substantial evidence that most households in both countries have some access to livestock input markets during this critical period. Furthermore, the majority of Kenyan households have access to some credit, mainly for food, and many Ethiopian households have access to alternative non-livestock activities. Evidence of such access and opportunity during drought is encouraging in and of itself, and because it complements insurance products.

10. Jensen, N. D., Barrett, C. B. and Mude, A. G. 2017. Cash transfers and index insurance: A comparative impact analysis from northern Kenya. *Journal of Development Economics* 129, 14–28.

Photo credit: ILRI and CIAT/Neil Palmer

Masresha Taye, Vincent Alulu, Wako Gobu and Nathaniel Jensen all work for ILRI.

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