



East African herders insure against drought: An impact narrative from Kenya and Ethiopia

Did you know?

- In East Africa, 70 million people live in drylands, pastoralism being their main livelihood.
- During severe droughts between 2008 and 2011, the Kenyan economy lost an estimated USD 12.1 billion; the livestock sector alone incurred 27% of that loss.
- Currently, livestock farmers in northern Kenya own animals worth an estimated USD 500 million.
- Over 4000 livestock herders in Kenya have bought index-based livestock insurance (IBLI) since it was launched in 2010.
- 'IBLI is linked to a 36% drop in 'distress' sales of livestock to raise cash in times of drought, a 25% reduced likelihood of having to eat significantly smaller meals, and a 33% reduction in dependence on food aid.'

Private insurance against drought, common elsewhere in the world, has been successfully piloted in northern Kenya since 2010, as well as in parts of southern Ethiopia.

Under the index-based livestock insurance (IBLI) project, insured pastoralists receive a pay-out based on predicted livestock mortality, which is estimated according to the amount of forage available over a season (as indicated by satellite imagery). Whenever there are pay outs, pastoralists are protected against 'distress' sales of livestock to generate emergency cash, and other consequences of drought.

In northern Kenya, an adapted version of the system is providing Sharia law-compliant livestock insurance to Muslim pastoralists.

The challenges of working in the arid and semi-arid lands (ASALs) mean that the voluntary, micro product will initially require public support to develop into a sustainable market, but its social and welfare benefits suggest that some form of long-term public support may be justifiable.

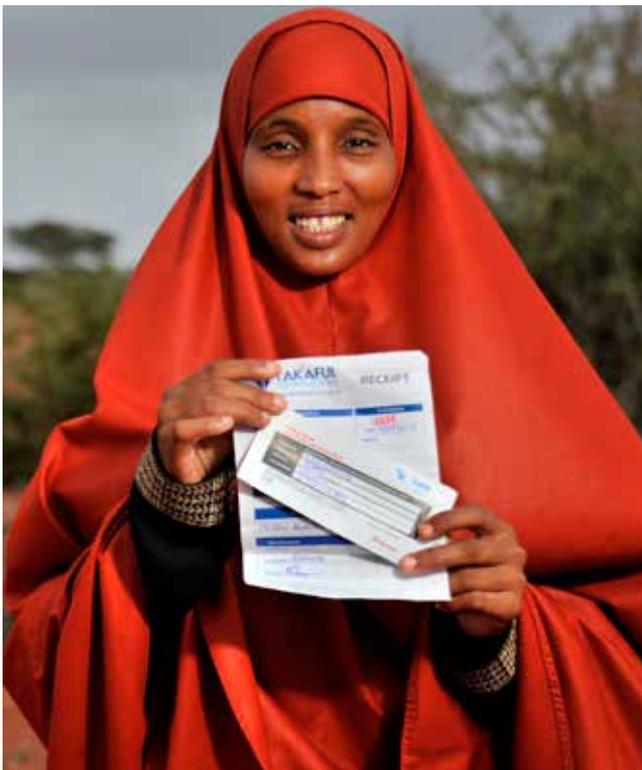
Therefore, ILRI is also working with the Government of Kenya and the World Bank to scale the provision of a macro IBLI product throughout northern Kenya within a public-private framework.

Context

On a widespread level, drought is the most pervasive hazard, natural or otherwise, encountered by households in the ASALs of northern Kenya and southern Ethiopia. Severe droughts, which can cause catastrophic herd loss, are becoming more frequent and more intense, a situation which may be further aggravated by climate change. For households who rely solely or partly on livestock, such herd losses have devastating effects on livelihood. Standard responses, such as food aid and post-drought restocking, are often slow, insufficient and expensive, and conventional insurance products are not viable, owing to high transaction costs and other factors. As a result, these households are among the most vulnerable in Kenya and Ethiopia.

In 2008, the International Livestock Research Institute (ILRI), together with its technical partners at Cornell University and University of California Davis, began developing an index-based livestock insurance (IBLI) product. The process involved two years of comprehensive research that was aimed at designing and implementing index-based insurance products that livestock keepers—particularly in the drought prone arid and semi-arid lands (ASALs)—could purchase to protect themselves from drought-related asset losses.

Shamsa Kosar, a beneficiary of Takaful insurance in Wajir, northern Kenya, in March 2014 (photo credit: ILRI/Riccardo Gangale).



ILRI's approach

Like any insurance product, IBLI aims to compensate clients in the event of a loss. Unlike traditional insurance, which is based on case-by-case assessments of individual clients' losses, index-based insurance pays smallholders based on an external indicator that triggers payment to all insured clients within a geographically-defined area.

For insuring livestock in the ASALs, the system developed is based on satellite data, known as the Normalized Difference Vegetation Index (NDVI), which provides an estimate of forage availability. Livestock in pastoral production systems depend almost entirely on available forage for their nutrition, and NDVI serves as a strong indicator of the vegetation available in the area for the livestock to consume.

The Kenya program uses data on livestock mortality, which the National Drought Management Authority has been collecting monthly since 2000, to model a statistical relationship between livestock mortality and forage availability, which allows area-average livestock mortality rates to be predicted from the freely available and regularly updated NDVI data. This predicted livestock mortality serves as the index upon which insurance payments are based, with insured farmers compensated when forage scarcity is predicted to cause livestock deaths in an area.

The Ethiopia IBLI product applies an index derived directly from NDVI data and measures the shortfall of forage over a season.

The commercial sale of IBLI was launched in Marsabit, northern Kenya, in January 2010. Since the launch, IBLI has gone through various adjustments, with some changes in the companies acting as agent and underwriter for the insurance products. A number of NGOs are supporting the implementation, particularly the identification and training of community mobilizers at local level, including CARE-Kenya in Marsabit and World Vision International in Isiolo county. In Wajir county, an Islamic-compliant version of IBLI is currently being implemented by Takaful Insurance Company with support from Mercy Corps.

The approach is also being piloted in the Borana region of southern Ethiopia where Oromia Insurance Company is the underwriter. These areas have been targeted as the pastoralist communities that reside there depend on livestock as their primary source of livelihood, and drought-related deaths of their livestock is the biggest risk they face.

Pastoralists 'buy in' to insurance

Over the first 4 years of the IBLI scheme, 4000 pastoralists in northern Kenya have bought one year contracts. This scale of uptake suggests that while there is some interest and demand, this will need to increase to support a sustainable scheme. In Marsabit, 40% of people taking out insurance are women, a much higher figure than expected; this may in part be because CARE-Kenya has targeted predominantly female savings and loan groups.

Pay outs for the scheme can potentially happen twice in the year, in March and October, at the end of the long and short dry seasons respectively. Drought conditions in 2011 led to the IBLI contract triggering payments to all active clients in the October of that year; pastoralists in two of Marsabit's five covered divisions received further payments in March 2012 following continued dry weather, with one of the five divisions also qualifying for pay outs in March 2013. These pay outs have demonstrated the ability and precision of the system to predict average livestock mortality in a given area and helped to build trust in the communities towards the insurance scheme.

To evaluate the impact of the insurance scheme, ILRI carried out a baseline survey of over 900 Marsabit households in October 2009 which was then repeated annually to track the dynamics and drivers of change. A similar survey was launched in Borana, Ethiopia, in March 2012 covering 515 households. This produced a body of information upon which IBLI impacts across a range of key livelihood indicators could be assessed, with the same households resurveyed annually for comparisons to be made.

From initial analysis, comparing insured and uninsured households, insured households experience a 25% reduced likelihood of significantly reducing their nutritional intake; a 25% reduction in distress sales of livestock assets (selling livestock to provide quick income in times of hardship); and a 33% reduction in their reliance on food aid. These initial results suggest that IBLI provides a valuable safety net, protecting families from having to take drastic measures during times of drought. IBLI has also been shown to have positive impacts in terms of livestock productivity and income. For example, households with IBLI are shown to have increased investments in maintaining livestock productivity through higher veterinary expenditures. They also benefited from increases in the total and per head income received from milk sales.

In Wajir, a largely Muslim county in northern Kenya, IBLI has been adapted to be compliant with Islamic Sharia law. The product conforms to the Islamic concept of Takaful, in which risks are shared among a group of participants. Through a contract called Tabbaru (donation), participants make contributions to a risk fund. In the case of a payout, the fund makes payments commensurate with the contributions received. Introduced in August 2013 by Takaful Insurance of Africa, the IBLI product was bought by 101 people in its first season and 240 in its second. In March 2014, 30 women and 71 men received payments under the scheme—the first of its kind in the world. 'I joined [this insurance] to get something out of it and today that happened,' says pastoralist Abdim Adan Bulle. 'It was not an empty promise.'

In Borana, a survey of households' subjective feelings of wellbeing found that insured households reported improved overall life satisfaction.

Even when families had paid the insurance premium but not received any pay out (because drought had not occurred), insuring 5 cattle was found to measurably improve households' position on a 'subjective wellbeing' (SWB) scale, and insuring 20 animals raised a household from the lowest to the highest SWB category. While buyers of insurance tended to show some buyers remorse about their purchase when not given a pay out, the positive impact on wellbeing of having insurance was found to outweigh this regret.

While the commercial sustainability of IBLI has yet to be attained, these initial results highlight the potential welfare impacts, and suggest that IBLI could have considerable social and economic value.

Conclusions

Given the infrastructural and other challenges of East Africa's drylands, it is not yet clear whether an IBLI product can be entirely commercially viable without subsidy support. Despite this, and even though IBLI does not offer complete protection against herd loss, it is a promising option for addressing poverty traps that arise from catastrophic drought risk. Uptake has so far been solid and had a range of benefits for those insured, including improved wellbeing and a reduction in drastic coping strategies when drought strikes.

Going forward, ILRI is working with the Government of Kenya and the World Bank's Agricultural Insurance Development Program to introduce IBLI at a larger scale to targeted pastoralists in northern Kenya. This is part of a larger effort to develop a national agricultural insurance scheme for both crop and livestock farmers in Kenya within a public-private framework in which the government and its donor partners will cover part of the costs of implementation and offer targeted premium subsidies to selected pastoralists. Leveraging the expertise, experience and insights gained in its IBLI program, ILRI will contribute to the design of the insurance cover, provide implementation support and continue its research agenda to help identify the most optimal way of offering IBLI products as part of a wider development-based social safety package.

Initial research results offer a strong justification for targeted support to IBLI for covering certain segments of society that are most vulnerable to losses of productive assets, and also those who are likely to increase their investments considerably if part of their risk is managed.

More research is needed, however, to understand the conditions under which a fully commercial product is possible, and how to most efficiently structure public support for long-term sustainability.

Crossborder trip to help the pastoralists from southern Ethiopia to learn from their counterparts in northern Kenya, 13th February 2011 (photo credit: ILRI/Andrew Mude).





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This is one of a series of briefs documenting the impacts of ILRI's research.

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