

# Index-Based Livestock Insurance (IBLI)

## *Livestock against drought-related mortality in Kenya and Ethiopia*

Index-based livestock insurance (IBLI) insures pastoralists in arid and semi-arid regions of northern Kenya and southern Ethiopia against the livestock mortality that often follows severe or catastrophic drought, such as that which gripped the Horn of Africa in 2011. During drought, widespread livestock mortality is caused primarily by forage scarcity, so IBLI tracks local forage conditions using real-time, publicly available satellite data (“greenness maps”) to determine the severity of drought, predict area-average livestock losses, and calculate policyholders’ indemnity payments.

When the contractual threshold—or “strike” point—of forage loss or predicted livestock mortality is reached, the IBLI contract is triggered, and policyholders receive a payout proportionate to the number and type of animals insured and the severity of vegetative loss and expected herd loss in the policyholder’s geographic area.

IBLI aims to serve as a productive safety net for households affected by livestock loss and help them effectively manage the resulting shock. It may also incentivize investment in livestock and promote financial deepening in pastoral areas

### **IBLI payouts**

IBLI disbursed indemnity payments to policyholders in all five geographic divisions of Marsabit District of Kenya in October 2011, the first payouts since the Marsabit pilot was launched in January 2010. Drought triggered another payout in two divisions of Marsabit in March 2012. In July of 2012, IBLI will be launched in the Borana zone of southern Ethiopia and efforts to scale IBLI across northern Kenya are underway.

### **Piloting IBLI in Kenya**

A Kenyan insurer and bank launched commercial sales of IBLI in Marsabit District, northern Kenya in January 2010.



The product was designed by Cornell University and the International Livestock Research Institute (ILRI) to insure pastoralists against catastrophic drought-related livestock mortality, measured using high-resolution satellite data of vegetative cover in the area. When IBLI’s index calculates that on average more than 15% of an insured division’s livestock are predicted to have died due to drought, indemnity pay-outs are made to all policyholders in that division. Individual losses are not verified in IBLI.

### **Expanding IBLI into Ethiopia**

Due to statistical differences between historical herd loss patterns in southern Ethiopia and northern Kenya, IBLI-Ethiopia tracks a slightly different measure of drought risk than that used in Marsabit. IBLI-Ethiopia tracks the cumulative deviation of vegetative cover from the historical average, which signals when forage levels have become catastrophically low for livestock survival. IBLI-Ethiopia disburses indemnity payments when average forage cover falls within the 15th percentile range of historical drought conditions. IBLI-Ethiopia is designed and implemented by Oromia Insurance, ILRI, and Cornell.

### **Index insurance: strengths and limitations**

Index insurance calculates average losses and policyholders’ indemnity payments based on an index, not on individual losses, which eliminates the financially and logistically costly loss verification step that inhibits traditional insurance providers from covering pastoralists and other geographically remote, dispersed, or mobile populations. Although the design of index insurance products introduces basis risk—the difference between individual policyholders’ actual losses and those predicted by the index—a well-designed product capably approximates catastrophic losses shared across a wide geographic area, known as covariate losses.

## Strengths

- Relatively low transaction costs due to reduced loss monitoring and contract enforcement costs
- Quick calculation and disbursement of payouts
- Reduction of moral hazard and adverse selection problems that plague traditional insurance
- Capacity to insure against covariate shocks, which are often financially devastating for traditional insurance

## Limitations

- Basis risk can cause insurance coverage to be insufficient for clients who suffer above-average losses.
- Design and implementation phases can require heavy capital, human resource, and technical inputs.
- Significant historical data are required for the creation of the index.
- Insurer's correlated loss exposure is increased.

## IBLI implementation challenges

The following comprise the primary challenges encountered during the implementation of IBLI-Kenya and IBLI-Ethiopia:

- Pastoralists' geographic dispersion and seasonal mobility
- illiteracy and innumeracy
- unfamiliarity with and mistrust of insurance
- lack of banking infrastructure
- poor transportation and communication infrastructure
- infrequent payouts can undermine interest in product

While it is still too early to rigorously assess IBLI's impact on policyholders, the following insights are indicative of its promise and lessons learned to date.

## Lesson learned

- IBLI contracts attractive to pastoralists who buy them and the commercial financial institutions that sell them appear feasible.
- Demand for IBLI appears considerable, as manifest in its relatively robust uptake in Kenya. Interest within the region and among private sector, government and civil society actors elsewhere in pastoral areas abounds.
- Misconceptions about the product's features and the extent of coverage offered continues, requiring continued extension and communication of the state of the index.

- It remains unknown whether the product can be entirely commercially viable without any subsidy support.
- Extension packages that capture the essence of complex IBLI products can be readily understood by pastoralist and agro-pastoralist populations.
- The cost-effectiveness of the sales delivery vehicle and density of touch points are critical to IBLI's commercial viability.
- Data critical to the functioning of IBLI must be available from multiple sources, in case one becomes unavailable.
- A detailed operational manual that clearly outlines the specific activities and responsibilities of each partner is required so that miscommunication and the considerable transactions costs of product delivery and management can be reduced.

## Donors

- Australian Agency for International Development (AusAid)
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