

128 Buffer Risks faced by Livestock Keepers through Index-Based Drought Risk Financing Solutions

The Solution: Index-based risk financing approaches (IBRFs) have emerged as an innovative means to mitigate risks in agriculture, developed by private insurers, NGOs, and donors. IBRFs help to address covariate risk, when entire communities suffer a shock, often due to weather. IBRFs depend on area yield indexes or weather indexes. Index-based livestock insurance (IBLI), which uses a forage yield index, is one example. IBLI is a private sector-supplied financial product that provides pay-outs to vulnerable livestock keepers in dryland systems when drought occurs and forage is depleted. Pay-outs are pegged to measurements of forage conditions made via satellite data using normalised difference vegetation index (NDVI). Pay-outs to insured herders are made not when they lose their animals but rather when the forage availability in their area falls below a certain objectively measured productive threshold. The pay-outs aid pastoralists in accessing and providing essential services for their households and livestock, thus keeping them alive during severe dry conditions.

Source(s) of the Solution: A pilot of IBLI took place in Mongolia in 2005, under a World Bank lending operation. This programme involved a combination of self-insurance by herders, market-based insurance, and social insurance ([Mahul and Skees, 2007](#)). The approach was further developed in Kenya among pastoralists by ILRI with Cornell University and University of California at Davis ([Chantarat et al 2012](#); [Mude et al 2010](#)). It was introduced in southern Ethiopia in 2012 and now is being expanded in some post-conflict areas in Ethiopia.

Problem addressed within food systems: The key problem being addressed is that of vulnerability to climate shocks in arid and semi-arid lands, which leads to recurrent poverty and hunger, as well as forced displacement and societal disruption and decreased environmental resilience. Recurrent drought causes extreme poverty and hunger among livestock keepers in dryland areas as well as out-migration to urban areas; the deaths or distress sales of livestock can lead to poverty traps among affected households. Conventional livestock insurance programs are prone to fraud and face high costs of implementation. IBRF solutions enable protection of the livestock assets and consumption-smoothing during drought shocks. Over the medium to long term, livestock IBDRF reduces the need for pastoralists to maintain large herds as a buffer against losses due to droughts. Greater security of livestock assets allow herders to keep smaller and more productive herds, thus reducing the threat of overgrazing and more intensive GHG emissions.

How this solution will address that problem: Drought is a co-variate risk that affects most livestock keepers within a region, making community-based systems of sharing risk ineffective. The administration costs and moral hazards of conventional livestock insurance to cover individual cases of loss limit their effectiveness. Index-based insurance overcomes these issues. Because IBLI protects against the main threat of shock to pastoral communities, drought, it acts as a broad social safety net. Research (see below) has confirmed that the benefit-cost ratio of IBLI exceeds those of cash transfer programmes.

Solution's alignment to the 'game changing and systemic solution' criteria: This is a game-changing solution because it can have impact at a wide scale and is designed to target large populations of vulnerable households. In fact, the larger the number of participants, the more efficiently the product is delivered. It is actionable through private-public partnerships and therefore highly sustainable. In addition, donor agencies have found that subsidising IBRF programmes provide a low-cost and efficient social safety net in dryland areas, which is much more efficient than targeted cash transfers. IBRF solutions also help crowd in private-sector actors providing services that support livestock production systems, thus creating a market in these high potential but often neglected areas.

Existing evidence: IBLI is arguably one of the best-studied institutional innovations in the livestock sector, with multiple papers in prestigious journals. These studies have addressed the complexity of the product, the manner of its implementation, and how to facilitate understanding and uptake among pastoral communities, and over the years, resulted in a refined product, better designed outreach and improved implementation strategies. Numerous pilots and studies have been conducted on IBLI, with multiple public-private development initiatives. An impact assessment was conducted jointly by ILRI and Cornell University on the outcomes of the IBLI program in Kenya (see [Jensen et al 2015](#)). The study found strong positive impacts on subjective, economic, and health-related indicators of well-being, and the benefits are particularly strong amid drought events. Among the indicators, the marginal benefit/cost ratio of IBLI substantially exceeds that of unconditional cash transfers, such as the Kenyan Hunger Safety Net Program; these gains emerge despite IBLI's imperfect coverage of purchasers' risk exposure. Uptake of the product by livestock keepers has been significant, with more than 40% of sampled households purchasing IBLI at least once. A recent evaluation study carried out after the 2017 drought suggested that the beneficiaries were using their pay-outs mainly for purchasing feed, fodder, veterinary drugs, food for the household, and paying school fees.

Current/likely political support: As a demonstration of official public interest, the Kenyan government established the Kenya Livestock Insurance Program, based on IBLI, as a key social safety net. In addition, the World Bank, African Development Bank, African Risk Capacity, Intergovernmental Authority on Development, and their partners are planning a drought risk financing initiative for the Horn of Africa that will include livestock index insurance (Fava, Jensen, and Banerjee, 2020). They recognise that IBLI has now been tested, refined, and proven and is ready for scaling up on a much wider scale, with the potential to improve lives in vulnerable livestock-dependent dryland communities in Africa, South Asia, and Central Asia.

Contexts where this is well/not well suited: This approach is particularly suited for dryland areas with substantial livestock populations that are dependent on natural rangelands and where sources of water are seasonal and limited. It is less suited for more intensive production systems where the effects of drought can be mitigated by importing forages or water.