Protecting livestock herders from the impact of drought: the Index-Based Livestock Insurance (IBLI) program

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OUTLINE

- Motivation: Why Index-Based Livestock Insurance (IBLI)
- IBLI contract design
- Toward new product generation
- Conclusions & considerations
MOTIVATION: WHY IBLI

LIVESTOCK & LIVELIHOODS

- Over 50 million pastoralists in Sub-Saharan Africa;
- Over 20 million in the Horn of Africa. Exports of livestock and livestock products exceed $1 billion annually.
- In the region, estimated contribution of the livestock economy at 40%

- Pastoral populations of Sub-Saharan Africa are particularly vulnerable to environmental shocks, which contribute to livestock mortality and therefore losses in both wealth and productive assets.

DROUGHT - A MAJOR RISK

- Catastrophic herd loss due to drought identified as the major source of vulnerability and cause of poverty. 75% of livestock losses, among pastoralists, due to drought.
- Strong evidence of asset-based poverty trap dynamics.

STANDARD RESPONSES TO DROUGHT ARE COSTLY & INSUFFICIENT

- Destocking/Restocking - slow, expensive, targeting challenges, inefficiency.
- Food aid - slow, expensive, targeting challenges, foster dependency.
- Cash aid - targeting challenges, fiscal sustainability, not equally effective for all.
Sustainable insurance can:
- Prevent downward slide of vulnerable populations
- Allows focus humanitarian resources on the needy
- Crowd-in investments

**But can insurance be sustainably offered in the pastoral context?**

Conventional insurance unlikely to work:
- Very high transactions costs, esp. with little financial intermediation among pastoralists
- Moral hazard/adverse selection

**INDEX-BASED LIVESTOCK INSURANCE**
- Independent “index” strongly correlated with drought/forage scarcity/livestock losses. No claims.
- Better suited to the pastoral production system and risk profile

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**MOTIVATION: WHY IBLI**

**IBLI PROGRAM PILLARS**

Program launched in 2008 to offer a timely, sustainable, safety net against catastrophic drought shocks on pastoralists.

**Program pillars & sustainability**

**SCIENTIFIC COMPONENT**
- Satellite-based indicators of drought
- Risk modelling & Contract Design
- Technological solutions
- Low basis risk

**IMPLEMENTATION COMPONENT**
- Market and capacity dev.
- Policy and institutional dev.
- Efficient delivery and extension services.
- Informed and effective demand

**MONITORING & EVALUATION**
- Evidence of value and impact
**NDVI-BASED FORAGE AVAILABILITY - ASSET PROTECTION**

Payouts at the beginning of the dry season rather than the end
- Insured unit: cost to keep livestock alive during drought

If the trigger threshold is reached, the payout is proportional to the degree severity of the forage scarcity (as estimated from z-cum NDVI).
IBLI UPTAKE & GEOGRAPHIC EXPANSION

Currently implemented in Northern Kenya and Southern Ethiopia. Expanding to the whole ASALs of Kenya (KLIP program) and North/East Ethiopia (WFP).

IMPACT ON PRODUCTION AND WELFARE

In spite of the incomplete coverage IBLI provides ("basis risk"), there are strong indications that it benefits – or would benefit – most households.

- Increase herd survival rates by considerably reducing risk of catastrophic loss
- Improved production outcomes: increases milk productivity of livestock
- Increase investments in maintaining livestock through procurement of veterinary and vaccination services

IBLI improves post-drought coping. After catastrophic 2011 drought, IBLI covered households reported better expected behaviours/outcomes.

- 36% reduction in likelihood of distress livestock sales, especially (64%) among modestly better-off HHs (>8.4 TLU)
- IBLI shown to have a positive impact on improvements to mid-upper arm circumference (MUAC), a strong predictor of child malnutrition

SHORT RAINS 2016 - MAJOR DROUGHT IN THE HORN OF AFRICA

Over 2 million USD payouts distributed to about 15,000 pastoralists.

TOWARD NEW PRODUCT GENERATION

INDEX IMPROVEMENT - TEMPORAL AGGREGATION

✓ Is the definition of growing season stable across space and time?
Use of NDVI-based phenological analysis to improve season definition.


Vrielings et al., 2016, RSE