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THE ENABLING ENVIRONMENT FOR ANIMAL-SOURCE FOODS MARKET SYSTEM SUCCESS: LESSONS FROM THE FIELD

Financial Services Factors

Feed the Future Innovation Lab for Livestock Systems
Feed the Future Enabling Environment for Food Security Project

November 19, 2020

Photo credit: Fintrac Inc.



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ANIMAL-SOURCE FOODS



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SPEAKERS



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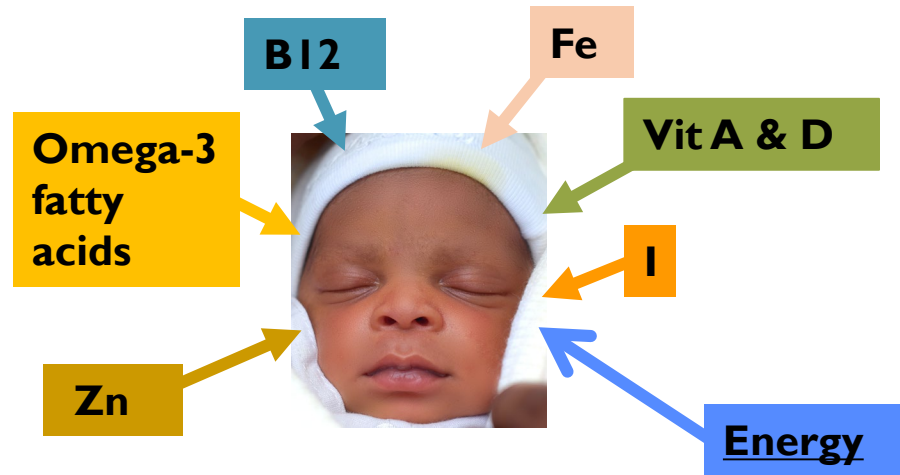
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IMPORTANCE OF ANIMAL-SOURCE FOODS (ASF)



Brain growth ~ 90% complete in first 1000 days; determines brain function for life

(Miller, 2019)

Photo by [Aikomo Opeyemi](#) on [Unsplash](#)

- Best high-quality, nutrient-rich food for children aged between 6 and 23 months (WHO, 2017).
- Packed with **ideal** protein and **more bioavailable** micronutrients than plants.
- Can help prevent **stunting**, which reduces brain development and growth and increases poverty.
- 60% of children don't eat enough ASF (UNICEF, 2020).

INNOVATION LAB FOR LIVESTOCK SYSTEMS

Vision

Sustainably intensify livestock production to improve the nutrition, health, incomes, and livelihoods of the poor.



Photo credit: J. Vipham

Donors

USAID
Bill & Melinda Gates Foundation

Countries

Cambodia, Nepal, Burkina Faso,
Niger, Rwanda, Ethiopia,
Uganda, Kenya

Projects

45 field to fork research for
development projects on all species

Grantees

63 foreign and U.S. partners



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THE ENABLING ENVIRONMENT FOR ANIMAL-SOURCE FOODS MARKET SYSTEM SUCCESS: FINANCIAL SERVICES FACTORS

Steve Staal, Feed the Future Enabling Environment for Food Security Project

Consultant, EEFS

November 19, 2020

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THE ENABLING ENVIRONMENT FOR ASF

- **The enabling environment for ASF is unique.**
 - Unique technologies and requirements for trade, processing/packaging, food safety management, etc.
 - The rules that exist for the agriculture sector may be necessary, but are insufficient for ASF.
 - Each ASF market system may also face unique challenges, opportunities, and enabling environment factors for success.
- **EEFS Guidance Document**
 - Assessing factors in the enabling environment that support competitive, inclusive, resilient, nutrition-sensitive systems.
 - Document a comprehensive set of formal and informal factors in the EE that affect ASF market system success.
 - Identify associated metrics and sources for country-specific analysis.
- **Use Case**
 - A guide for analysis at the country level to inform USAID decisions.
 - Target resource allocation to alleviate barriers or capitalize on opportunities in the enabling environment.



THE ENABLING ENVIRONMENT FOR ASF

We categorize our findings by:

- **Supply-side** factors, **marketing** factors, and **financial service** factors.

Today, we will focus on the **financial services**.

- These are **the factors that provide liquidity to enable ASF market enterprises or mitigate risks of financial and asset losses.**

The financial service factors we'll discuss today include:

- Formal credit and value chain financing
- Informal credit
- Livestock insurance



Photo by Fintrac Inc.



WHY CONSIDER FINANCIAL SERVICE FACTORS?

- **Formal credit and value chain financing**
 - Establishing even small-scale livestock operations requires the acquisition of assets, particularly the animals themselves, which are expensive in the case of improved breeds.
 - Traditional lenders often avoid the risks and low returns perceived in agricultural and livestock enterprises.
 - Value chain financing can avoid the collateral requirements of formal lending and allow enterprises to finance their key value chain partners.
- **Informal credit**
 - Formal credit lending rules and compliance standards can exclude small, resource-poor livestock producers.
 - Informal lending schemes, particularly in-kind, can reduce such constraints and target the resource-poor.
- **Livestock insurance**
 - The main constraint to successful and sustainable livestock enterprises is often loss of animal assets through disease, drought, or accident.
 - New technology is rapidly expanding opportunities for innovation in livestock insurance for the rural poor.

FORMAL CREDIT AND VALUE CHAIN FINANCING

Formal Credit

- The legal framework for formal credit must include, at minimum:
 - **A real property law** addressing registration and transactions in real property — generally fixed assets, such as land and buildings.
 - **A secured transaction law** allows a range of collateral types to be used, from real property to movable assets, including livestock or accounts receivable, such as future milk deliveries.
 - **An official asset registry** — an online asset registry can significantly reduce the transaction costs for formal credit.
- Smallholders often cannot comply with collateral requirements of formal lenders. New smartphone apps to aid income/expense tracking can help certify credit-worthy producers, enabling access to formal credit.



Photo by Fintrac Inc.

FORMAL CREDIT AND VALUE CHAIN FINANCING

Value Chain Financing

- Based on in-kind transactions and product flows instead of collateral and cash transfers.
- Buyers provide credit to producers against pledge of future goods; buyer-driven financing.
- Common examples are poultry processors providing DOC and feed to poultry growers, or dairy co-ops providing feed to dairy farmers.
- Mostly in-kind credit, and based on trust and mutual interest in successful market performance.
- Establishing and enforcing formal contract laws will help regularize these arrangements.

INFORMAL CREDIT

Animal-in-Trust

- Giving or lending live animals (cattle, goats, pigs) to neighbors or family is a traditional practice in many countries. Repayment takes the form of the return of some of the offspring.
- Such credit-in-kind schemes have been regularized by NGOs through live animal transfer “heifer-in-trust” and “pass-on-the-gift” programs, which typically include training in animal husbandry, etc.
- Studies have demonstrated consistent success and positive impact on income and nutrition.
- Saving circle groups also provide a mechanism for community lending for animal purchase.
- ASF production, processing, and marketing facilities are more likely to require formal credit.

LIVESTOCK INSURANCE

Traditional Insurance Products

- Traditional schemes where individual cattle are insured against death/accident were plagued by high rates of fraud and high premium prices. They were generally unsustainable without heavy subsidy.
- Smartphone apps and microchips now creating opportunities for reduced fraud and greater ease of claims.

Index-Based Livestock Insurance

- Weather-index based insurance insures against drought-related livestock losses.
- Payouts occur when drought threshold conditions are independently and objectively verified. No proof of loss is required, and implementation costs are lower.

LIVESTOCK INSURANCE

Lessons Learned from the Literature

- The cost of insurance premiums often remains a limiting factor. Where livestock keepers are unwilling to pay (even 4% of value or less), then the rationale for public support to protect vulnerable rural communities is strong.
- Lack of understanding by livestock keepers of the concept of index-based insurance remains a barrier. Some producers have reportedly expected annual payouts regardless of the weather. Education and awareness is important.
- Livestock insurance should not be viewed in isolation but as part of a support package to producers, with the public sector and social investors supporting linkages and coordination with animal health services.



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FORMAL CREDIT FOR BEEF FATTENING: THE SWAZIBEEF PROJECT — ESWATINI

Nadhem Mtimet, International Fund for Agricultural Development

November 19, 2020

Photo credit: ILRI

BACKGROUND AND MOTIVATION

- Importance of accessing finance for smallholders' producers → need for working capital, access inputs, new technologies, etc.
- Agricultural sector is a risky business, as perceived by financial institutions → few investment mechanisms/financial products and low amount of loans/funds allocated.
- The livestock subsector: the situation is even worse, as it is perceived as highly risky especially in developing countries → reluctance of formal financial institutions to venture in and provide loans to smallholders' livestock producers.

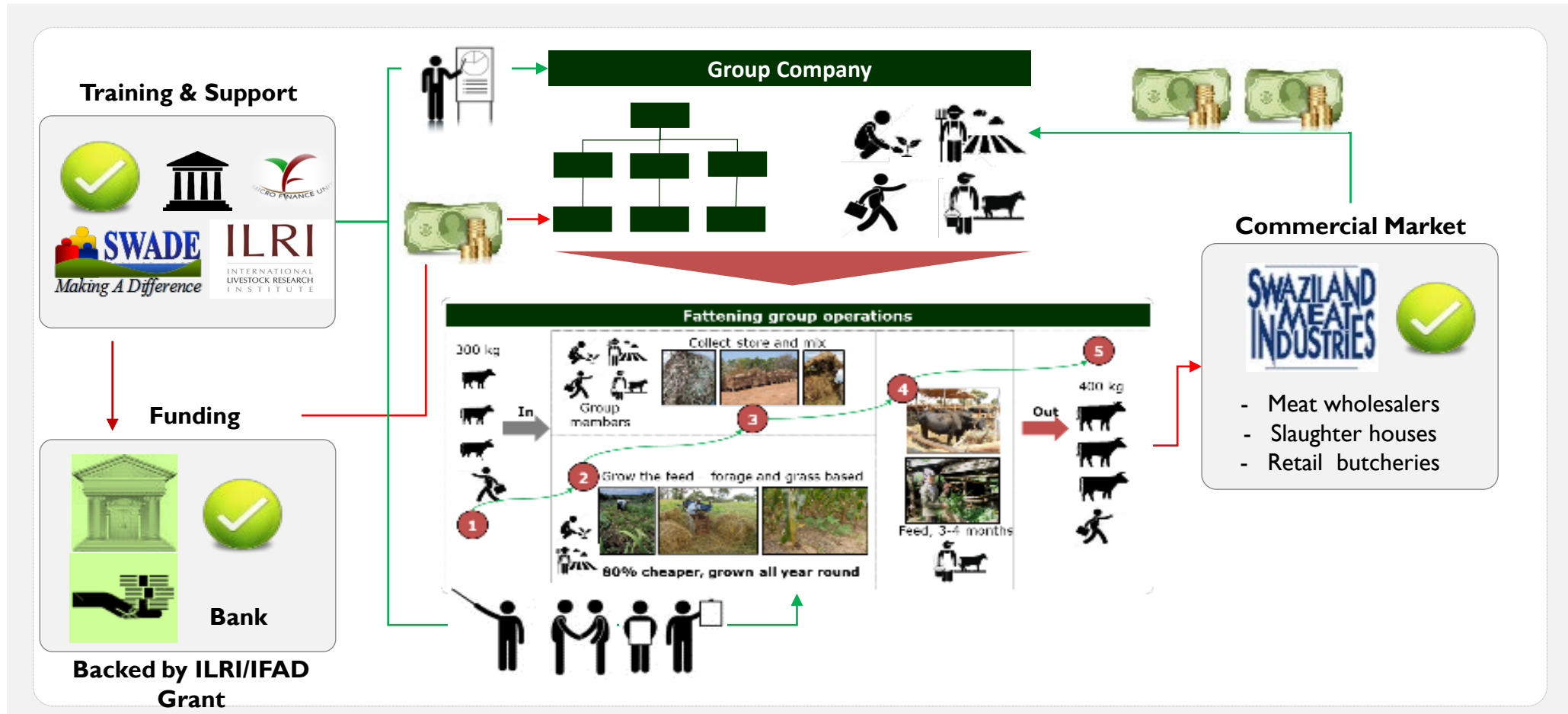
BACKGROUND AND MOTIVATION

- Smallholder farmers face difficulties accessing finance → lack of collaterals, high risk, limited own resources and assets, low production capacity, etc.
- Value chain finance could be a way/solution for smallholder farmers to access finance.
- Livestock production and marketing play an important socioeconomic role in Eswatini; livestock producers are mainly smallholders.

THE SWAZI-BEEF PROJECT

- Funded by IFAD (USD \$1 million) with co-funding from ILRI (USD \$150 thousands).
- Started in March 2013 for initially three years – ended in January 2018.
- The project's goal was to improve and make sustainable smallholder livelihoods from cattle production and marketing.
 - Provide smallholders with a viable cattle value-addition mechanism that is coordinated with market requirements.
 - Design and demonstrate effective financial instruments and suitable products for enabling smallholder value addition in cattle systems.
 - Generate and disseminate knowledge, and encourage its uptake, throughout the Southern African region.

BUSINESS MODEL



BUSINESS MODEL

- There are four business models for smallholder organization that have implications on value chain finance (Miller and Jones, 2010): producer-driven; buyer-driven; facilitator-driven; integrated.

❖ Facilitator-Driven

- Organization mode: facilitation by development organizations, NGOs, donor, and government agencies for equity considerations and to improve smallholders market access.
- Challenges: dependence on facilitator during/post project, sustainability, payment of services.
- Loan guarantees: (Swazi-beef project)
 - (+) reduce risk for the lender, facilitated access for the farmers for funds, build confidence.
 - (-) form of subsidized loan, reduce lender responsibility and accountability, higher interest rates when the guarantee is no longer available.

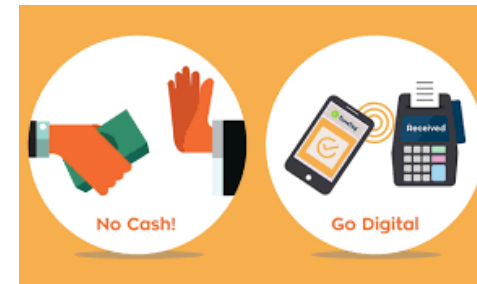
CHALLENGES

- Change of the initial design of the project after few months → lending to producers rather than to traders.
- Change of the ILRI project leader (three times).
- Slow implementation and delays from local partners (ESWADE).
- Not a revolving fund → all cattle should be sold and loan repaid before start of the second cycle.
- Farmers contribution should be only cash → not in kind.
- Low literacy/educational level among farmers.



CHALLENGES

- Fattening and marketing activities:
 - Feedlot design and equipment
 - No plans to manage the manure produced
 - Fodder production
 - Sourcing and purchasing of cattle
 - Payment system to buy the bulls
 - Cattle feeding and weighing
 - Finished cattle selling
 - Feedlot management



- Government (MoA) participation and involvement was very limited.

KEY LESSONS

- Always include all stakeholders and beneficiaries from the initial development of the project/program proposal.
- Ensure buy-in of the government (MoA, ML) → political engagement and backstopping; scaling up.
- Include the private sector and foster PPP and private investments → sustainability and success.
- When possible, from the beginning develop a model that fosters financial institutions participation from an early stage → creates an environment where the potential banking institution becomes more open to the program and perceives it as less risky.
- Develop capacities of both the public and private sector.

KEY LESSONS

- Select the right people: collaborators, PMU, consultants, beneficiaries, etc.
- Be aware that project/program will probably face constraints → be ready, flexible and prepared to come up with solutions and amendments.
- Beneficiaries → be inclusive (women, youth, minority groups, etc.).

Disclaimer

This work was funded in whole or part by the United States Agency for International Development (USAID) Bureau for Food Security under Agreement # AID-OAA-L-15-00003 as part of Feed the Future Innovation Lab for Livestock Systems. Any opinions, findings, conclusions, or recommendations expressed here are those of the authors alone.



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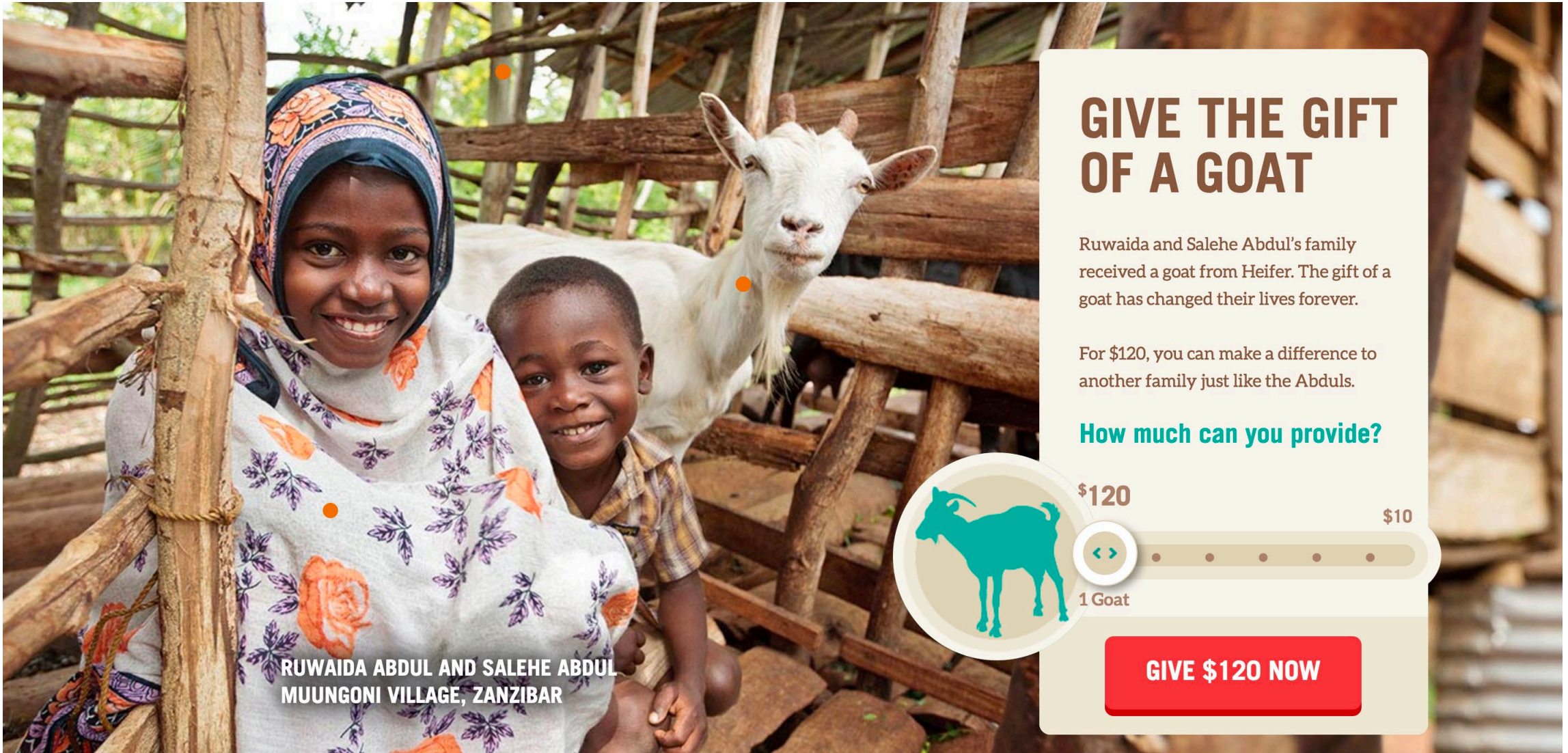


INFORMAL CREDIT AND SAVINGS: LESSONS FROM AN ASSET TRANSFER PROGRAM WITH SAVINGS GROUPS IN NEPAL

Sarah Janzen, Nicholas Magnan, Sudhindra Sharma, William Thompson

November 19, 2020

Photo credit: William Thompson




RUWAIDA ABDUL AND SALEHE ABDUL
MUUNGONI VILLAGE, ZANZIBAR

GIVE THE GIFT OF A GOAT

Ruwaida and Salehe Abdul's family received a goat from Heifer. The gift of a goat has changed their lives forever.

For \$120, you can make a difference to another family just like the Abduls.

How much can you provide?

 **\$120** **\$10**

<> ● ● ● ● ●

1 Goat

GIVE \$120 NOW

THE IMPORTANCE OF FINANCIAL INCLUSION

Financial exclusion implies:

- Borrowing at very high interest rates.
- Forgoing potentially profitable investments.
- Engaging in costly consumption reduction in the face of shocks.

Financial inclusion is important.

- Access to credit *can* spur business creation and increase productive investment, education investment, food consumption, income, subjective well-being, and empowerment, and help to manage shocks, but not always or everywhere. (Cull et al. (2014), Banerjee (2013), Ksoll et al. (2016); Karlan et al. (2017)).
- Access to saving mechanisms increases business investment, agricultural production, helps manage shocks, and increases consumption (Cull et al. (2014), Ratan, and Zinman (2014)).

RESEARCH QUESTIONS

1. Does this kind of multi-faceted livestock-based livelihoods program effectively transition poor households into successful entrepreneurs?
2. Does the program increase financial inclusion of women entrepreneurs?



Photo Credit: Heifer International

HEIFER INTERNATIONAL'S MULTIFACETED LIVESTOCK TRANSFER AND TRAINING PROGRAM

Program components

- Targets women
- Livestock transfer
- Formation of women's self-help savings groups
- Technical training on improved animal management
- Values-based training
- **Financial services**



Photo Credit: Heifer International

RESEARCH FINDINGS

We observe impacts for direct beneficiaries:

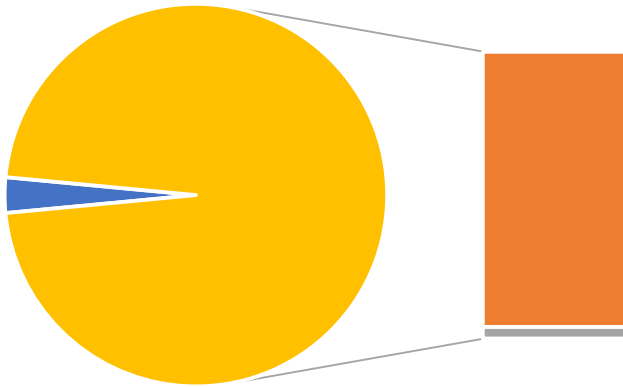
- Livestock livelihood impacts:
 - Bigger herds (3 more goats).
 - Improved livestock practices.
 - More goat sales (\$30 annually).
 - Higher profit from goat production (\$38 annually).
- Women are more empowered.
- Women have greater financial inclusion.
 - 23 p.p. higher savings group participation.
 - 14 p.p. increased likelihood of any savings in previous month.
 - 6 p.p. increased likelihood of any savings.
 - 6 p.p. increased uptake of formal loans.



Photo credit: Pranaya Sthapit

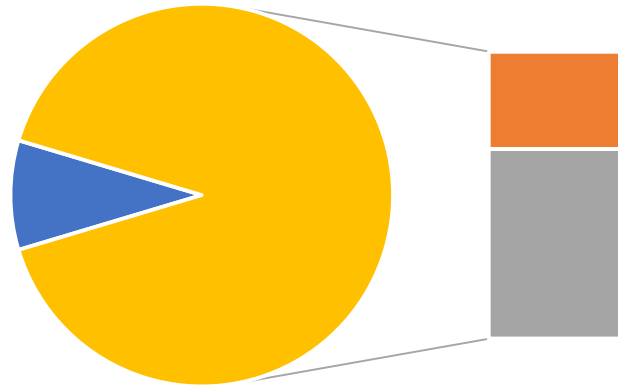
NEXT STEPS TOWARD ENABLING THE ENVIRONMENT: VALUE CHAIN FINANCING VIA COOPERATIVES?

Saving with cooperative



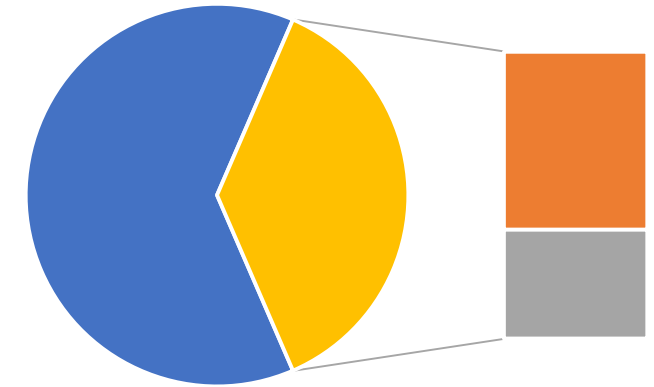
- Don't accept savings deposits
- Members use coops for savings
- Members do not save with cooperative

Loans via cooperative



- Don't offer loans
- Members access loans
- Members don't access loans

Bank loans via cooperative



- Don't facilitate bank loans
- Members access bank loans
- Members don't access bank loans



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INDEX-BASED LIVESTOCK INSURANCE

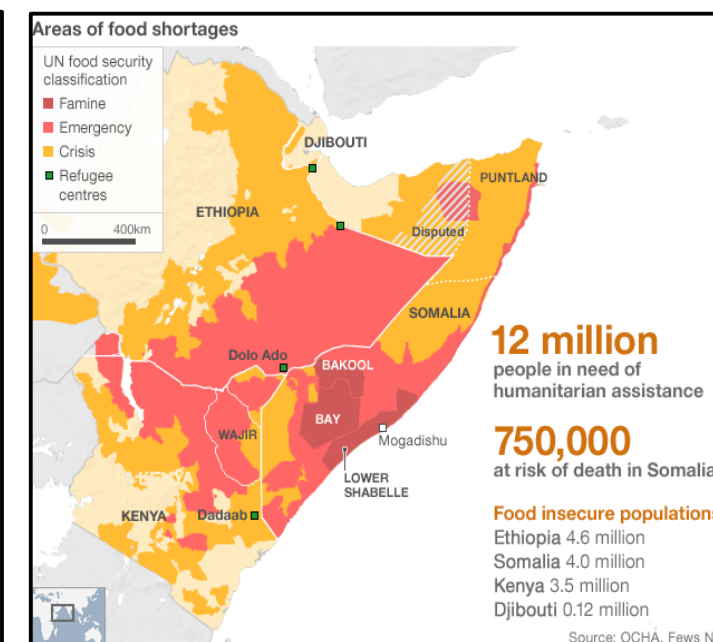
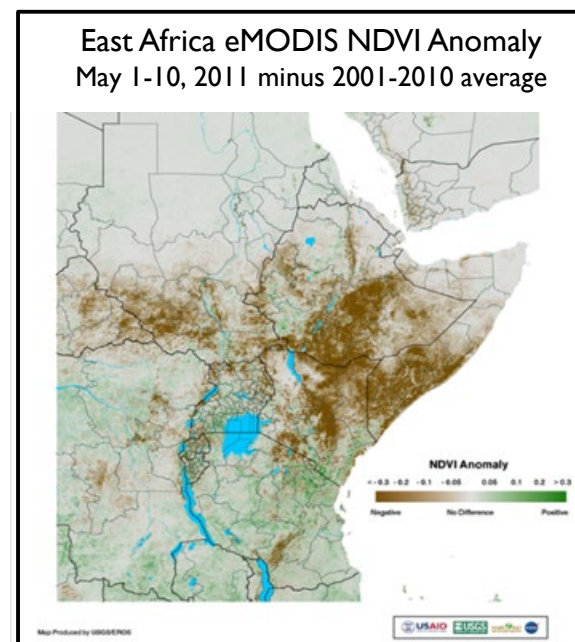
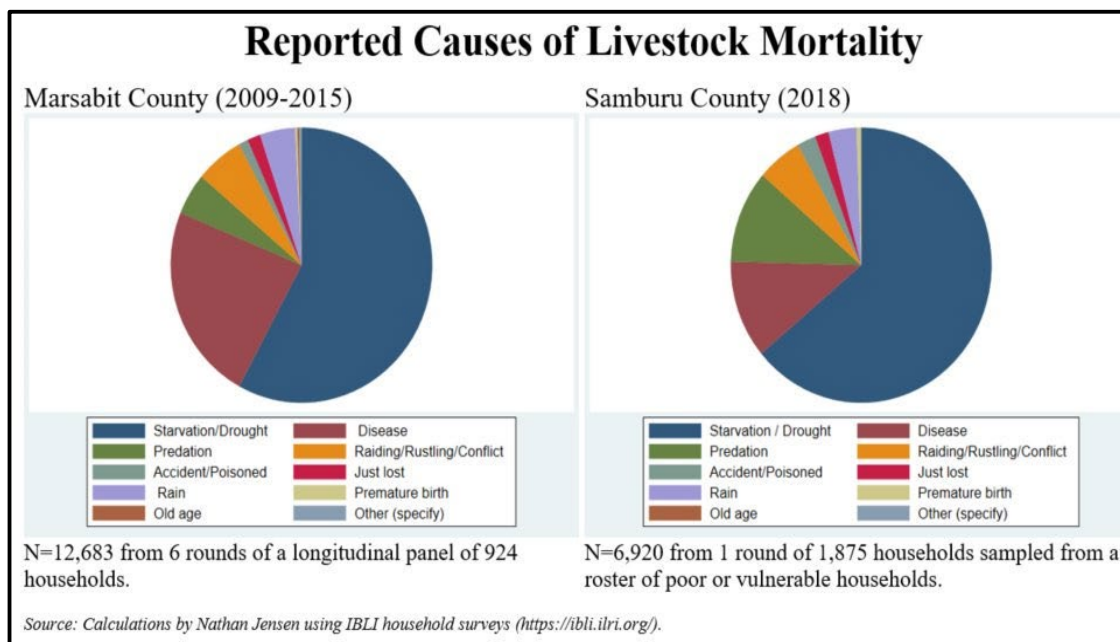
Nathan Jensen, International Livestock Research Institute (ILRI)

November 19, 2020

Photo credit: ILRI

PASTORAL LIVELIHOODS IN EAST AFRICA AND THE SAHEL

- An estimated [50 million](#) pastoralists in SSA.
- Pastoralists generate a large portion of their income (often 100%) from extensive grazing of livestock.
- They are especially vulnerable to environmental shocks, because not only is their income at risk, but so is the majority of their productive capital and wealth.
 - Catastrophic herd loss due to drought has been identified as the major source of vulnerability and cause of poverty.
 - [Strong evidence](#) of asset-based poverty trap dynamics.





INDEX BASED LIVESTOCK INSURANCE (IBLI)

Insurance Can:

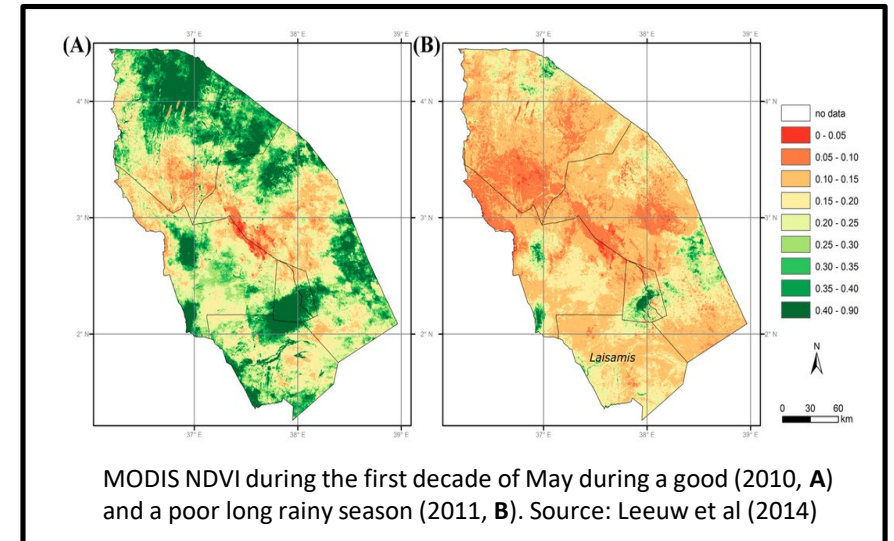
- Help households meet basic needs during drought.
- Prevent downward slide of vulnerable populations.
- Enable productivity increasing investments.
- Crowd-in markets and investment opportunities.

Conventional policies are impractical for this environment.

- Risk profiling/pricing requires historic client data.
- Verification of claims is expensive and difficult.
- Moral hazard and adverse selection.

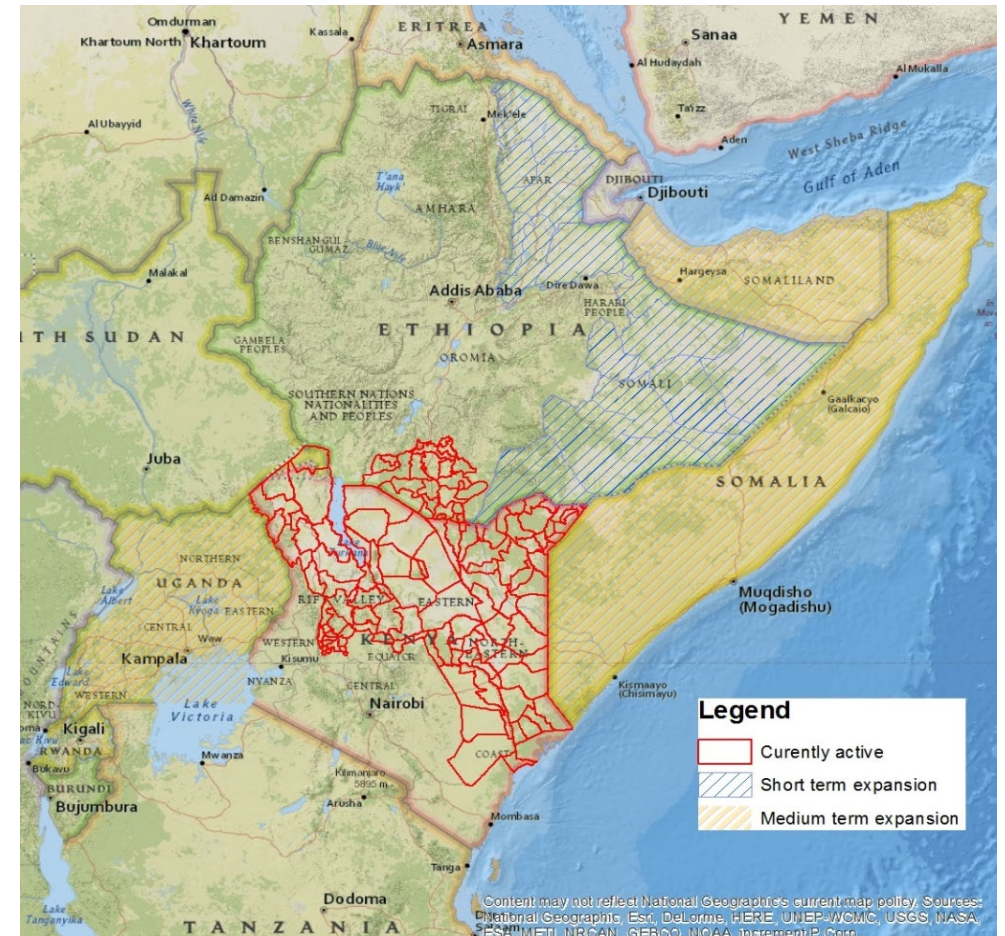
Index policies are based on an independent easily observed “index” (NDVI) that strongly correlates with drought/forage scarcity/livestock losses.

➤ **Much lower-cost policies than conventional products.**



5 CHALLENGES FOR IBLI

1. Precise and valuable contract design.
2. Evidence of value and impact.
3. Establishing informed effective demand.
4. Low-cost, efficient supply chain.
5. Policy and institutional infrastructure.



1. PRECISE AND VALUABLE CONTRACT DESIGN

Signal: eMODIS NDVI time series (USGS).

Asset Replacement, Livestock Mortality Rate Contract (2010): Initial contracts launched in Marsabit, Kenya.

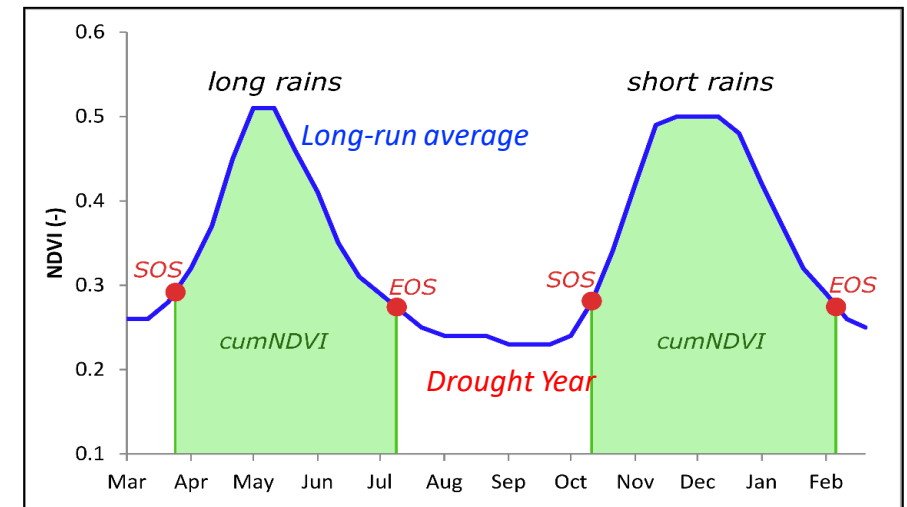
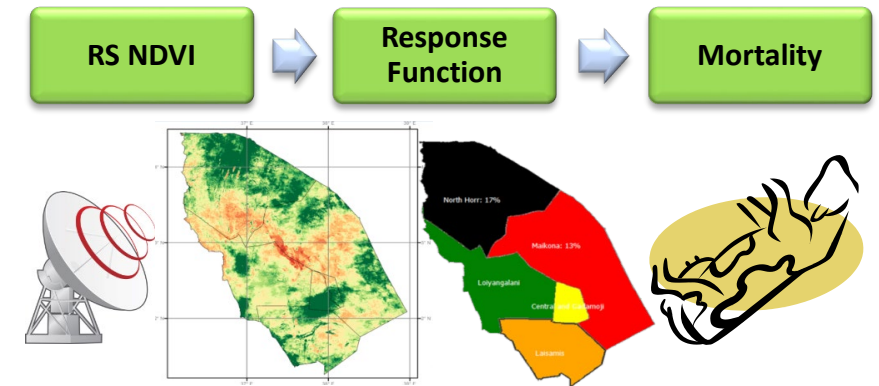
- **Predicted average livestock mortality rate:** Parameterized using historic survey data from the region.
- **Asset Replacement:** Pays out when high death rates are “predicted.”

Asset Replacement, Forage Scarcity Contract (2012):

- **Scaling** meant moving into regions w/o historic livestock mortality data.
- Collaborated w/ RS experts to develop an NDVI **distribution-based index**.

Asset Protection, Forage Scarcity Contract (2014):

- Clients requested contracts that could help save their animals.
- NDVI-based phenological analysis led to much earlier indemnity payouts (Vreiling et al., 2016).



2. EVIDENCE OF IMPACT AND VALUE

Production

- Increased livestock off-take in good seasons, when prices are high.
- Increase investments in productivity through vet. and vaccination services.

Drought coping

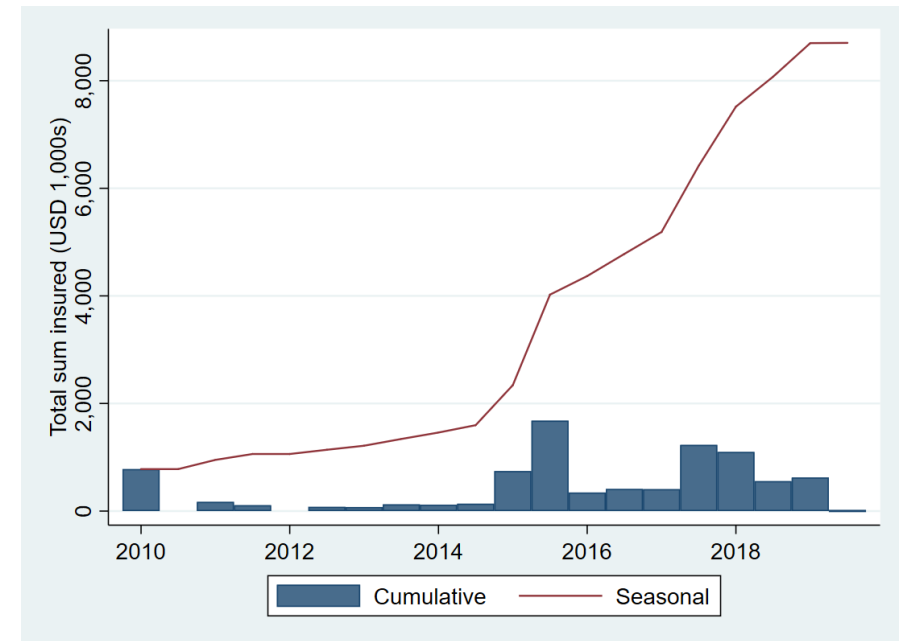
- Reduction in likelihood of distress livestock sales.
- Reduction in likelihood of reducing meals as a coping strategy.

Welfare

- Improved income per adult equivalent.
- Improve subjective welfare even in the absence of droughts/payouts.
- Improved resilience.

Ongoing activities

- RCT testing for synergies between index insurance and graduation programs.
- IBLI feasibility reports in ASALs in West Africa and the HoA.
- Assessments of long-term impacts “five years after the RCT.”



Does not include the USD \$58,250,000 TSI purchased by KLIP.

3. ESTABLISH INFORMED DEMAND

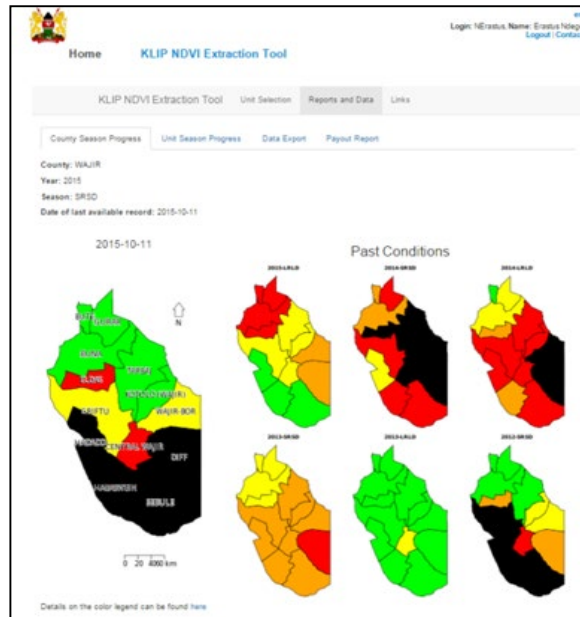
Capacity Development, Training, Extension, and Marketing

Level 1: Knowledge and tools for government and insurance industry policymakers.

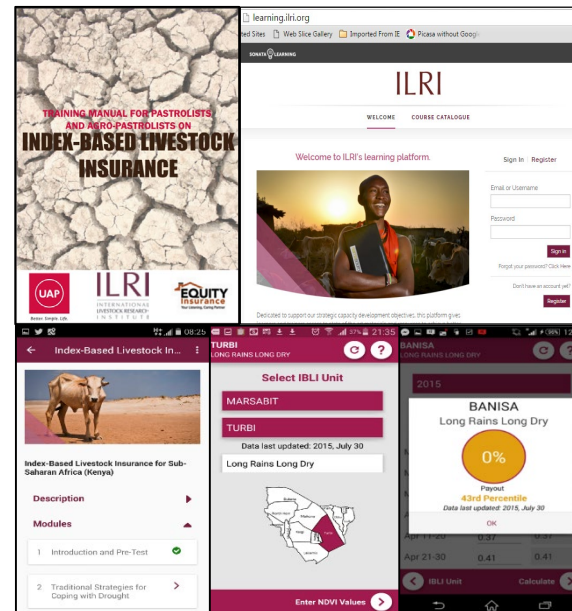
Level 2: Knowledge, skills, and job aids for IBLI/KLIP sales agents and promoters.

Level 3: Awareness-raising for potential clients.

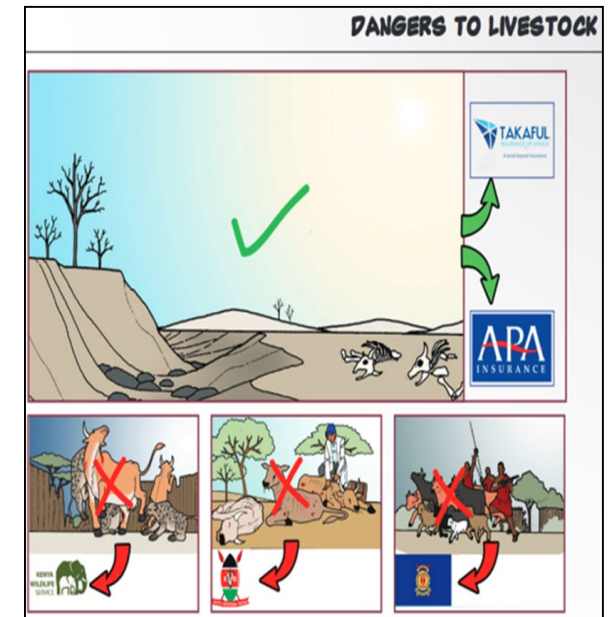
Automated Contract Design



Training and Learning Tools



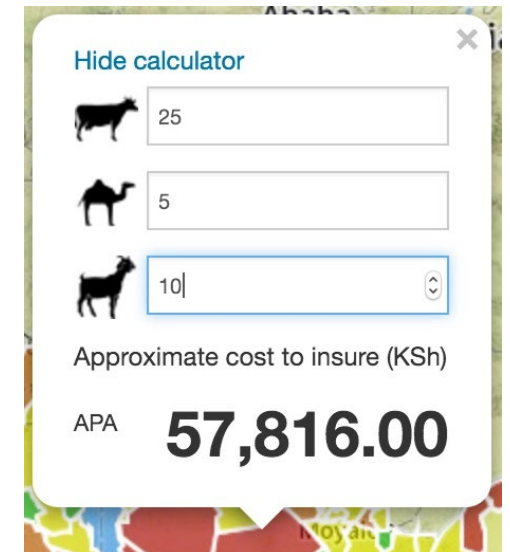
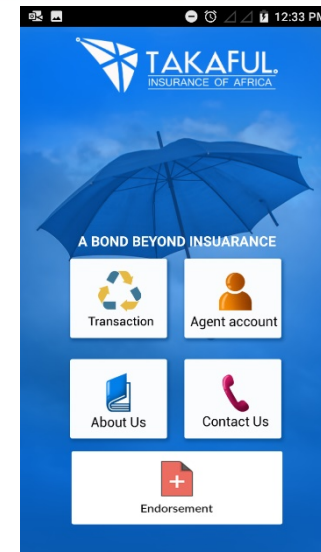
Appropriate Outreach Tools



4. LOW-COST, EFFICIENT DELIVERY MECHANISMS

Improving Service Delivery While Reducing Costs

- Pastoral rangelands offer quite a challenge for delivery of IBLI services (sales, indemnities, information), very costly.
 - Transporting physical documents and cash is slow and expensive.
 - It reduces value and opens the door for errors, embezzlement, and robbery.
- Mobile and digital solutions can solve many of the delivery challenges.
 - Digital sales platform combined with mobile banking provides a cash-free transaction with a digital trail.
- KLIP program leveraging provision of bank accounts through HSNP program in northern Kenya.



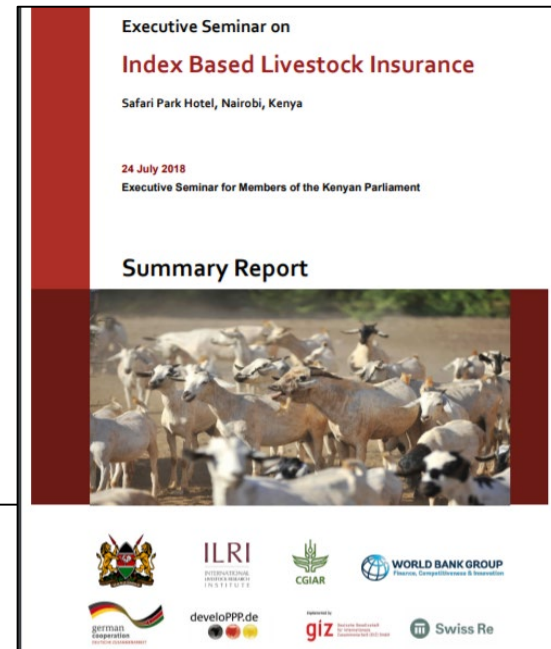
5. POLICY AND INSTITUTIONAL INFRASTRUCTURE

Supportive Policy Environment

- Sustainable, large-scale index insurance programs require a clear and **well-articulated policy structure**.
- **Appropriate regulation and consumer protection** must be developed.
- For programs to go to scale, they need to build on **strong, well-coordinated public and private sectors**.

Complimentary Institutions

- Government institutions related to drought and livestock.
- Banking.
- Access to livestock market and inputs (e.g., veterinary services, feeds and fodder markets).



CLOSING

There are a minimum set of requirement needed for launching IBLI-type products (e.g., regulatory authority, calculating agent, underwriter).

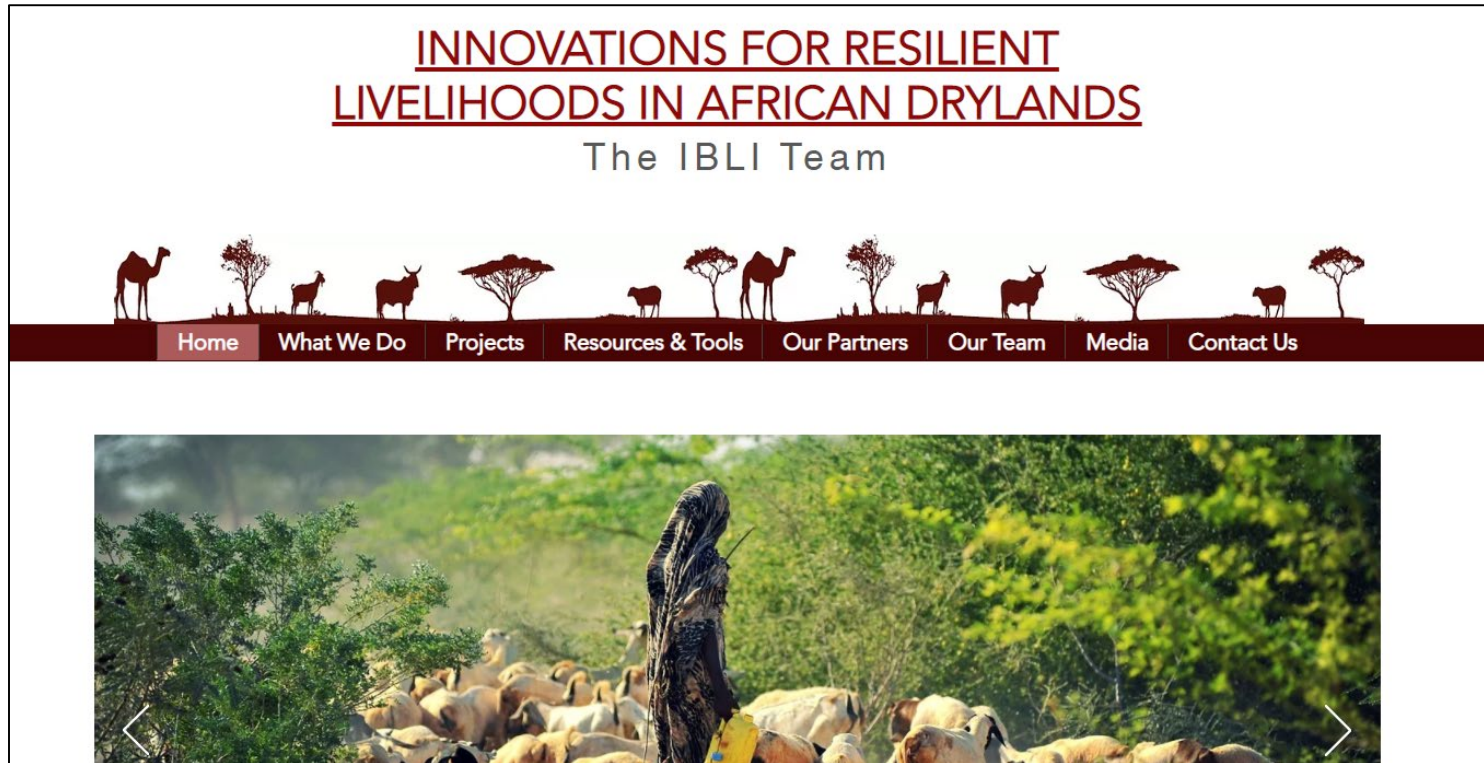
- See, for example our series of prefeasibility reports completed for [Niger](#), [eastern Ethiopia](#), Somalia, and Uganda.

But meeting these minimum requirements is only the first step.

Long-term engagements between government regulators, private insurance firms, donors, and a research partner are essential for overcoming the many barriers to a lasting and vibrant market.



FOR MORE INFORMATION



<https://www.drylandinnovations.com>

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Q & A



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