

Randomized Evaluation of a Graduation and Livestock Asset Protection Program in Kenya.



BACKGROUND

The arid lands of northern Kenya are home to over 14 million people who face chronic food insecurity and recurring droughts which exacerbate poverty dynamics, undermine resilience and perpetuate a dependence on humanitarian aid. Livestock remains the traditional and most common source of income in Northern Kenya, providing 90% of employment opportunities and 95% of household income.¹ The reliance on livestock is increasingly precarious as climate change increases the frequency and severity of droughts and grazing areas become degraded.

PARTNERS

The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. ILRI is a CGIAR research center — part of a global research partnership for a food-secure future.

The Feed the Future Innovation Lab for Assets and Market Access at UC Davis (AMA Innovation Lab) conducts and supports research on policies and programs designed to help poor and smallholder farmers worldwide to manage risk, adopt productive technologies and take an active part in economic growth.

Takaful Insurance of Africa is a private insurance company that provides IBLI contracts to pastoralists throughout Kenya.



GRADUATION BOMA has contextualized and refined the Graduation model to respond to the specific needs and opportunities of extremely poor pastoralist households in the arid lands through its cornerstone Rural Entrepreneur Access Project (REAP). Graduation programs vary by context but are holistic, time-bound initiatives designed to empower poor and vulnerable households by sustainably improving their economic conditions, increasing their resilience and catalyzing their escape from extreme poverty. They generally include elements of social protection, livelihoods development and financial inclusion to support immediate needs and longer-term investments in human capital. In six randomized controlled trials conducted with 21,000 participants, Graduation programs resulted in significant gains in economic and social outcomes for extremely poor households across diverse contexts. Outcomes included increased consumption, food security, income and savings as well as improvements in psychosocial well-being.²

¹ Tully, Taylor G., Analysis of the Kenyan Livestock Market and Feasibility Study of a Livestock Business, Duke University, 2014.

² Banerjee, Abhijit, Esther Dufo, Nathanael Goldberg, Dean Karlan, Robert Osei, William Pariente, Jeremy Shapiro, Bram Thuysbaert and Christopher Udry, "A Multifaceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries, Science, 15, May 2015.

INDEX-BASED LIVESTOCK INSURANCE

Separately, ILRI has brought to market an innovative Index-Based Livestock Insurance program (IBLI) that allows pastoralists to protect their livestock herds against the effects of severe drought. IBLI makes indemnity payments to policy holders when the vegetation index indicates coming forage scarcity, enabling policy holders to pursue alternative strategies to maintain their herds and livelihoods. Research shows that pastoralists in Kenya that purchased IBLI coverage reduced distress sales of livestock during drought, increased investments in their existing live-stock herds, and increased income.³

MEASURING FORAGE SCARCITY

IBLI uses the Normalized Difference Vegetation Index (NDVI)⁴ to measure forage levels for policy holders in each area. NDVI readings for each location on the earth are measured by satellite and published every 10 days on a publicly available website.

INSURANCE PREMIUMS

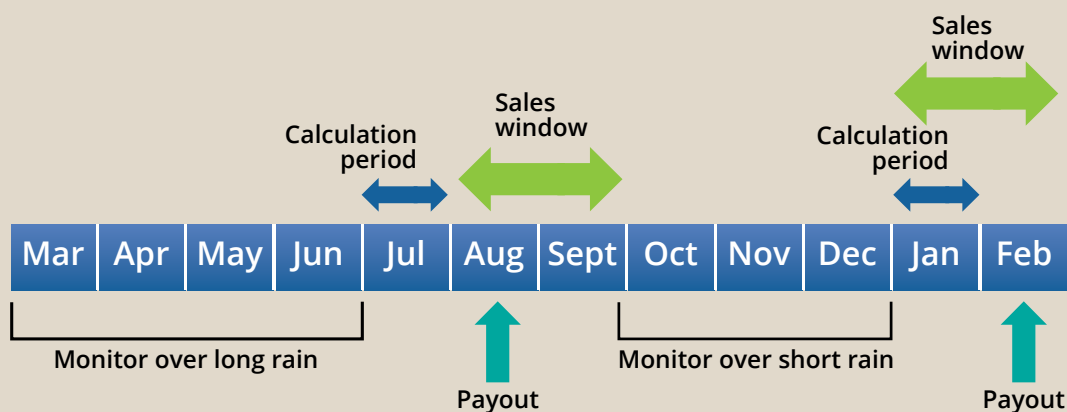
The premium is set by an insurance company based on how much it expects to pay out to policyholders over time. Areas where payouts are frequent but small may pay a lower premium than areas where payouts are infrequent but large. In this project, Takaful Insurance of Africa will develop, sell and administer IBLI contracts.

INSURANCE PAYOUTS

Payouts are made when NDVI readings reached pre-defined thresholds, which are relative to the normal conditions for the region in that period. The payout amount depends on the number of livestock insured and the level of forage scarcity. Payouts are calculated based on the cost of the forage required to sustain an animal during a time of severe scarcity.

The IBLI contract cycle in Kenya

Taking readings over the rainy period makes it possible to determine forage availability over the dry periods. Payouts can be made in time to protect livestock assets.



PROJECT DESCRIPTION As part of the 2017-2022 project, BOMA is providing a 24-month REAP program to 2,100 extremely poor women across seven comparable areas of Samburu North. REAP includes:

- Business skills training to improve income-generating capacity
- Formation of an income generating activity to be run by three women collectively
- Cash transfers to finance the income generating activity
- Formation of savings groups that provide a safe place to save money and access credit
- Training programs on financial and life skills are delivered through the monthly savings group meetings, which also serve as an important source of social capital for the women
- Trainings on rights, girls' education, life skills, family planning methods and services
- Regular mentorship to reinforce trainings and support participants to overcome the specific challenges they face
- Access to markets and formal financial institutions

Participants are being enrolled in five waves (420 per wave), with initial enrollment dates separated by six months. Takaful Insurance agents will provide some BOMA participants and some better-off community members with coupons for free or subsidized livestock insurance.

³ Jensen, Nathaniel D., Christopher B. Barrett, and Andrew G. Mude. "Cash transfers and index insurance: A comparative impact analysis from northern Kenya." *Journal of Development Economics* 129 (2017): 14-28.

⁴ https://earthobservatory.nasa.gov/Features/MeasuringVegetation/measuring_vegetation_3.php

THE PRIMARY OBJECTIVES OF THE RESEARCH ARE TO:

- Measure the impact of REAP and IBLI separately on the extent and depth of poverty at the community level, over time.
- Compare those impacts to the impacts of a package that combines both REAP and IBLI.
- Identify optimal implementation designs for meeting the program’s mission cost-effectively by:
 - Testing how to most cost-effectively encourage uptake of IBLI through different insurance subsidies, and
 - Evaluating economic and social spillovers through tests of program saturation

RESEARCH METHODOLOGY The research will use a randomized, controlled trial to evaluate program impacts and sustainability. The hypothesis in regards to combining the two programs is that REAP outcomes on income, food security, savings and well-being will be enhanced by insurance that prevents participants from backsliding during drought. Surveys are designed to shed light on additional questions of importance including the impact on women’s empowerment and well-being.

Prior to the baseline survey, all women in each study community will be divided into three groups using BOMA’s standard community-based poverty assessment procedures, as shown in Table 1. The 2,100 BOMA participants will be randomly selected from the eligible pool of community members in Group 1.

ESTIMATED WEALTH LEVEL GROUPS WITHIN COMMUNITIES

Group	Percent of Population*	Wealth level	REAP	IBLI
1	50	Poor	Eligible	Eligible
2	25	Vulnerable	Ineligible	Eligible
3	25	Better off	Ineligible	Ineligible

The study then divides participants into four arms: REAP, IBLI, REAP+ IBLI, and control (no treatment). Table 2 shows the number of participants in each arm, as well as those that will be surveyed, as noted in parentheses. A total of 1,810 women will be surveyed across Groups 1 and 2. The 370 control women from Group 1 will be eligible for the REAP program at the completion of the project.

Group	Percent of Population*	Wealth level	Arm 1: REAP Only participants (Surveyed)	Arm 2: IBLI Only participants (Surveyed)	Arm 3: REAP + IBLI Participants (Surveyed)	Arm 4: Control (Surveyed)
1	50	Poor	1750 (350)	370 (370)	350 (350)	370 (370)
2	25	Vulnerable	0	185 (185)	0	185 (185)
3	25	Better off	0	0	0	0

* Estimate from past BOMA activities

A VARIABLE SATURATION DESIGN will enable the researchers to evaluate economic and social spillovers by front-loading the delivery of REAP in some project communities and back-loading the delivery of REAP in others.

Because participants will be treated in five waves, the project midline survey will capture data on the control group, participants that recently completed REAP and others that have spent 18, 12 and 6 months in the program. The project endline survey will capture data on the control group, participants that recently completed REAP and others that completed REAP 24, 18, 12 and 6 months prior.

This will enable a continuous treatment analysis, a deep understanding of participant resilience to droughts that may occur during the project and the long-term sustainability of outcomes. Varying insurance subsidy rates will enable researchers to understand how to most cost-effectively encourage uptake of IBLI.

POLICY RELEVANCE This project has strong relevance for policy-makers, especially those working in fragile, shock-prone environments. Independently, the Government of Kenya has funded pilots of Graduation programs and has subsidized livestock insurance as anti-poverty programs. This is the first time that these two promising interventions will be tested for complementarities. The results of this research will have significant implications for the design of an integrated social protection system that can promote the graduation of poor households from poverty and simultaneously protect vulnerable, non-poor households (including recent graduates) from descent into poverty.

In accordance with CGIAR’s research principles, the results of this project are intended to be shared as public goods and diffused widely to achieve the maximum possible benefit to the poor in developing countries. Data sources and codebooks will be public with significant potential benefits for development and agriculture researchers, social protection actors as well as Graduation and financial inclusion practitioners.

KEY PROJECT MILESTONES Project and Study Activities

TIMELINE						
JAN 2018	FEB 2018	MAR 2018	FEB 2020	AUG 2020	FEB 2022	AUG 2022
REAP targeting & survey sampling	Baseline survey Insurance sales launches	REAP launches	Midline survey REAP graduation (first wave)	Midline Report	Endline Survey	Endline Report



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