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**FEED THE FUTURE**

The U.S. Government's Global Hunger & Food Security Initiative



# Assets & Market Access (AMA) Innovation Lab

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Feed the Future Innovation Labs Partners Meeting

April 21, 2015



# Countries with Current *AMA Innovation Lab* Projects

## AMERICAS

- Dominican Republic
- Haiti
- Mexico

## AFRICA

- Burkina Faso
- Ethiopia
- Ghana
- Kenya
- Malawi
- Mozambique
- Senegal
- Tanzania
- Uganda

## ASIA

- Bangladesh
- India
- Nepal

Also, one GLOBAL project.





AMA INNOVATION LAB THEME

# **ADOPTION OF IMPROVED TECHNOLOGY**

# Technology Adoption: Research Activities

## **Impact of Rapid On-Site Soil Diagnostics (TZ)**

Researchers will test whether farmers apply productive inputs more effectively and increase yields in response to improved information about soil quality.

## **Impacts of a Hybrid Maize Program (Kenya)**

Hopes to learn about 1) the effectiveness of a local private seed company in developing locally-appropriate technologies, and 2) the impact of relaxing liquidity constraints on technology adoption.

## **Impacts of Voucher Coupons on Uptake (Mozambique)**

This RCT studied a limited two-year pilot fertilizer subsidy program for maize in Mozambique.

## **Promoting Conservation Agriculture (Malawi)**

Researchers will evaluate the impact of agglomeration bonus incentive scheme on adoption of and compliance to conservation agriculture.

BASIS AMA Innovation Lab supports a variety of research activities designed to:

- Study the relative importance of different constraints.
- Test innovative approaches to ease constraints.
- Promote improved productivity for sustainable growth.

# Technology Adoption: Findings & Lessons Learned

## **Temporary Subsidies Sustain Uptake (Mozambique)**

Temporary subsidies not only improved maize productivity, it put recipients on a transformational path, shifting them from near-subsistence farmers to selling surplus at market and with 36% increase in consumption.

## **The Role of Social Networks in Learning (Kenya)**

Social network effects are weaker in heterogeneous areas. The more variable the environment, the more learning-by-doing matters. In areas where soil type varies significantly, policy-makers should consider focusing their attention on encouraging learning-by-doing; in homogenous areas policy could effectively leverage social networks and peer learning.

## **Learning-By-Doing Matters for Diverse Areas (Kenya)**

In a highly variable environment, learning-by-doing is very important. In this study, seed packet recipients were much more likely – ten percentage points – to purchase and plant the seeds in the next main season.

A photograph of a herd of cattle in a rural setting. The cattle are of various colors, including white, brown, and black. They are standing in a dirt path or field. In the background, there is a river and a line of trees under a cloudy sky. The image is slightly faded and has a soft, hazy appearance.

AMA INNOVATION LAB THEME

# **FINANCIAL INNOVATIONS**

# Financial Innovations: Research Activities

Risk can be a driving force to keep small-scale agricultural households poor, in a variety of ways:

- Avoiding risky – but potentially profitable - opportunities.
- Sale of productive assets to smooth consumption.
- Reliance on food aid.
- Meal reduction.

The AMA Innovation Lab is working with leading researchers around the world to generate knowledge about what works and what doesn't in index insurance.

## **Dual Strike Point Insurance Contract (Burkina Faso)**

Researchers are designing and testing an index insurance contract for cotton farmers to reduce basis risk and moral hazard using two strike points to trigger payouts.

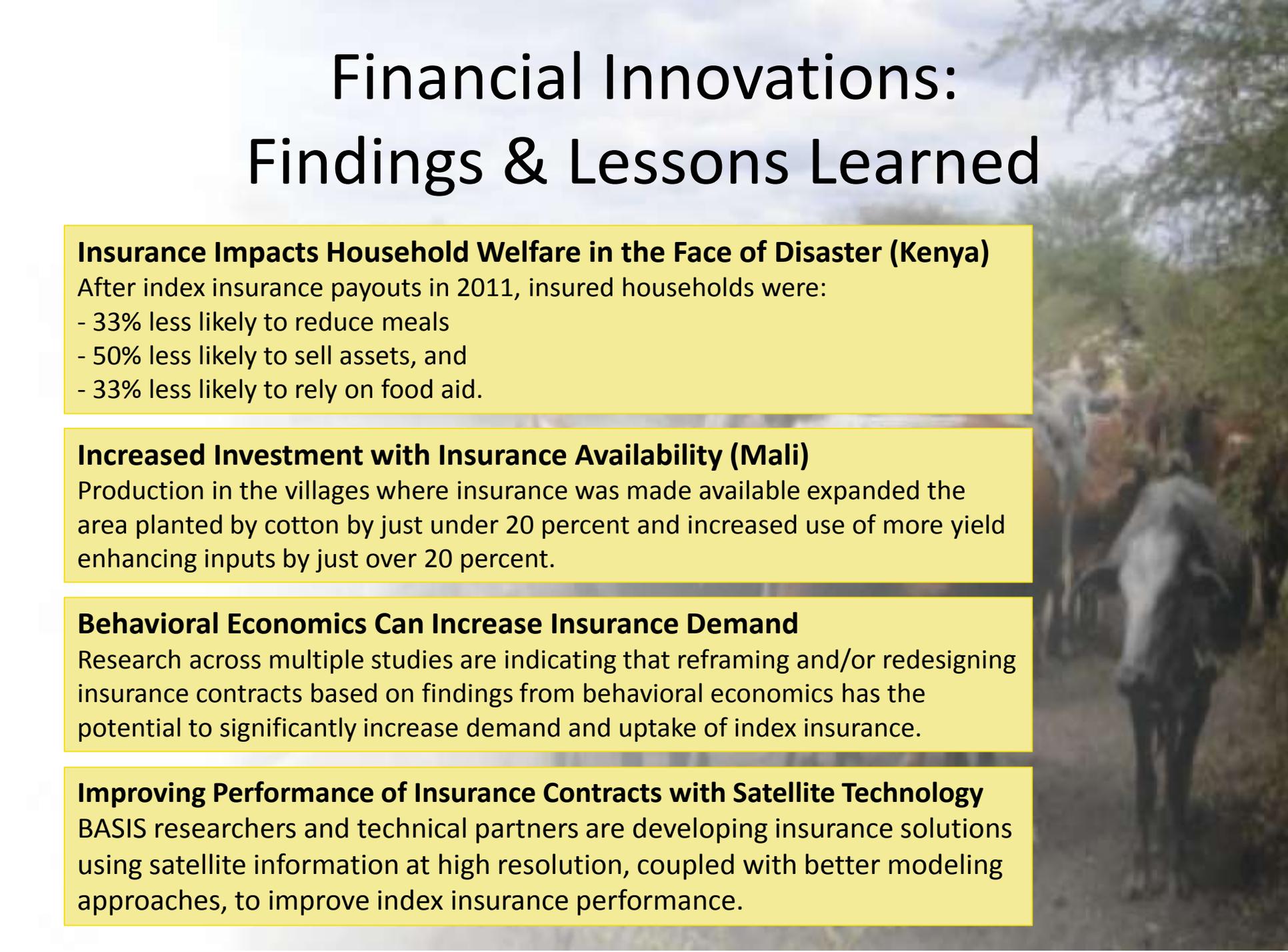
## **Index-Based Livestock Insurance (Kenya & Ethiopia)**

IBLI provides index-based insurance to pastoralists in drought-sensitive regions in Northern Kenya and Southern Ethiopia. The index measures vegetation density using satellite technology to predict livestock losses.

## **Selling Insurance to the Informally Insured (India)**

This study will examine the demand for, and effects of, offering formal index-based rainfall insurance in an environment of tightly knit informal risk sharing networks.

# Financial Innovations: Findings & Lessons Learned



## **Insurance Impacts Household Welfare in the Face of Disaster (Kenya)**

After index insurance payouts in 2011, insured households were:

- 33% less likely to reduce meals
- 50% less likely to sell assets, and
- 33% less likely to rely on food aid.

## **Increased Investment with Insurance Availability (Mali)**

Production in the villages where insurance was made available expanded the area planted by cotton by just under 20 percent and increased use of more yield enhancing inputs by just over 20 percent.

## **Behavioral Economics Can Increase Insurance Demand**

Research across multiple studies are indicating that reframing and/or redesigning insurance contracts based on findings from behavioral economics has the potential to significantly increase demand and uptake of index insurance.

## **Improving Performance of Insurance Contracts with Satellite Technology**

BASIS researchers and technical partners are developing insurance solutions using satellite information at high resolution, coupled with better modeling approaches, to improve index insurance performance.

A landscape photograph showing a vast field of corn in the foreground, with rolling green hills and a line of trees in the middle ground. The sky is filled with large, grey, overcast clouds. The overall scene is rural and agricultural.

**WORK WITH USAID MISSIONS**



# USAID Nepal

Working with mission, AMA Innovation Lab researchers are investigating the feasibility of index insurance for risk management for smallholder farmers. The research team will:

- Determine where the development impacts of insurance-based risk management strategies would be maximized; and,
- Assess whether there is appropriate and available data that it can be used to create an effective index for an insurance product.

Our goal is to identify opportunities that have enough quality data to design an effective contract, and with high potential for significant development impacts.



# USAID Dominican Republic

USAID and partners are implementing a project in the DR that aims to offer smallholder dairy farmers tools (including credit and insurance) to cope with climate risk and to improve livelihoods. Researchers have designed a study to estimate the effects of this program.

This research will inform not only a potential scale-up of these activities throughout the DR, but also for the broader research, financial, and development communities interested in risk management, index insurance, and credit for smallholder farmers worldwide.



# FUTURE DIRECTIONS

# Achieving Impact with Complementary Agricultural & Financial Technologies

This project, in partnership with CIMMYT, will blend the latest in scientific achievement (drought-tolerant (DT) maize), with the latest innovations in satellite-based insurance instruments designed to complement DT maize, in order to achieve real impacts on childhood undernutrition and food insecurity.

Recent years have seen the separate development of two technologies designed to help small-scale farmers manage climatic stress.

- Seed varieties that better withstand stresses like droughts and floods, and
- Financial technology of index insurance that transfers risk out of small-scale farming systems in case of disaster.

This multi-country (Tanzania and Mozambique) study will test the impacts of combining these interventions to reduce the risk faced by farmers. Previous experience indicates this risk reduction pays a dividend in the form of increased investment and expected income in average years.

# Global Action Network on Index Insurance

There are still many barriers and technical challenges to realizing the full potential of index insurance and responsibly scaling it up. The BASIS AMA Innovation Lab has been part of a set of global institutes, firms and agencies that have tackled these problems head on, to devise and test pilot solutions.

This project will capitalize on past USAID efforts and, with global partners, help guide momentum towards responsible and reliable index insurance solutions to the age-old problem of uninsured risk. This project is an opportunity to close the gap that often exists between knowledge generation and large-scale project implementation.

## **The BASIS AMA Innovation Lab will work with partners to:**

- Establish and coordinate a community of experts
- Build capacity of practitioners and governments in focus countries
- Promote responsible scaling of agricultural insurance



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For any questions or comments, please contact me at [tlsteinmetz@ucdavis.edu](mailto:tlsteinmetz@ucdavis.edu), [basis@ucdavis.edu](mailto:basis@ucdavis.edu), or visit [basis.ucdavis.edu](http://basis.ucdavis.edu).

**THANK YOU.**

