

## Innovation Lab for Assets and Market Access Spotlight

# PARTNERSHIPS TO SCALE INSURED DROUGHT-TOLERANT MAIZE SEEDS IN TANZANIA

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By Laura Paul

Frequent drought in Tanzania severely affects maize farmers who rely on rain to grow their primary source of food. Drought-tolerant maize seeds are more resilient to drought, particularly mid-season dry spells that can compromise yields. However, drought-tolerant varieties are still vulnerable to early season rain failures and severe droughts.

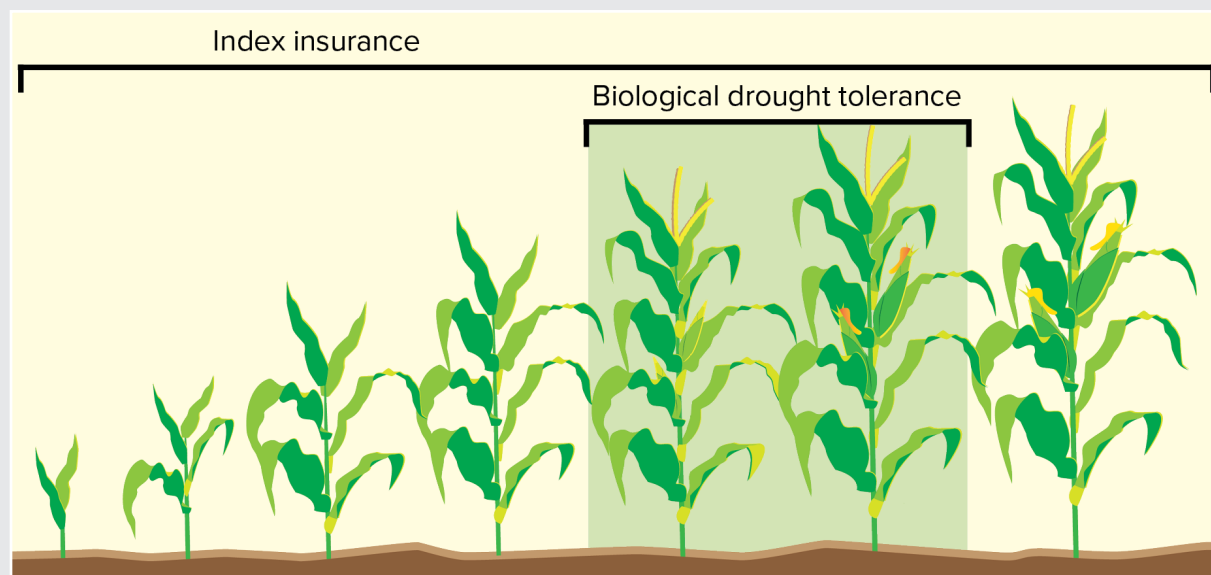
Bundling drought-tolerant seeds with complementary index insurance for seed replacement extends the drought protection built into the seeds. Index insurance is a cost-effective risk-management tool when small-scale farmers in an area share a risk of drought or other disasters. Bundling drought-tolerant seeds and index insurance ensures that farmers who suffer losses due to drought are more resilient for coming seasons.

The AMA Innovation Lab is leading a pilot in Tanzania with partners from across the public and private sectors to test the impacts of bundling drought-tolerant maize with index insurance. Successes with adoption and the effective triggering and distribution of in-kind payouts suggest this bundled approach could be successfully scaled more broadly.



*A family stands in front of the household's maize harvest in Tanzania in 2017.*

## Index Insurance Designed to Protect Maize Beyond Mid-season Drought Tolerance



Drought-tolerant maize is bred to withstand mid-season dry spells. Index insurance expands this protection to early season drought and full-season drought that can both cause drought-tolerant maize to fail.

## Complementing Drought-tolerant Maize Seeds with Index Insurance

This AMA Innovation Lab pilot in Tanzania, part of broader work including a similar pilot in Mozambique, is in partnership with CIMMYT, UAP Insurance, the Tanzanian Agricultural Research Institutes (ARI), the District Agriculture and Irrigation Commissions (DAICO) and local seed companies.

The pilot seeks to raise food security and income stability by bundling index insurance with drought-tolerant hybrid maize. The insurance covers seed replacement, reducing the risk of buying improved seeds. Hybrids yield significantly more than traditional varieties but their cost and the risk they may still fail often act as barriers to adoption.

Bundling index insurance with drought-tolerant hybrid maize at the point of sale generates greater drought protection than the two technologies separately. Index insurance expands the biological protection within drought-tolerant seeds while the level of biological drought tolerance lowers the cost of the insurance.

The pilot in Tanzania has shown promising results with uptake and payouts. In 2016, 563 farmers across 30 villages bought the insured, drought-tolerant seeds. In the 2016-2017 season 2,001 packets (4,000 kg of seeds worth about US \$8,000) were insured. That year, half of the villages received a payout due to early- and full-season drought. The network of seed vendors replaced 1,220 packets of seed as in-kind payouts.

## Stakeholder Roles for Scaling Maize Bundling

Partner	Seed Company	Insurance Co.	ARI & Extension
Contribution	<ul style="list-style-type: none"><li>Seed production, marketing &amp; delivery</li></ul>	<ul style="list-style-type: none"><li>Insurance product</li><li>Company rep and trainer</li></ul>	<ul style="list-style-type: none"><li>Village outreach</li><li>Monitoring and approval</li></ul>
Benefit	<ul style="list-style-type: none"><li>Increased product interest and sales</li><li>Expansion to new areas</li><li>Build business relationships</li></ul>	<ul style="list-style-type: none"><li>Enter ag sector</li><li>Build index insurance capacity</li><li>Build business relationships</li></ul>	<ul style="list-style-type: none"><li>Farmers more protected from drought</li></ul>

## Mobilizing Partnerships to Scale Drought Protection

These results from Tanzania are a credit to the effort and commitment of stakeholders from across the public and private sectors. After the research team calibrated the insurance to local weather patterns, UAP Insurance insured the seeds made available by the seed company partners. All sales were conducted through local Tanzanian seed agents who attended a training conducted in collaboration with the Tanzanian extension network, CIMMYT and the seed companies.

The broad benefits for successfully scaling this project can be significant. The product improves the income stability and food security of farmers—an objective of a nation's agricultural sector and extension agencies. Seed companies have a higher-value product to help generate interest and sales. Insurance companies have the opportunity to break into the agricultural insurance sector or to expand their portfolios.

The biggest winners from successful collaboration are maize farmers who need better tools to manage their risk of drought. Farmers will also benefit from future interventions that could include index insurance to protect yields as well as replace seeds. These innovations will bring total coverage closer to comprehensive drought protection.

## PROJECT OVERVIEW

### Lead PI

Michael Carter  
UC Davis

### Partners

CIMMYT, UAP Insurance, Tanzanian Agricultural Research Institutes, the District Agriculture and Irrigation Commissions (DAICO)

### Timeline

2015-2019

### Funding

\$2,250,000

### Region

Tanzania and  
Mozambique

### Key Innovation

Complementary drought-tolerant maize and index insurance

### Commodity

Maize

## ABOUT THE FEED THE FUTURE INNOVATION LAB FOR ASSETS & MARKET ACCESS

The AMA Innovation Lab at UC Davis mission is to conduct and support 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.

With core funding from the USAID Bureau for Food Security to support the U.S. government's global hunger and food security initiative, our research agenda focuses on:

- Financial innovations and risk management
- Adoption of more productive agricultural technologies
- Synergies possible by bundling financial and technological innovations

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