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IMPROVING THE VALUE OF AGRICULTURAL INSURANCE

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Index-based agricultural insurance has significant potential for welfare impacts.



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COSTLY COPING FOR UNINSURED RISK

Reducing Consumption

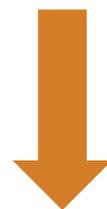
- To protect remaining assets, households – especially the relatively poorer households – reduce consumption..
- This can lead to long-term negative impacts, particularly stunting of children under five.
- This, in turn, can lead to the intergenerational transfer of poverty.

Selling Assets

- Some households may sell off remaining assets to smooth consumption.
- Can place households in a poverty trap if the household no longer has the minimum assets necessary to maintain livelihoods.
- Can make the negative impacts of a shock last years.



Relatively poor insured households reduced use of this strategy 62%.



Relatively better-off insured households reduced distressed asset sales 70%.



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INSURANCE ENABLES INVESTMENT

In an impact evaluation of an index-based insurance intervention in Mali, cotton farmers:



Increased area cultivated **55%**



Increased use of loans for investment **34%**



Increased use of productive investments **50%**

In Ghana, index an interlinked credit and insurance intervention:



Women increased their loan applications **15-17%**



Banks increased loan approval by **32%** when payouts went first to paying the balance of the loan



54-60% of farmers are willing to pay above market prices for insured loans



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Index-based agricultural insurance has significant potential for welfare impacts. But these benefits are ONLY realized if the insurance product is both high quality and has demonstrated value to the client.



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THE AMA INNOVATION LAB PERSPECTIVE

CONVENIENCE
(OF EXPLANATION)

**INDEX
& CONTRACT
QUALITY**



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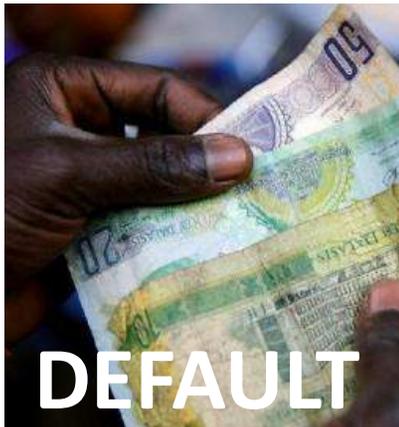
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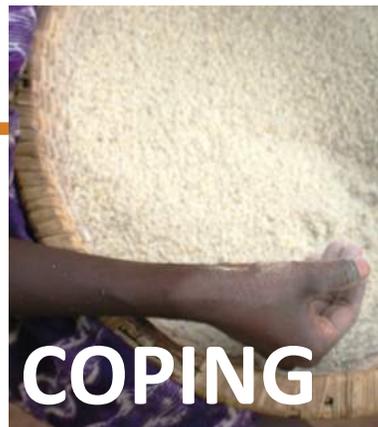
INSURANCE



INVESTMENT



DEFAULT



COPING



FAILURE



DROUGHT



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What Could Happen with Low Quality Insurance?

HARM TO FARMERS

If farmers experience an insurable, catastrophic loss and the contract fails, they could be left **worse off** than if there had been no intervention at all.

“The season was bad. We could not pay back our credit. We were forced to sell our goats and sheep to pay off our debt and the insurance.”

“The farmer who has had a bad harvest and does not get insurance payouts still has to pay the insurance fees. This is a double penalty for him.”



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What Could Happen with Low Quality Insurance?

“But after the shock last year when we did not receive anything, it really discouraged us.”

“Their [the sales agents] attitude shows that they just want to make profit on us.

It is not to help us.”

LONG TERM

This kind of loss of trust in insurance as a tool **could ruin the insurance market** for future high-quality products with high potential for development impact.



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So, how can we evaluate quality and value of a contract?



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PRODUCT VALUE ASSESSMENT TOOL

Dimension	Indicator
Product	1 Index reliably predicts farmers' experience
	2 Covers appropriate activities
	3 Covers appropriate risks
	4 Makes a positive contribution to clients' overall risk management capacity
Access	5 Minimizes unintended gaps in coverage
	6 Covered farmers are adequately informed of product details
	7 Staff and sales agents are adequately trained, incentivized, and supervised to inform clients and sell responsibly
Cost	8 Payment methods are appropriate
	9 Price is affordable and accessible
	10 Product delivers adequate value for money
Experience	11 Benefits are delivered in a timely manner
	12 Procedure to collect the benefit is simple and easy
	13 Provider is responsive and proactive about questions, problems, and complaints
	14 Covered farmers receive evidence of coverage



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SAFE MINIMUM STANDARDS FOR INDEX INSURANCE

- It is for these reasons that a test for Safe Minimum Standards for insurance quality is the first indicator in the Product Value Assessment Tool (PVAT).
- Using ground-truthing data that should be collected for contract design, standard economic concepts allow definition of a “Safe Minimum Standard” for index insurance quality.
- We have a plug and play spreadsheet that can be used to calculate whether a product will meet these minimum quality standards.
- Two things reduce the quality of an index insurance contract:
 1. The probability that an insurance failure happens
 2. The “value” of money when failure happens (Money is worth more when I need it most)



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THE CHALLENGE OF HIDDEN TRAITS

- When you compare index insurance to the hybrid maize seeds, there are many similarities in the product, but not in how it is approached with regard to quality – with both, the consumer cannot tell quality prior to purchase, just by looking at the product.
- As a result, this can create an incentive to product low-quality products – it's cheaper than creating high quality products.
- With the hybrid maize seed sector, there are defined and enforced quality standards. That is not the case for agricultural index insurance.



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SAFE MINIMUM STANDARDS

- Standard economic theory can aggregate these two elements into a single “reservation price” measure defined as the maximum amount an individual could pay for a contract without making herself worse off
- The Safe Minimum Standard is thus:
Reservation Price > Market Price for a moderately risk averse person
- A note on subsidies:
 - Unsubsidized Insurance: If the market price exceeds the reservation price, then the insurance beneficiary would be better off keeping the premium and having no insurance, rather than paying the premium and buying insurance.
 - Subsidized Insurance: If the market price exceeds the reservation price, then the subsidy funds may be better spent on other interventions.



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HOW TO MEET THESE STANDARDS

- Sources of uninsured risk are two:
 - Design risk occurs when an insurance index is poorly correlated with average losses in the insurance zone covered by the index; and,
 - Idiosyncratic risk occurs when the individual's losses differ from the average losses in her insurance zone.
- Design risk can be minimized by:
 - Improved index design
 - Fail-safe audit rules to protect farmers when primary index fails
- Idiosyncratic risk can be minimized by downscaling contract (subject to moral hazard constraints)



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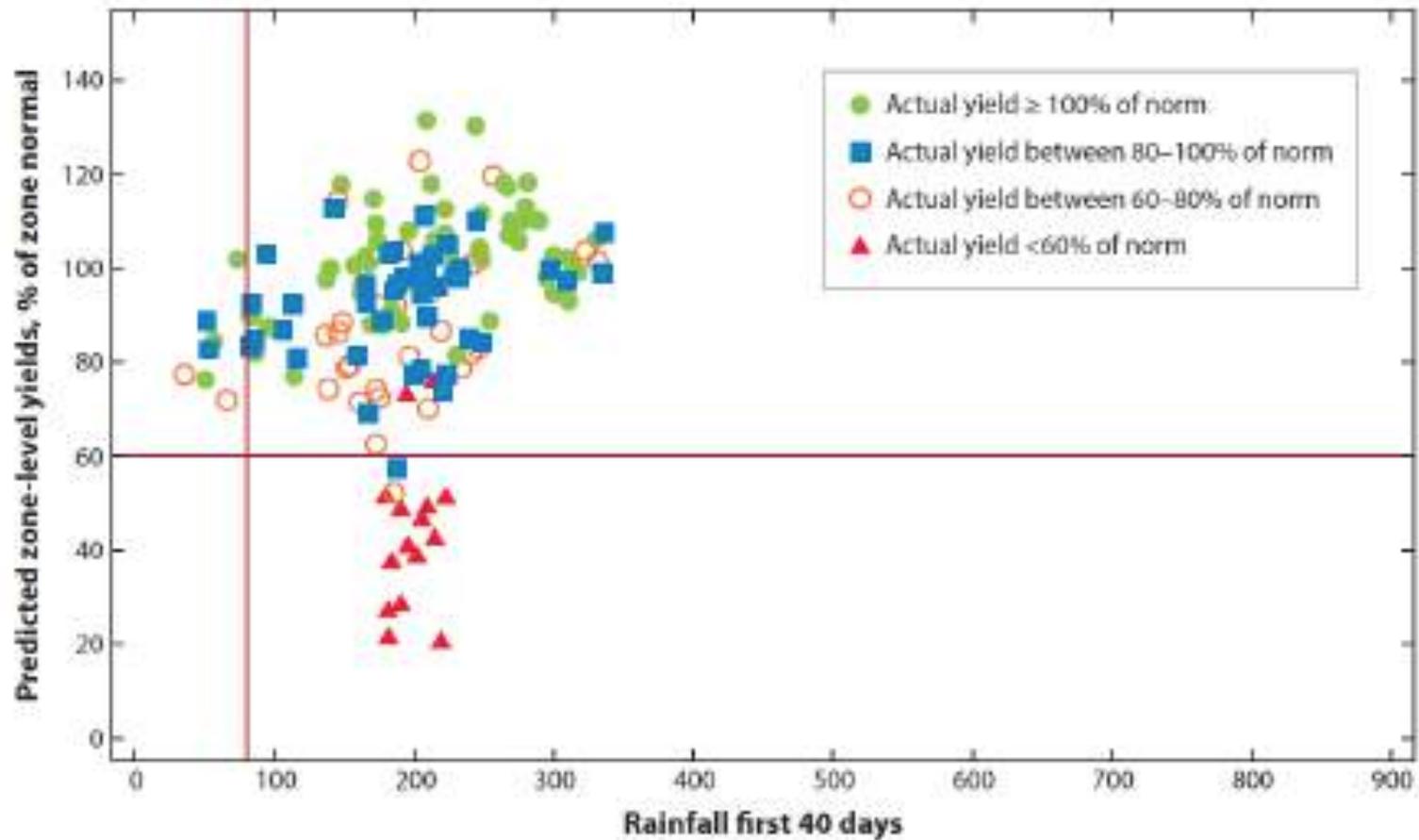
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WHAT MIGHT THAT LOOK LIKE?



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HOW AN AUDIT RULE WORKS

HOW AN AUDIT RULE ENSURES THAT INDEX INSURANCE CONTRACTS PAY OUT WHEN THEY SHOULD



A satellite-based index for insurance is used to estimate average crop losses in an area.



With an audit rule, if enough farmers register complaints, their insurance company is required to conduct an area-yield audit to verify the index is working.



There is always the risk these estimates will not trigger payments when they should.



If the audit shows that the index failed to recognize insurable losses, farmers receive the payments they are due.



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SAFE MINIMUM STANDARDS

- At a **MINIMUM**, we should make sure we are not making difficult situations worse.
- To assess safe minimum standards you must ask key quality questions, such as: how often and how much a contract pays out, and the probability it will fail (and when).
- If a contract consistently fail (as was noted Tuesday), it is little more than a lottery ticket.



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SUMMARY OF KEY POINTS

- Index insurance can't solve all our problems, but it can enable smallholder agriculturalists to invest more into growth opportunities, and to avoid costly coping strategies when a shock occurs.
- More work needs to be done to ensure that the contracts brought to market are **quality** and **well-implemented** so they can actually protect farmers as intended and achieve development impact.



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It's time to think more about how we can develop and certify standards that increase the reliability of agricultural index insurance, and help it meet its potential.



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