INDEX INSURANCE, AGRICULTURAL DEVELOPMENT, AND CLIMATE INFORMATION

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Index insurance experience

Climate change: more bad years

Adaptation: increase productivity in normal years to cover bad year loss

But strategies that increase productivity in most years face increased risk in bad years

Threat of 1 drought year out of 5 prevents other 4 from being much more productive

Key to adaptation is to relax risk of bad year to unlock productivity options

Insurance: help reduce risk to unlock productivity

Why index insurance?

Insurance: reduce risk to unlock productivity

But problems with traditional insurance have made it tough to implement

Recent index innovation Insure weather index
- eg: provide payout if there is drought
- Cheap, "easy" to implement, good incentives
- Many limitations

Still in early years

Climate complex: Base solutions on solid science

How does climate change impact insurance?
- Care about impacts **next year**

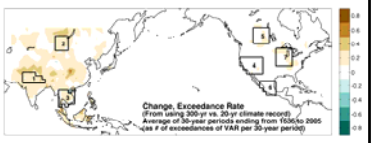
Eg: Nicaragua
- IPCC drying trend?--Not in historical data
- Only after 20 years--Increase price in 2030'

Decadal processes
- Adjust price to include decadal information
- Development program for decadal processes

Seasonal forecasts
- Naïve products vulnerable to forecast
- Potential insurance/forecast synergy

Climate uncertainty can be built into Insurance

eg Tree ring paleo-records



- Paleo (tree ring) climate records can be used to improve pricing and prevent insurance from becoming bankrupted by large infrequent events
- From Bell, Osgood, Cook, Anchukaitis, McCarney, Greene, Buckley1, Cook, 2012

Complex system, many decision makers

What chances to take?
- High yielding seed? Transplanting?
- Insurance

Early season / Late season drought probability?

Index insurance may not payout correctly (basis risk)

Basis risk not simple: does insurance help reduce risk enough to take these opportunities?

Must solve sophisticated problems together to design and validate insurance

IRI experience and perspective

International Research Institute for Climate and Society
- Enhance societies ability to understand and manage climate risk

IRI worked since 'early days' of index insurance
- Solid science base, working with farmers, partners, processes, capacity building and training, policy

Connect the experiences from many project partners
- Argentina, Bangladesh, Burkina Faso, Dominican Republic, Ethiopia, Ghana, Honduras, Indonesia, Kenya, Malawi, Mali, Nicaragua, Nigeria, Philippines, Rwanda, Senegal, Tanzania, Uganda, Uruguay

Intergalactic insurance partners: CCAFS, USAIDe3, WFP, OXFAM, WB/IFC, Kilimo Salama, UN-ILO, NASA, TAMSAT, NOAA

Some of our index insurance experience

R4 in Ethiopia Satellite Rainfall Estimate (scaling to Senegal)
- 2012: 77 villages, ~20,000 farms (200 farms in 2009)
- Min possible purchase ~3, Average purchase ~19
- Significant development impacts exceed insurance price

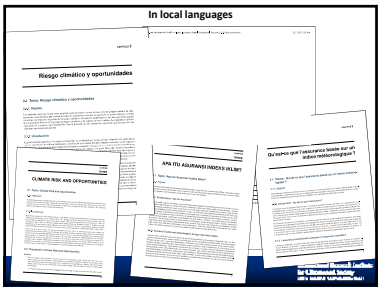
Other examples:
- Kilimo Salama (Kenya/Rwanda, Rainfall Estimate), GIIF West Africa, Uruguay, USAID Indonesia…. Hundreds of thousands of farmers

Current Latin America:
- Uruguay, Honduras (previously w/ Guatemala, Nicaragua)
- CRII in Dominican Republic

How to build solid science, climate services formally into project?

Local partners build local processes/Materials

In local languages



Games to train, elicit risks and farmer opportunities

Farmer risk quantification activities

Experimental game Dry Run: Test research questions and product options

Very realistic game scenarios
- Real money, Real rainfall, Real market product

With CRED, tests:
- Farmer insurance preferences (frequent)
- Community risk sharing (some)
- Time preferences (high discount rates)
- Games increase demand? (yes)
- Groups/Individual decisions vs social distance
- Satellite vs raingauge (either fine)

Places:
- Completed: Ethiopia Game Experiment (2009-2013), Senegal 2013 (R4 Dry Run), Dominican Republic 2014 dry run
- Upcoming: Indonesia, Uruguay (?)

Thank you