



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

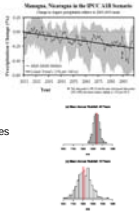
How does climate change impact insurance?
Care about impacts **next year**

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

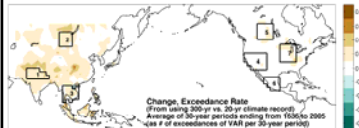
Decadal processes
Adjust price to include decadal information
Development program for decadal processes

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

Climate uncertainty can be built into insurance



eg Tree ring paleo-records



Change, Exceedance Rate
(from using 200-yr vs. 20-yr climate records)
Average of 30-year periods ending from 1980 to 2005
(as # of exceedances of VARI per 30-year period)

- 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), GIF 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



