

Managing Risk in Africa

(Microinsurance and Indexed Insurance)

Presented by

Jim Jones

Director

Katie School of
Insurance

Illinois State University



Africa In Transition



Africa In Transition



African Cultures in Transition



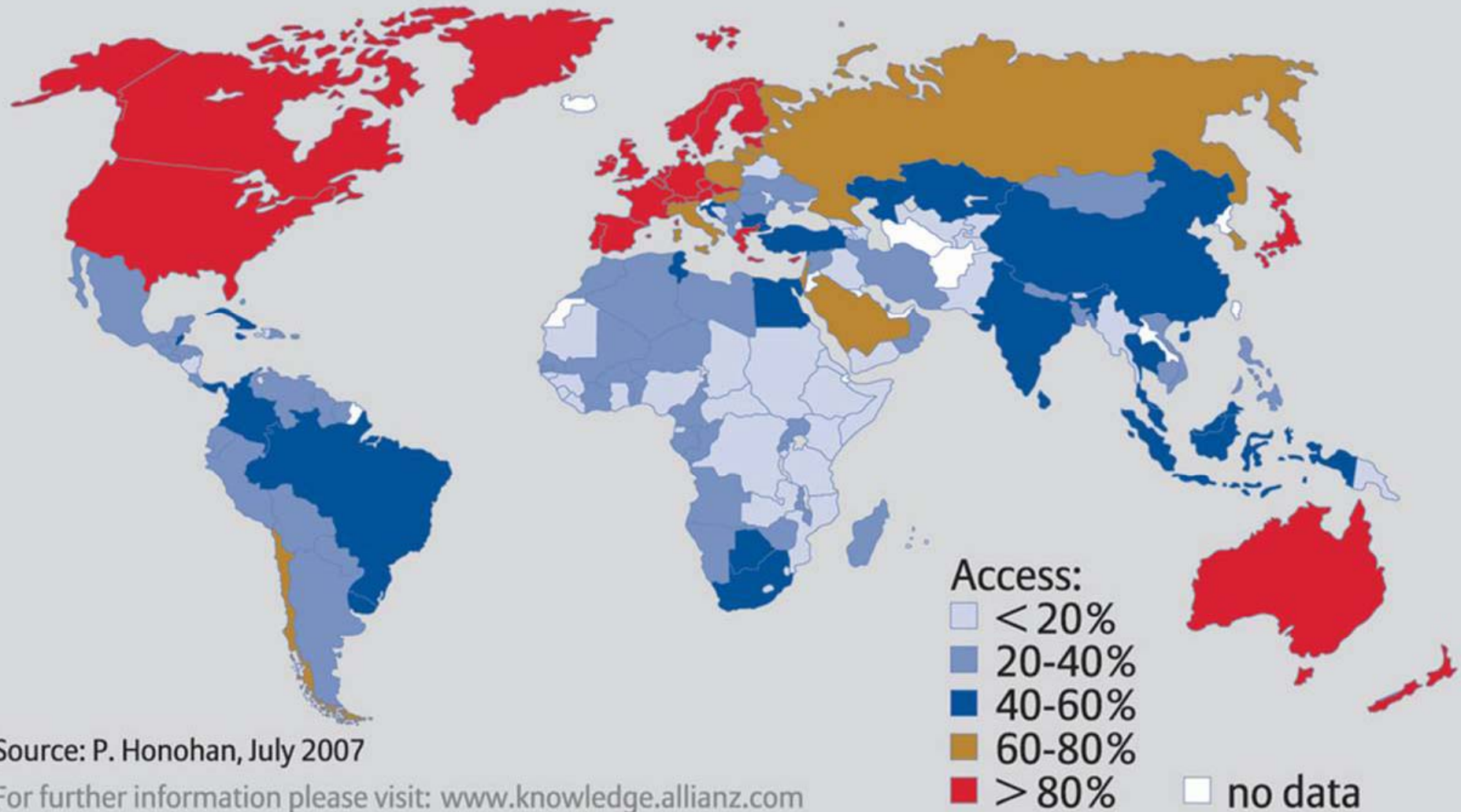
African Cultures in Transition



ACCESS TO FINANCIAL SERVICES



Fraction of Households in percent



Source: P. Honohan, July 2007

For further information please visit: www.knowledge.allianz.com

Microinsurance and Microfinance



Where is the link?

Poor Households

Inadequate
Risk Management

Permanent Poverty

Inadequate risk management solutions can form a barrier to escaping poverty because at the time of a loss a household may be required to sacrifice valuable resources.

The Link Between Risk and Poverty

- Poor households are unable to afford the financial consequences of a catastrophe.
- Without insurance, poor households turn to inadequate and often temporary solutions.
 - Examples: Sale of livestock, rationing food, withdrawing children from school, saving needed resources in preparation for a loss

The Need for Microinsurance

- Very few viable risk management solutions exist in developing countries
- Traditional insurance is not appropriate for poor rural households
 - Transaction costs, adverse selection, moral hazard
- Extreme weather events from climate change can be detrimental to a struggling family or community
 - Lack of financial capacity among poor farmers

Microinsurance

- Three characteristics
 - Insurance that operates by risk-pooling
 - Financed through regular premiums
 - Tailored to the poor who otherwise would not be able to take out insurance
- Products include life, health, property, crop



Why Microinsurance?

- Offering a payout helps the insured avoid some of the costly methods of dealing with a catastrophe
 - Ex-Post: “Cushions the blow”
 - For example, selling of livestock may still occur but at a later time and at a better price
 - Helps to avoid asset depletion at the time of a loss
 - Ex-Ante:
 - Reduces ineffective savings in anticipation for a loss
 - A loss payout may exceed what the household could have accumulated through individual savings

Who Are You Insuring and Against What?



Insuring Their Risks



Insuring Farmers



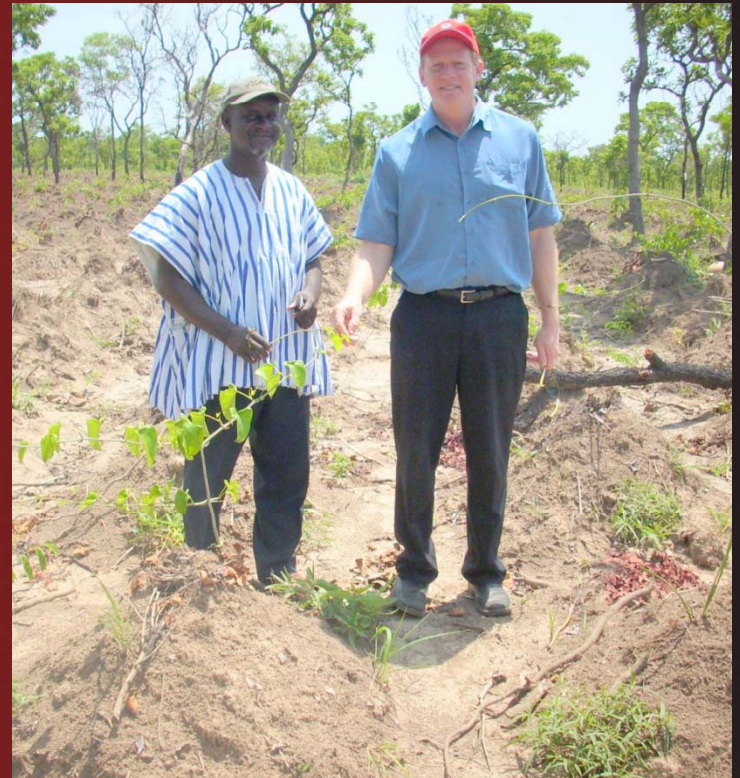
The Need for Crop Insurance

- There is a need for insurance among poor rural farmers where weather conditions can ruin a crop
 - 70% of global poor are rural and depend on crops



Benefits

- Rural farmers can diversify
 - Allocate resources to other areas such as milling
- Enables a more stable rural economy
 - The community can fully develop
- Provides farmers with sense of security
- Can help financial development
 - Insurance is often a requirement to obtain credit and financial services



Associated Challenges

- Lack of standardized evaluation system
- Potential for moral hazard
 - Examples: crop insurance and health insurance
 - Changing behaviors
- Undermining of informal insurance groups
- Product must be simple, affordable, and valuable
- Individual policy costs could exceed premium dollars received (High administrative costs)

A Plausible Solution: Index-based Insurance



What is Index-based Insurance?

- A financial product based on local weather indices that are closely correlated to local yields
- Payouts occur when the pre-specified trigger is activated
 - The pre-specified trigger reduces adverse selection and the potential for moral hazard
 - The trigger reduces costs because it alleviates the need to file claims and assess individual losses
- Provides protection against weather related risks

Constraints to Index-based Insurance

- Weak primary insurance markets
- Barriers to entry are high
 - Regulations
 - Inadequate financial systems
- Establishing an index requires much data collection
- Financing for closely correlated losses can result in lopsided financial exposure for the risk taker

Existing MicroInsurance Projects in Africa

- Malawi
 - contract is based on rainfall and pays indemnities if the rainfall needed for groundnut production is insufficient.
- Morocco
 - also based on rainfall and focuses on cereal crops-hard wheat, soft wheat, and barley
- Others actively engaged at some stage of development include Senegal, Tanzania, Kenya and Mali (Skees & Collier al.,2008)

**AGRO-ECOLOGICAL ZONES OF GHANA
WITH RAINFALL STATIONS**



Ghana Project

Weather Stations

Ghana(Bole)-Correlation matrix (1993-2007)

	Maize production est	MaizePrices (Rural)	Maize Prices(urban)
Maize production est	1		
Maize prices (Rural)	-0.807464818	1	
Maize prices (urban)	-0.790298013	0.99586564	1

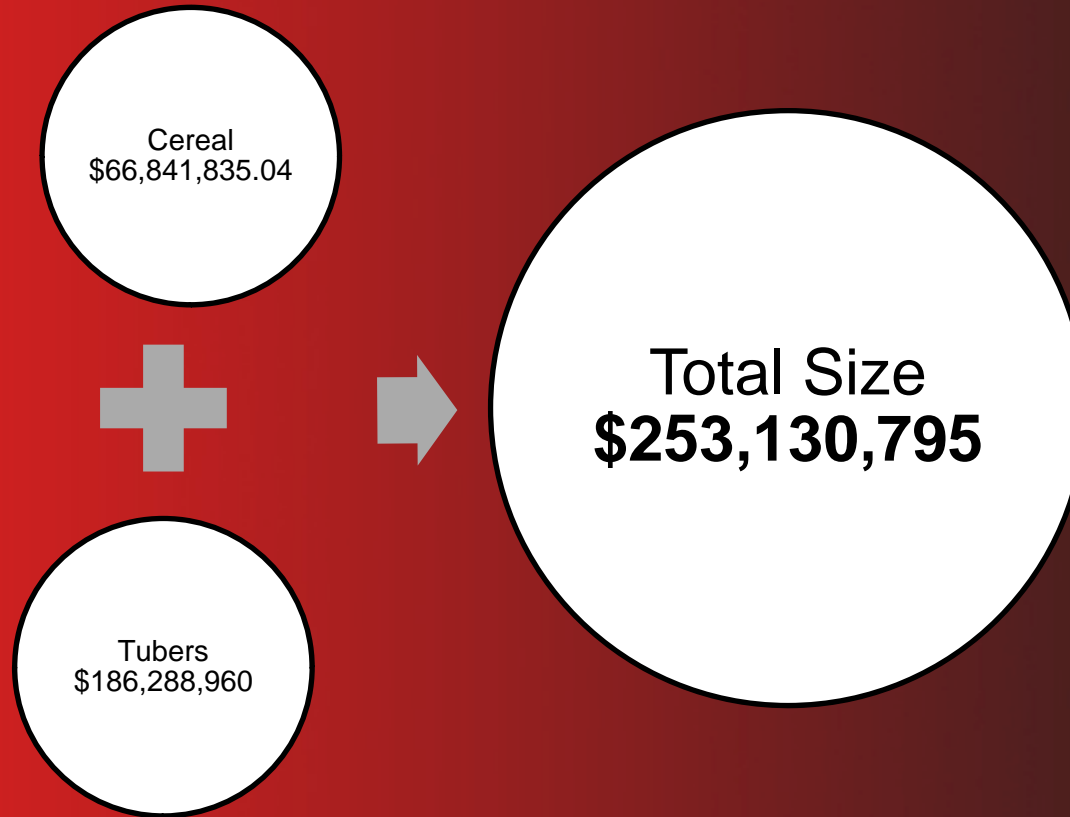
	Rice production est	Rice Prices(Rural)	Rice Prices (Urban)
Rice production est	1		
Rice Prices(Rural)	-0.300574887	1	
Rice Prices (Urban)	-0.295928606	0.994395762	1

Correlation Matrix

	Crop Yield(Maize)	Crop Prod(Maize)	Rainfall(Maize)
Crop Yield(Maize)	1		
Crop Prod(Maize)	-0.127805654	1	
Rainfall(Maize)	0.296272524	-0.408079567	1

	Crop Yield(Rice)	Crop Prod(Rice)	Rainfall(Rice)
Crop Yield(Rice)	1		
Crop Prod(Rice)	-0.08249997	1	
Rainfall(Rice)	0.39752604	-0.201981657	1

What is the Size of the Opportunity?



What is the Size of the Opportunity?

	Cereals	Tubers
Total Area Under Production(ha)	1,332,700.00	1,430,000.00
Yield (kg/ha)	1,458.00	10,856.00
Average Farm Size	2	1
Number of Farms	666,350.00	1,430,000.00
Total Production(kg)	1,943,076,600.00	15,524,080,000.00
Price (per Kg)	0.86	0.3
Total Value of Production	1,671,045,876.00	4,657,224,000.00
Revenue per farm	2,507.76	3,256.80
Assume 4% of revenues spent on insurance		
Annual Premiums/farm	100.31	130.27
Total Annual Premiums	66,841,835.04	186,288,960.00

Data Sources: World Resources Institute (<http://www.wri.org>), Ghanaian News Media

Ten Reasons to Write Microinsurance

1. Huge Opportunity –No Other Market Has This Growth Opportunity
2. Already Successful Examples
3. Micro-insureds Transitioning to Standard Insureds
4. Gateway to Other Higher Income Markets
5. More Regulatory Leeway
6. More Product Innovation
7. Opportunity for Strategic Partnerships (Esp. Microfinance)
8. Can Be Used to Protect Supply of Resources for a Business
9. Losses in Africa Not Highly Correlated with Western Risk
10. Other Indirect Benefits- Enhanced PR and CSP Objectives

Now Where Do We Go?



Project Goals and Progress

- Gathering Data
- Determining Potential Insureds-
- Determining Potential Insurers and Reinsurers
- Developing Product Prototype
- Providing Support for Product Rollout
- Explore Other Risk Management Solutions

Concluding Remarks

- Microinsurance is needed for poor households
- Introducing a viable risk management solution can help families escape permanent poverty
- Index-based insurance is the vehicle in which microinsurance can be pioneered
- Financial products such as these can create a sustainable future in even the poorest of areas
- Financial Products Can (and Should) Make Profit and Be Viable Business

More Information

1. About this project

- My blog: www.illinoisjones.blogspot.com
- Katie Website : www.katieschool.org (outreach tab)

2. About microinsurance and sustainability

- Katie wiki is www.katiepedia.com (search sustainability and microinsurance)
- Contact me at james.jones@ilstu.edu