Is it possible to design and implement an optimal insurance scheme that can encompass the desirable characteristics?

- Cost-effective (accessible to the producers)
- Easy to administrate and operate
- Not subject to moral hazard: takes into account incentives and strategic responses from the producers
- Coverage of a wide range of risks
- Fast, efficient and transparent benefit payments
- Financially sustainable (access to international financial markets)
The World Bank has attempted to find solutions to weather risks using WII

- Reduced adverse selection
- Reduced moral hazard
- Field loss assessment is eliminated
- Information requirements for farmers is simplified
- Lower administrative costs
- Facilitation of reinsurance
- Transparency

The experience:
Testing Concepts into Realities...

- R&D and pilots on Weather Index Insurance
  - Mainly drought (some excess rainfall)
  - Micro level for individual farmers
  - Meso level for outgrower schemes
  - Macro level (derivatives) for food security issues

- Applied Research:
  - Feasibility for Indexed flood insurance (1 country)
  - Grid weather data for agricultural insurance (1 Feasibility Study, 3 data grids)
  - Credit risk assessment in agricultural finance (5 countries, 15 institutions)

- Development of Training Materials for Weather Risk Management
  - Formally transferring capacity in 3 institutions –CIRM, CATIE, EAFCA
The Efforts so far ....

- **Risk Transfer**
  - Weather Risk Management
    (India, Malawi, Bangladesh, Indonesia, Burkina Faso, Kenya, Ethiopia, Thailand, Honduras, Morocco, Nicaragua, Bolivia, Peru, Guatemala, Jamaica)

- **Clients**
  - Government, Financial Institutions, Traders, Agribusinesses, Producer Organisations

- **Services Offered**
  - Research, Policy Advice, Technical Assistance, Training and Piloting of Market Based Approaches to Risk Management

Lessons Learned

- Weather risks are not ALL risks
- Complex modeling and steep Learning Curve
- Capacity building Vs. Transactions Approach
- Customization Vs. Scalability Challenge
- Reaching Small Farmers at aggregate level Vs. Individual level
- Integration rather Stand Alone Measures
- Need to introduce Mix of: Mitigation – Transfer - Coping
Challenging Scenario for applying WII at farmer level in Africa

- Crop modeling is more tested for droughts but challenging for excess rain events
- No operational flood models as yet
- Widespread basis risk
- Modeling small farmers’ losses
- Resolution of data at farmer level
- Not much development in modeling permanent crops
- Farmers have weak access to financial markets
- Justifying WII as a valuable proposition to farmers

Applicability of WII in African Agriculture?

Most likely risk transfer mechanism to reach small farmers?

➡ Need of an AGGREGATOR

- Aggregate level with Commodity Boards/ Managing portfolio risks for Banks (Meso) ➔ commercial insurance FOR FARMERS THAT ARE ASSOCIATED

- Aggregate at Government CAT level / Central gov/ Provincial/ (macro) ➔ social protection FOR INDEPENDENT SMALL FARMERS

- Aggregate level at Regional Level (Caribbean ?)
Recurrent drought and impact on maize production create food insecurity and malnutrition.

Project Development Objective
- Recurrent drought and impact on maize production create food insecurity and malnutrition.

Risk Management Problem
- Uncertainty about rainfall volumes creates uncertainty about maize production.
- Government has contingent liabilities since needs to import food and fund food security responses in the event of a drought.
- Government concerned about continuously relying on donors to help in the event of an emergency.

Risk Management Objective
- Quick access to reliable source of contingent financing available in case of drought.

Client Needs:
- Malawi: Illustration of a Sovereign Weather Derivative

Malawi: Illustration of a Sovereign Weather Derivative

Malawi: Illustration of an Integrated Risk Management Framework

Financial risks
- Recurrent droughts affect the production of maize and lead to food insecurity and malnutrition.
- Uncertain supply and volatility in prices of maize.

Disaster Risk

Financial Solution
- Malawi bought a weather derivative which will pay out in the case of severe and catastrophic drought; funds can be used to finance responses.
- Call options could be used as a basis for contingent purchases – payment of a premium locks in supply at a known price, if needed.

*Integration of more than one tool is key
Conclusions

- WII is still half way between research and Development. It is still work in progress
- WII is more suitable as of today for aggregate applications (i.e. meso and macro)
- Designing any WII application is country specific and it is complex
- Need to differentiate WII for agriculture from needs for social protection.
- Need of strong technical and financial support for designing any WII product
Thanks!
www.worldbank.org/agrm