Risk management for smallholders farmers: Weather index-based insurance

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Francesco Rispoli, IFAD
Main impacts of food price volatility on poor rural households

Food price volatility hampers the development of smallholder farmers. Small-scale farmers are vulnerable as consumers and producers.

For IFAD’s target group as consumers. Main risks of rising consumption costs:
- Prevent needed investment of income in production
- Lower food consumption, poor nutrition, lower investment in health care

For IFAD’s target group as producers. Main risks of rising production costs:
- Less investment in production
- More vulnerable to other risks (e.g. weather)
- Volatile incomes– creates a vicious cycle for access to formal financial services e.g. credit
IFAD’s support to smallholder farmers

Reduce the impact of price volatility and other shocks on the production, income, food security and nutrition of poor, rural households

Support smallholder farmers to:

• **Produce more**
• Enhance their **risk management capacity**
• Access **financial services**
• Manage and control **natural resources**
• Access **research and extension services**
• Access markets and better **integrate into value chains**
Other risks face by smallholders

- Smallholder farmers not only face price risk
- Pests and diseases, as well as adverse weather events, negatively affect farm income
- Agricultural risks are linked to one another
- Adopting a holistic approach to risk management is important
Traditional farmer risk management strategies

- Crop diversification
- Farm fragmentation
- Share-cropping
- Savings, Credit, Remittances
- Temporary employment
- Intra-community sharing
- Off-farm activities
- And more

Result

- Sub-optimal farm output
- Highly vulnerable to low-frequency, covariate risks (e.g. severe droughts)
WRMF

• A joint initiative of the International Fund for Agricultural Development (IFAD) and the World Food Programme (WFP)
• Launched in 2008 with the support of the Bill and Melinda Gates Foundation

Objective

Increase access of smallholders to a wide range of weather risk management tools that promote improved agricultural development
Research on constraints and success factors of WII

- Assessment of 36 index insurance initiatives around the world
- Working meetings with leading practitioners, reinsurers, and academics
- Pilot exercises in China (drought and heat wave for rice) and Ethiopia (drought – haricot beans)
- Distil findings and lessons learned
What is Weather Index Insurance?

- A financial product – an insurance policy linked to the fluctuation of a weather variable (e.g. rainfall, temperature, wind speed, humidity, soil moisture)
- Payments are triggered when the index reaches a predefined threshold that can be expected to result in crop losses
- Insurance payouts are based only on the performance of the weather index and not on actual damage incurred or losses suffered
Strengths of Weather Index Insurance

• Eliminates most of the asymmetric information problems of traditional insurance products (moral hazard and adverse selection)
• No loss assessment required
• Objective and transparent
• Simplified claim process
• Provides timely payout
• Reduce administrative costs
• Facilitates risk transfer outside of the local community (international reinsurance)
Weaknesses of Weather Index Insurance

• **Basis Risk**, potential difference between the loss experienced by the farmer and the payout triggered by the index.

• **Limited perils**: Index insurance only covers one or two weather risks.

• **Replication**: Products need to be specifically tailored to each location and crop, which requires considerable technical work.
Levels of Application

**MICRO**: Individuals that need to cover the exposure of their economic activity to weather risk

**MESO**: “Risk aggregators” that want to cover the exposure of their businesses to weather risk (e.g. financial institutions with rural portfolios, agricultural input dealers)

**MACRO**: Institutions, at national or regional level, that want to hedge the exposure to adverse weather events
Where is WII standing

• Research and implementation experiences carried out so far indicate that, when specific requirements are met, WII is “technical feasible” (i.e. it is possible to structure suitable insurance contracts for agricultural production risk management purposes)

• The challenge ahead is to determine if WII can reach scale and be sustainable
IFAD-WFP findings on WII

1.

WII is technically feasible but not applicable to all situations
2.

WII is one in a set of risk management options to be considered

• Before planning WII implementation it is strongly recommended to carry out a risk assessment evaluation to determine what kind of tool should be applied and if WII can have a role

• The Agriculture Risk Management Team has developed a specific Supply Risk Assessment Methodology
Retailing Index Insurance

3.

• Retailing WII as a stand-alone insurance product is challenging

• Easier to meet farmers demand when it is linked to credit, to inputs, to value chains, etc.

• Farmers need a strong and clear value proposition to consider investing in insurance
Business Model

Farmers

Will contracts

Credit Institution/Input supplier

Contractual relationship (risk transfer, services, operations etc.)

Insurance Company

National

International

Reinsurance treaty

Global Reinsurance Companies

Enabling poor rural people to overcome poverty
PepsiCo India’s Package

- High quality potato seeds
- Access to fertilizer, pesticides, chemicals, financial services
- Extension services
- Fixed buying price with incentive structure
- Weather information via SMS
- Index insurance (ICICI Lombard – WRMS) for late blight disease (i.e. humidity, temperature)
Motivated Market Players Are Key

4.

As for any market based financial scheme, a motivated market player is critical for the success of a WII program.

WII is a market based solution. Technical assistance per se is not sufficient for market development.
5. The future potential of WII largely depends on how we will be able to expand the technology frontier
Sustainability and scale: Role of donors and governments

- Building **weather station infrastructure and data systems**
- Financing **agro-meteorological research** leading to product design
- **Educating farmers** about the value of insurance
- Facilitating initial **access to reinsurance**
- Supporting the development of sound **national rural risk management strategies** that do not crowd out privately provided index insurance
- Support **impact studies** to systematically learn from ongoing programmes and to demonstrate their ex post economic and social benefits.
- Providing an enabling **regulatory environment**
Thank you!

Francesco Rispoli
f.rispoli@ifad.org

The Potential for Scale and Sustainability in Weather Index Insurance
for Agriculture and Rural Livelihoods

Enabling poor rural people to overcome poverty

IFAD
Warehouse receipt system - Tanzania

• WRS allows small-scale farmers to store their produce (primarily maize and rice) when prices are low and sell it when prices are more favourable
• Produce can be used as a collateral to access credit from financial institutions
• In Tanzania, the IFAD supported Agricultural Marketing Systems Development Programme and the Rural Financial Services Programme promoted an innovative scheme
• Farmers have access to update market information through mobile phones