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The impact of research on weather index insurance

Summary

Weather risk remains a major challenge to households in low-income economies whose livelihoods depend on agriculture. With over 80% of the population involved in the agricultural sector, the cost of uninsured weather risk can be substantial both in terms of immediate production losses to households as well as hindering them from making critical investments that promote livelihoods. Insuring against the weather has typically had low take-up rates, and even though there has been interest amongst individual farmers, there is little demand.

Well-organized insurance markets have the potential to help mitigate the adverse consequences of such risks by providing simple and affordable insurance products. Moreover, recent developments in index-based weather insurance offer new possibilities to smallholder farmers. However, the risks are only based on failing rainfall and do not take into account residual risks - a key challenge to convince farmers of the value of insurance.

IFPRI has tackled this problem by leading research and working together with: trusted traditional community groups (iddirs) where all households contribute, a private sector insurance company and a micro-finance institution (MFI). This risk-sharing approach with combined expertise, has encouraged insurance take-up and strengthened ability for communities to cope with crop failure and to finance emergencies. Importantly though, building on existing community roots where trust is paramount, has shaped a successful scheme that is being scaled up commercially to become a valid business proposition for the future.

Background to research

Insuring against the weather through insurance policies that use only rainfall data (weather-indexed) excludes residual risk (often called "basis risk"), such as those events left uninsured by the index. This has a major influence on how farmers' perceive the 'value-for-money' of insurance policies. Besides this, instilling farmers' trust of those selling insurance is critical in the demand for such policies.

A team of researchers from IFPRI, along with researchers from Oxford University, set out to tackle this problem by collaborating with local risk-sharing groups (Iddirs) and a local micro-finance institution that had joined forces with an insurance company. Together, a generic insurance policy was designed that communicated acceptable risk to farmers. By effectively using trusted risk-sharing groups (Iddirs) within villages, insurance was sold on a community basis, thus reducing transaction costs and increasing individual farmers' trust.

Through this channel of marketing and retailing insurance products, researchers examined insurance take-up within community groups (Iddirs) and explored the effect on risk-sharing behavior, seeking to observe changes in household welfare from the purchase of insurance across 110 villages in Ethiopia.

Key players

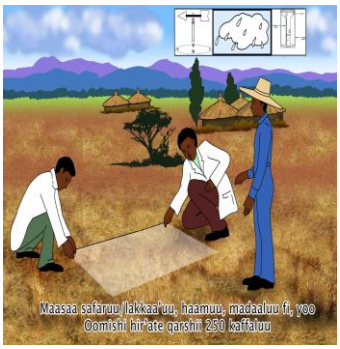
- Farmers in Oromia region
- Iddir leaders (community leaders)
- IFPRI and Oxford University researchers
- Micro-finance representatives
- Insurance company representatives

Approach

Through an iterative process of engaging with representative farmers in focus groups arranged through Iddirs over a 2-year period, index-based insurance products were simultaneously designed and refined.

The final insurance products developed took into consideration: cumulative rainfall cut-offs, consecutive dry days, and crop-cutting assessments (called gap insurance) – the latter two elements helped address the residual risk. A series of highly visual posters communicated key information to farmers such as illustrated in Figure 1.

Figure 1: Poster used to illustrate the gap insurance among farmers



IFPRI and financial partners approached the challenge as follows:

Within the Oromia region, 60 villages of a similar nature were selected where iddirs were prevalent (the *Treatment* group). Another 50 villages comprised the *Control* group.

The study sub-divided the Treatment group for further analysis of patterns of behavior on those who shared insurance purchases, or had rules governing insurance payouts. Three areas were assessed:

1. Insurance take-up
2. Impact on risk sharing
3. Impact on productivity and welfare

Table 1 describes the impact or opportunity of these three elements resulting from this research. Additionally, the implication to insurance policies in particular, and social policy in general, is identified therein.

Table 1: The policy environment and development priorities

Community elements	Research impact or opportunity	Policy implication
Insurance take-up	Increase in insurance purchases	Insurance policies to promote appropriateness, affordability and quality
	Creation of sharing rules in villages	Farmer-oriented research
	Perception and actual insurance payout	Promotion and education of farmers in micro-finance
	Development of trust in financial institutions	Regulation of payouts
	Honoring of premium payments	
Risk sharing	Iddir rule changes to increase buy-in	Risk-sharing assistance programs
	Accessible knowledge and education	Information campaigns and insurance education
		Regulation of transfers
	Social protection for times of need	Insurance premium initiatives
Consumer welfare	Insurance information and insurance claims	Adverse conditions assistance programs
		Information campaigns to promote efficiency, quality and equality
	Social protection and subsidies	Timely processing of claims
		Integrated system with micro-finance organizations
	Food consumption and food safety	
		Promotion of non-reliance on aid

Outcome of policy research

In order to address the uncertainty that adverse conditions have on livelihoods, a multi-sector approach becomes highly relevant. In this case, the approach embraces complementary interventions in education, financial organization and cooperative systems.

Recognizing this, a major part of IFPRI's approach was to experimentally work with finance and insurance organizations, and simultaneously collaborate with farmers and their communities to influence the promotion of a system for future adverse impacts and opportunities. Through research, a potential sustainable solution to frequent devastation from the failure of rains and other causes has been developed, with benefits to both farmers and commercial organizations, as well as to the decision making processes for policy change.

The opportunities and policy implications of this research are described in the Table 1, along with the following positive outcomes:

- Iddirs can be used as sustainable retail outlets for index insurance thereby reducing transaction costs, increasing trust, and potentially elevating the organization of iddir functioning to beyond the village
- Strengthening risk-sharing through iddirs increased formal insurance demand, household welfare and trust through the institutional rules created by integration
- Formal insurance had a significant impact on encouraging productive investments, such as the use of fertilizers
- The timing of insurance offered (i.e. prior to the start of the planting season) and consequent take-up had an impact on investment, such as on seed purchases
- Development of an insurance policy that is farmer-orientated to facilitate non-rainfall impacts as well as other adverse events

Lessons learned and next steps

The challenges of engaging traditional groups with financial institutions are key areas for developing social and economic policy. This has been demonstrated in the collaborative work undertaken by researchers and financial business partners, namely Buusoa Gonofa (MFI), with a scaled-up offering of insurance products for this year on a purely commercial basis, initially to 45 villages in 2 localities (217 farmers have already purchased insurance).

Through these strong partnerships and combined research effort into weather index insurance through pilot schemes, informal traditional community groups (iddirs) and insurance agencies now have the tools and evidence-based knowledge to support and encourage vulnerable communities who face livelihood uncertainties in poor rural areas, to take responsibility and advocate change. This would have been difficult to achieve without the pooling of research resources and business expertise.

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