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Innovations for Poverty Action e-Newsletter

September, 2009

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Serving Small Farmers

For many, the mental image most strongly associated with "the poor" in developing countries is a farmer bent over in a tiny rice paddy or sorghum field, trying to scrape a living out of a small patch of marginal land. Though this picture seems like a stereotype, it is true that three-quarters of those living on less than \$2 per day live in rural areas, and are primarily engaged in agricultural activities. To solve the problems of the poor, it is necessary to solve the problems of small farmers.



Yet, in project after project, IPA is confronted by the ways in which the challenges and financial decisions of small farmers are different than those faced by the rest of the poor. A micro-loan designed for a shop owner with weekly revenue is ill-suited to the seasonal cash-flow of a rice farmer. Bad weather, which is problematic for everyone, may be ruinous for a family relying on a failed crop harvest. Anti-poverty food policies, such as price controls, may be a blessing for the hungry, but a curse on the growers. Solutions that will work for poor farmers must take these differences into consideration.

IPA Research Affiliates are working with partners around the world - microfinance institutions, insurance agencies, agricultural scientists - to design and test products that are tailored to the unique needs of small farmers. In this newsletter, we showcase recent experiments with commitment devices, agri-lending, and crop insurance for farmers, and suggest some avenues for future research based on field experience in Kenya, Ghana, and the Philippines.

→ Nudging Farmers to Use Fertilizer: Evidence from Kenya

In Kenya, the use of fertilizer is known to greatly increase agricultural productivity. However, in a 2000 survey of Kenyan

New Papers

Expanding Microenterprise Credit Access: Using Randomized Supply Decisions to Estimate the Impacts in Manila

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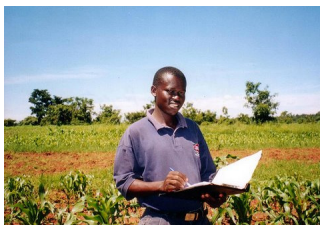
What's Advertising Content Worth? Evidence from a Consumer Credit Marketing Field Experiment

By Marianne Bertrand, Dean Karlan, Sendhil Mullainathan, Eldar Shafir, Jonathan Zinman Read

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farmers, Esther Duflo, Michael Kremer and Jonathan Robinson discovered that while nearly all farmers planned to use fertilizer in



the following season, only 37% actually did. In fact, only 45% of farmers had ever used fertilizer-and even those who could afford to purchase it had not. The traditional policy response to this problem is to subsidize fertilizer. But why do farmers who are aware of the

benefits of fertilizer still fail to use it? The researchers thought behavioral economics might offer some clue. Perhaps farmers had a hard time saving their profits from the harvest in time to make a fertilizer purchase for the next crop cycle. The researchers worked in collaboration with International Child Support Kenya to design a program to address this puzzling question.

The program they came up with was called the Savings and Fertilizer Initiative (SAFI), which enlisted field officers to visit farms immediately after the harvest and offer farmers vouchers on fertilizer. Serving as comparison groups, other farmers were approached at different times of the year, such as just before planting, and were offered free delivery or discounts on fertilizer.

By randomly placing farmers into the treatment or comparison groups, the researchers discovered that behavioral biases about value over time, such as procrastination and impatience, were largely responsible for the low use of fertilizer. Programs, like SAFI, which helped farmers commit at a time when they had money (just after the last harvest) to use fertilizer in the future had a significant impact on fertilizer adoption. Duflo et al. found that these small, time-sensitive "nudges" increased fertilizer use and yielded higher welfare than heavy subsidies, by incentivizing the procrastinators without overly distorting incentives for the non-procrastinators. For example, vouchers sold just after harvest which entitled farmers to a free delivery of fertilizer later in the season, increased fertilizer use by up to 60%. This effect was greater than when the same free delivery was offered later in the planting season, even with a 50% subsidy on the fertilizer. In other words, timing is everything.

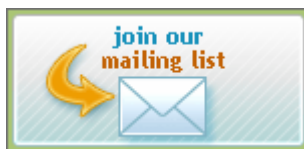
To read more about fertilizer use among farmers, click [here](#).

→ Underinvestment in Farming Technology: Lack of Cash, or Too Much Risk?

Farming is risky business, and rural farmers who live from harvest to harvest don't have much room for error. Many rural farmers fail to invest in technologies such as hybrid seeds, fertilizer, or irrigation that could improve crop yields. It's not obvious, however, whether farmers are mostly worried about risk or just don't have the cash available for investments.

An IPA project currently in progress called "Examining

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"Underinvestment in Agriculture" seeks to better understand the behavior of farmers in Ghana, where 50% of the rural population lives in poverty. To get a better understanding of the magnitude of these potential barriers, IPA designed a study to test their individual and combined effects. Maize farmers in Northern Ghana were randomly assigned to one of four groups: some receive capital transfers, others receive free crop insurance, and still others receive both, or neither. If risk-aversion is a major barrier to investment, we would expect crop insurance to improve farm outcomes. If a credit constraint is keeping farmers from investing, we would expect capital transfers to relieve it. Offering these two interventions separately allows researchers to distinguish between reasons for under-investment.



A short survey helped the research team understand the farmers' investment needs. They asked farmers, "If you had more money to invest in your farm, what would you spend it on?" Because farmers gave a wide range of answers, the team has chosen to make capital transfers in the form of cash, rather than in-kind payments or vouchers for specific inputs. They also asked, "When during the year would you need the money?" In order to "nudge" farmers towards actually investing the money in their farms, IPA distributes the transfers following the hypothetical investment timeline suggested by the farmer.

IPA is managing both the research and the program implementation, but has relied on partnerships with the Ministry of Food and Agriculture and the Presbyterian Agricultural Service. Positive signs from the ongoing implementation include farmers' warm reception and the ease with which they have picked up on the details of the new crop insurance product. Some farmers saw the benefits of their participation right away: IPA made a partial payout in the very first month that the policy applied.

Rob Fuller and Elana Safran, who are part of the IPA field team in Ghana, have shared their experiences by blogging [here](#) and [here](#).

Food for Thought: Exploring Ways to Improve Agri-Lending in the Philippines

In 2008 IPA sat down with staff at eight microfinance institutions (MFIs) in the Philippines to discuss the challenges of providing credit to small farmers. MFIs struggle to serve farmers with loan products designed for non-agricultural clients, while recognizing that the financial needs and vulnerabilities of the two groups differ. Three hurdles were repeatedly mentioned as being unique to agrilending: risk of crop failure, underinvestment in inputs, and market failures in the sale of produce. Poor health was also frequently cited, which may affect farming clients disproportionately.

Lenders must think creatively to design new products and services that are tailored to address the challenges faced by farming households. Several of the MFIs we spoke with in the Philippines have already started down this path, but more innovation and careful pilot-testing of new products is needed. Our discussions in the Philippines suggested several avenues for future research:

Redesign repayment: Loan payments are often scheduled in frequent installments, while farm income is generated seasonally. This misalignment may be limiting the reach of agrilending to those who already have regular non-farm income. Loan redesign could align payment schedules with harvests and allow farmers to take advantage of short-term fluctuations in crop prices.

Ease remaining credit constraints: Field officers suggested several explanations for underinvestment in inputs, including insufficient funds and difficulty in saving. Future products could experiment with estimating debt burden based on production costs, offering larger loans that cover the entire cost of production, and providing complementary savings or commitment devices to help farmers manage their funds (see *Nudging farmers to use fertilizer*, above).

Provide crop and health insurance: All of the MFIs emphasized the instability that is caused by bad weather, pests, and illness. Crop and health insurance products may help farmers to cope with these risks, reducing the cost that MFIs absorb when clients default due to crop failure. Although attempts to package insurance with credit have so far achieved mixed results, better outreach and product design may make it more appealing.

Staff Profile: Aissatou Ouedraogo, Mali

Aissatou Ouedraogo is a Project Coordinator in Mali. She works principally on the Alatona Irrigation Project, which provides farmers with irrigated land and full land titles. She holds an M.S. in Agricultural Economics from Virginia Tech and an M.A. in Development Economics from Williams College. She is fluent in French, English, the African languages Moré and Dioula, and "gets by" in both Spanish and Arabic.



Q: How long have you been working with IPA? Which projects have you worked on?

I have been working with IPA for 11 months. I primarily work on the Millennium Challenge Corporation Alatona Irrigation Project, but also help out with Saving for Change, and a new lending project.

Q: What do you enjoy most about the project you're working on?

Having the chance to visit the people that will be affected by the

project. Seeing the hope in their faces and knowing that their hope will be materialized once the project is implemented is something that gives me a deep joy. I also like the idea of not limiting the project to just distributing irrigated land, but also providing a road that would offer better means of transportation for agricultural products.

I enjoy being involved in most aspects of the study, especially the implementation of the baseline survey. I got the chance to participate in workshops for the validation of the questionnaires, training for enumerators and surveyors, field trips, and meetings with partners.

I also feel lucky to be working with the principal investigators, on both projects, (Lori Beaman, Andrew Dillon, and Bram Thuysbaert), and with my Malian colleague Nouhoum Traore. Not only am I learning a lot from working with them, but also they are agreeable to work with!

Q: Tell us about your favorite Malian things.

My favorite Malian dish is traditional couscous with peanut butter sauce. The album I can't get enough of is "In the Heart of the Moon", by [Malian blues artist] Ali Farka Touré featuring Toumani Diabaté.

Contributions to this newsletter were made by Meredith Startz, Brooke Berman, Kerry Brennan and Sidney Uderani. Thanks also to Aissatou Quedraogo, and to Jameel Poverty Action Lab, Chris Musungu and Rob Fuller for the photographs.

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