

Scaling a Bundled Village Input Fair to Build Markets for Agricultural Inputs in Mali

Fieldwork: Innovations for Poverty Action (IPA)

Sample: 600 households from 40 rural villages

Initiative(s): Agricultural Technology Adoption Initiative

Target group: Farmers Agro-dealers

Outcome of interest: Market access Food security Productivity Profits/revenues

Intervention type: Credit Fertilizer and agricultural inputs

Partner organization(s): Soro Yiriwaso, National Union of the Agro-Input Dealers (UNRIA), USAID Development Innovation Ventures

In many parts of sub-Saharan Africa, small-scale farmers often do not use inputs like fertilizer to increase their productivity despite evidence suggesting their effectiveness. One reason farmers do not adopt more productive inputs is because of a lack of access due to underdeveloped agricultural input markets. In a previous randomized evaluation in Mali, researchers tested the effectiveness of different Village Input Fair (VIF) models, varying the timing of agricultural input fairs and whether credit was offered at the market, on farmers' uptake and use of inputs. They found that organizing the VIFs just after the previous harvest and offering credit raised the sales of agricultural inputs from participating agro-dealers. Researchers are now conducting a randomized evaluation to test the impact of scaling this bundled VIF model in Mali on small-scale farmers' purchase and use of inputs as well as the profitability of input-selling agro-dealers.

Policy issue

In many parts of sub-Saharan Africa, small-scale farmers do not consistently or correctly use inputs like fertilizer to increase their productivity despite evidence suggesting their effectiveness. One reason farmers do not adopt more productive inputs is because of a lack of access due to underdeveloped agricultural input markets. Farmers struggle to access inputs and providers of inputs face barriers to reach rural areas. For example, agro-dealers, who sell agricultural inputs to farmers, face high transportation costs to reach remote areas and often do not know if farmers are interested in buying their products. From the farmers' perspective, inputs can be costly, and farmers often have to travel long distances to reach markets to purchase these inputs.

One way to support the development of competitive input markets is through Village Input Fairs (VIF). VIFs are one-day markets that allow farmers to buy agricultural inputs from agro-dealers at a central location in a village, rather than having farmers travel to the closest city as is the norm when traditional extension services organize input markets. Previous research has evaluated the effectiveness of the VIF model on farmers' uptake of inputs, by varying the timing of agricultural input fairs and by offering credit services during the fair. Yet, less research has been done to understand the behavior of private sector input providers, namely, agro-dealers, in conjunction with farmers' needs at scale. Could a market-based intervention help to scale VIFs and support farmers to use more productive inputs?

Context of the evaluation

Small-scale farmers in Mali primarily produce enough to feed their household, growing staple crops like maize, sorghum, and rice. Farmers use minimal technologies throughout the growing season, making production labor-intensive and rainfall dependent. Limited access is one of the reasons Malian farmers do not use new technologies. For example, in the Koulikoro region of western Mali, 70 percent of farmers reported that agro-dealers had not visited their village in the last agricultural season. Women, despite being major players in agriculture in Mali, face greater barriers than men to access inputs, due to cultural norms around them traveling out of communities to urban centers. In addition, it can be more difficult for them to access finance and training, which are typically targeted toward men.

Farmers in the Koulikoro region have on average four to five people in their households and manage five to seven plots of land. Roughly 90 percent of these households own a telephone. Three out of four agro-dealer businesses are located in urban areas and were established after 2016. Their average monthly turnover is less than the equivalent of USD \$10,000. Agro-dealers have limited information about the demand for fertilizer and other inputs from farmers in rural areas, face high transportation costs to reach new markets, and are often liquidity constrained.

In a previous study, researchers partnered with Soro Yiriwaso, a local microfinance institution that engages in agricultural lending, and the National Union of Agro Input Dealers (UNRIA), the primary national association of private sector agro-dealers that provides access to inputs for small-scale farmers, to test six variations of Village Input Fairs in Mali. Taking into account the incentives of multiple private sector actors including farmers, agro-dealers, and financial institutions, the evaluation found that farmers purchased more agricultural inputs when the VIFs were organized just after the previous harvest in January and when farmers had access to credit.

Details of the intervention

Partnering with Innovations for Poverty Action, Soro Yiriwaso, and UNRIA, researchers conducted a randomized evaluation to test the impact of scaling the bundled VIF model from the previous study on the purchase and use of inputs by small-scale farmers as well as the profitability of agro-dealers. Researchers randomly assigned thirty of forty selected villages from the Koulikoro region to receive the bundled VIF model and assigned the remaining ten villages to serve as a comparison group. Fifteen agricultural households were selected from each village to receive the intervention, resulting in a total of 600 participating agricultural households. This study will be integrated with a larger initiative with a similar evaluation design in the Bougouni and Sikasso region.

With the support of Donilab, a local business incubator, researchers selected two VIF enterprises to facilitate the scale-up of the program. They received seed capital to carry out the following steps:

1. Develop a marketing plan to inform villages about the upcoming Village Input Fairs.
2. Auction off licenses to agro-dealers permitting them to sell inputs at the VIFs. The auction serves as a fair and transparent process to select agro-dealers to participate in the VIFs.
3. Coordinate with Soro Yiriwaso and two other MFIs to collect deposits and offer saving plans and credit to farmers at the fairs.
4. Organize the VIFs after the previous harvest in January for farmers to place orders for inputs and put down a 10 percent deposit commitment to pay the remaining amount once the agro-dealers delivered the inputs in June at planting.

Researchers measured the impact of the scaled VIFs at the farm, household, agro-dealer, and market levels. Using household surveys and sales records from the VIFs, researchers collected data on the adoption of inputs, such as fertilizers, pesticides, and seed varieties, as well as sales and yields. Researchers also conducted a business survey of 100 agro-dealers during the VIFs to measure their profits, costs, and sales. Lastly, researchers collected administrative data to record market transactions.

Village Input Fairs facilitate the sale of fertilizer products, pesticides and herbicides. Researchers are aware that the overuse of these products could result in soil degradation, water contamination, or increased health risks from farmers' application. There are currently several mitigation measures and monitoring indicators in line with USAID's Pesticide Assessment Report and Safer Users Action Plan (PERSUAP) to address issues related to pesticide use and handling. These activities include, but are not limited to, (1) training agro-dealers on the health risks of chemical inputs, (2) integrating agro-dealers offering personal protective equipment in the village input fairs, (3) integrating agro-dealers offering organic alternatives to pesticides and herbicides in the fairs, and (4) providing information to farmers on sustainable land management practices and the use of organic alternatives.

Results and policy lessons

Research ongoing; results forthcoming.

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