

Researchers

Lorenzo Casaburi
University of Zurich

Staff

Andrew Tedesco
Country Director

Fatoma Momoh
Senior Field Manager

Timeline

2011-2012

Sample Size

1858 farmers in 120 communities

Research Implemented by IPA

Yes

Providing Collateral and Improving Product Market Access for Smallholder Farmers: A Randomized Evaluation of Inventory Credit in Sierra Leone

Policy Issue

Inter-seasonal fluctuation of agricultural prices is widespread throughout the developing world. For many crops, prices decrease at harvest season, owing to the availability of large quantities of crop, while prices increase in the lean season. However, small farmers are often unable to benefit from this price increase due to a lack of proper storage facilities and credit constraints. Inventory credit products address both storage and credit constraints by allowing small farmers to store their harvest in a secure warehouse as collateral for a loan. Such products have had successful small-scale test cases in West Africa, including Ghana (Technoserve), Niger (Food and Agriculture Organization) and Mali (World Bank). Yet, to date there have been no rigorous evaluations to assess inventory credit's cost-effectiveness and sustainability.

Context of the Evaluation

In Sierra Leone, palm oil is an essential component of rice consumption and exhibits large and predictable seasonal price changes, creating inter-temporal arbitrage opportunities, which remain largely unexploited by small farmers. Pilot data shows 72% of farmers sell a majority of their output within two months of harvest, despite an expected price increase of over 70% within six months.

The Sierra Leone National Program Coordinating Unit (NPCU) at the Ministry of Agriculture plans to implement a palm oil inventory credit scheme in collaboration with three Rural and Agricultural Banks (RABs). IPA will use the rollout of this program to conduct a randomized evaluation of the intervention.

Details of the Intervention

The three participating RABs identified 120 communities that would be eligible to receive the inventory credit product. These communities will be randomly assigned to three groups with 40 communities each: The first will receive the inventory credit product, the second will receive assistance with management of a community storage space, but no access to inventory credit, and the third will serve as a comparison group.

In inventory credit communities, farmers will receive harvest time loans in exchange for storing their palm oil as collateral. The loan amount will be 70% of the palm oil's harvest-time value, or around \$5.50 per 5 gallon container of palm oil. The bank will store the collateral in a secure room provided by and located within the community, which will have two locks: the key for one will be controlled by the community; the key for the other will be controlled by bank staff. The banks will provide containers for the storage space, in which the palm oil will be stored. In the lean season (nine months later), when prices are typically more than 50% higher, the banks will assist the farmers with selling the collateral. The bank will recoup its loan and interest. The farmer will keep all additional revenue.

In storage communities, farmers will receive storage containers for the community store space and assistance with management of the space: NPCU staff will control the key to one lock, while the community will control the key to a second one. However, no inventory credit will be offered.

The study seeks to rigorously evaluate this intervention to examine the relation between storage, credit and access to markets for small farmers. The questions it seeks to answer are: a) Do farmers' take-up the credit product? b) To what degree do farmers modify their sales patterns when using the credit product? c) Does inventory credit affect prices received by farmers in different seasons of the year?

Results and Policy Lessons

Results forthcoming.

April 18, 2014