

Contract Farming, Technology Adoption and Agricultural Productivity: Evidence from Small Scale Farmers in Western Kenya

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Hut next to a field of sugarcane in western Kenya.

Fieldwork: Innovations for Poverty Action (IPA)

Location: Mumias, Kenya

Muestra: Approximately 2,000 farmers

Línea de tiempo:

2011 to 2013

Partners:

Harvard University Sustainability Science Program (SSP)

Mumias Sugar Company

Desafío de política pública: Many farmers in the developing world practice subsistence farming, a mode of agriculture in which a plot of land produces only enough food for personal consumption. Moving from pure subsistence crops to high-value cash crops can help poor farmers gain income, by enabling them to sell their produce in markets. However a number of obstacles may prevent subsistence farmers from adopting high-value crops. First, long lag times between effort and rewards may reduce farmers' willingness and ability to grow certain crops (sugarcane, for example, has an 18 month average harvest cycle in Kenya, where this study took place). Second, it can be costly to diffuse information about high-value crops.

Contexto de la evaluación: The Mumias Sugar Company (MSC), a leading sugar producer in Kenya, is located in Mumias District, in Kenya's Western Province. MSC has the largest sugarcane factory in Kenya, and works with

approximately 70,000 out-grower farmers, whose plots encompass an area of 400 square kilometers, in several districts in the province. The company is strongly dedicated to innovation and experimentation. Over the past decade, the MSC agronomy department has been active in testing new cane varieties, fertilizers, and herbicides.

Detalles de la intervención: Researchers partnered with the Mumias Sugar Company (MSC) to work with smallholder farmers who, as out-growers, sell sugarcane to the firm. Working with the company management, researchers will explore two interventions: (i) cash advances conditional on farmers' performance at intermediate stages of the harvest cycle, and (ii) cell phone text-message reminders.

The first intervention will introduce rewards for intermediate outcomes for a subsample of farmers. MSC field assistants will assess fertilizer application and weeding accuracy. If

credit constraints play a large role, anticipated payments tied to intermediate outcomes should increase farmers' effort and plot management quality.

The second intervention will aim to reduce costs and information problems related to extension services. Researchers will exploit the large number of cell phones in the area of study (MSC estimates that 70 percent of farmers have access to a cell phone) and use them to deliver information about agricultural practices. Together with MSC agronomists, researchers will develop an SMS reminder system. Reminders will concern planting, weeding, fertilizer and herbicide application, cane fire prevention, and harvesting.

The evaluation will assess the impact of the treatments on plot management quality, knowledge of good agricultural practices, yields, and crop variety adoption.

Resultados y lecciones de política pública: Results forthcoming.

Related Papers Citations: *Casaburi, Lorenzo, Michael Kremer, Sendhil Mullainathan, and Ravindra Ramrattan. "Harnessing ICT to Increase Agricultural Production: Evidence From Kenya." Working Paper, September 2019.*

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