

Food Constraints, Yield Uncertainty and “Ganyu Labour”

A Pilot Investigation



In brief

- Small-scale farming is the most common livelihood strategy and primary source of income in rural Zambia.
- However, small scale farmers frequently engage in short-term piece work at larger farms to cover basic needs; neglecting their own fields, thus achieving lower harvest yields, resulting in limited reserves for the next farmin seasons and increasing dependence on piece rate labour. This has frequently described as a poverty trap.
- This research attempts to quantify the magnitude of this poverty trap and test possible interventions to allow small-scale farmers to break out of this vicious poverty cycle. The study examines the impact of the provision of food loans is on farm labour input, final farm production and whether take-up of such loans increases.
- Of particular interest is the effect on subsequent seasons, and the potential to generate yields high enough to permanently lower dependence on short-term labour provision.
- Key policy implications:
 - Most Zambian farmers are credit constrained and face clear seasonal patterns in income and consumption.
 - Off-farm labour as a coping strategy for seasonal food shortages may lower agricultural productivity.
 - Short-term alleviation of credit constraints may break the poverty trap.
- Take-up of the loan was 94%, and midline and endline surveys will be conducted to measure the loan take-up’s impact on consumption, labour allocation, yields and investment choices.

Policy Motivation

Small-scale farming remains the most common livelihood strategy and primary source of income in rural Zambia. With limited savings and access to credit, small scale farms frequently resort to short-term piece work at larger farms to cover basic needs prior during the planting and growing season. Working off-farm generally implies that small-scale farmers neglect their own fields, and will achieve lower harvest yields. Low yields imply limited reserves for the subsequent farming season, and thus further increases in the dependence of small scale farmers on piece rate labour, a vicious cycle frequently referred to as “poverty trap” in the literature. This project aims at quantifying the magnitude of the poverty trap and test possible interventions to break out of this poverty cycle.

Policy Impact

“If the treatments are successful, the study provides a scalable and cost effective tool for generating sustained welfare gains”

The primary policy investigated is the provision of food loans. Key outcome variables analyzed to evaluate the desirability and cost-effectiveness of such a policy are the take-up of such loans, as well as the impact of the loans on farm labour input and final farm production. Of particular interest is also the effect on subsequent seasons, and the potential of program to generate yields high enough to permanently lower farm’s dependence on short-term labour provision.

If the treatments are successful, the study provides a scalable and cost effective tool for generating sustained welfare gains that may also improve the overall productivity of the farming sector, increase wages and lower poverty beyond the farms directly benefitting from the project.

Audience

Study findings will be relevant for Zambian policy-makers interested in rural development and agriculture. The implications will extend to other countries sub-Saharan where off-farm labour is the primary coping strategy during the hungry season.

Policy Implications

Most Zambian farmers are credit constrained and face clear seasonal patterns in income and consumption

Small-scale farming remains the most common livelihood strategy and primary source of income in rural Zambia. Limited access to credit and insurance mechanisms leave farmers vulnerable to varying weather and environmental conditions. These yield risks can severely limit farmer’s ability to purchase farming inputs for subsequent seasons and to cover basic food needs for the entire year.

“Working off-farm generally implies that small-scale farmers neglect their own fields and their yields deteriorate as a result”

Off-farm labour as a coping strategy for seasonal food shortages may lower agricultural productivity

In the absence of savings and credit, the only way through which money for food and other basic needs can be raised prior to the harvest is to engage in short-term piece work at larger farms. Working off-farm generally implies that small-scale farmers neglect their own fields and their yields deteriorate as a result. This further increases the dependence of small scale farmers on piece rate labour in the subsequent season – a phenomenon that resembles a classic poverty trap.

Short-term alleviation of credit constraints may break the poverty trap

The aim of the study interventions is to provide farmers with the opportunity to invest their time and efforts in their own crops and increase agricultural productivity in the presence of cyclical food shortages, thus breaking the poverty trap.

Implementation

“The Food Credit Intervention aims to provide farmers with access to additional food during the cropping season”

The intervention seeks to mitigate the impact of cyclical food shortages on labour allocation and thus improve agricultural productivity.

450 small scale farmers in the Chipata district of Zambia’s Eastern Province are randomly selected and assigned to a treatment group and a control group at the village level.

The Food Credit Intervention aims to provide farmers with access to additional food during the cropping season. Farmers selected for this intervention will be eligible to obtain one bag (50kg) of maize per month on a credit basis. All maize will be repaid in kind and without interest at the end of the harvesting season.

The Food Credit Intervention is further divided into two sub-treatments. The first offers all eligible farmers in the village the opportunity to take up the loan. The second offers the loan to half of the eligible farmers, drawn at random in a public lottery. Variation in the availability of food credit in the village allows for the investigation of spillover effects between households.

“Take up of the loan was 94%”

A baseline survey was conducted prior to roll-out of the loans. Midline and endline surveys will be conducted to measure the loan take-up’s impact on consumption, labour allocation, and yields, as well as the intervention’s impact on future investment choices. Take up of the loan was 94%.

Dissemination

To be determined based on final study results available in late 2013.

Further Readings

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About the authors

Gunther Fink is an Associate Professor of International Health Economics in the Department of Global Health and Population at the Harvard School of Public Health.

Kelsey Jack received her Ph.D. in Public Policy from Harvard University in 2010, followed by a post-doctoral appointment at MIT with the Jameel Poverty Action Lab and the Agricultural Technology Adoption Initiative. She joined the Tufts faculty in 2011. Her research focuses on the intersection of environmental and development economics and investigates questions from behavioral economics and contract theory. Current research projects study the design of incentives for the private provision of public goods, and are applied to issues of environment and health in Malawi, Zambia and Bolivia. Her research uses field experiments and lab experiments implemented in the field to evaluate interventions and test theory. Prior to graduate school, Kelsey lived in Laos for two years, where she worked for a conservation NGO.

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