Cash Transfers and Management Advice for Farmers in Senegal

Sector(s): Agriculture

Fieldwork: Fédération des Organisations Non-Gouvernementales du Sénégal (FONGS)

Location: Malawi and Senegal

Sample: 600 households from 8 farmer associations

Target group: Farmers

Outcome of interest: Earnings and income Business investment

Intervention type: Business skills training Cash transfers Extension services Information Unconditional cash transfers

AEA RCT registration number: AEARCTR-0000456

Partner organization(s): CGIAR

In many low- and middle-income countries, smallholder agriculture serves as a main source of income. Yet, a large gap often exists between the land's potential productivity and the amount of crops that are actually produced. In Senegal, researchers conducted a randomized evaluation to study the effect of providing management advice and a one-time cash transfer on agricultural productivity and farmers' investment in their businesses. Receiving both the cash transfer and management advice had positive impacts on yields and livestock as well as farmers' investment in agricultural equipment, while receiving management advice only did not impact agricultural investments.

Policy issue

Approximately 1.5 billion people in low- and middle-income countries live in smallholder households that have agriculture as their main source of income and own smaller plots of land (between one and ten hectares) rather than producing at a commercial scale. In sub-Saharan Africa and Asia, such households produce as much as 80 percent of the total food supply. Despite the importance of agriculture, a large gap often exists between the land's potential productivity and the amount of crops that are actually produced in many countries. In addition, a lack of productive savings stocks, such as livestock, can make farmers more vulnerable to external shocks.

One barrier to increasing agricultural productivity is farmers' access to capital. A lack of information may also be an obstacle to increasing productivity and is often addressed with technical extension advice. Extension programs offer a form of informal, continued education about agriculture-related practices to farmers. However, results from other studies show mixed results of extension programs' impact on farmers' practices. Additionally, existing literature shows the potential of "labeled" cash transfers that are unconditional but encourage recipients to direct funds toward a specific purpose. Can combining cash transfers and an agricultural extension program improve agricultural productivity and farmers' investment in their businesses?

Context of the evaluation

The "peanut basin" is a zone of central and western Senegal with a history of peanut, millet, and cowpea farming. Farmers in the peanut basin face increasing challenges to maintaining their livelihoods; climate-related shocks like droughts, floods, and large changes in temperature create obstacles to agricultural productivity. In addition, a history of monoculture—when the same crop is planted repeatedly on the same plots of land—has led to erosion and a lack of nutrients in the soil of the peanut basin. These environmental challenges put additional strain on agricultural productivity in the area.

Farmers participating in the study held between 7.5 and 10 hectares of land on average.. Most household heads were men and the average household grew between 3 and 4 different crops.   The Fédération des Organisations Non-Gouvernementales du Sénégal (FONGS) is an association of non-governmental organizations operating across 11 regions in Senegal, representing the interests of and providing management support to smallholder farmers in the region. Smallholders served by FONGS in this region commonly cite lack of capital as a challenge, showing that financial constraints may pose a barrier for these farmers to invest in their businesses.

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Details of the intervention

Researchers partnered with FONGS to evaluate the impact of a one-time cash transfer and extension services on farmers' agricultural investments and yield, including crop production and livestock care. The program ran over two agricultural seasons. To evaluate the impact of the program on agricultural productivity, 600 farming households from farmer associations in the peanut basin were randomly assigned to one of three groups:

- *Advisory visits and management plan*: Farming households received monthly advisory visits, as well as support in developing a farm management plan at the beginning of the rainy season. Together with their advisor, farmers developed a plan focused on improving production, including a schedule for when certain activities on the farm would take place as well as the amount and timing of expenditures. In monthly advisory visits, advisors checked in on farmers' progress in realizing their management plan, which encouraged farmers to think ahead and anticipate possible challenges. Advisors were farmers from the region, though not usually from the same community as the farmers they advised.

- *Advisory visits, management plan, and cash transfers*: Farming households received the monthly advisory visits, the management plan, as well as a one-time cash transfer of approximately US$200, which corresponded to about 15 percent of farmers' overall value of agricultural output. Farmers received the cash transfer in the beginning of the first agricultural season to help them implement the goals they set with their advisor. The transfer was unconditional; however, farmers were told the funds were for investing in their farms and implementing the management plan.
- *Comparison group (advisory visits only)*: Farming households in this group received monthly visits from an advisor.

The study took place between June 2014 and May 2016, spanning two agricultural seasons. Farmers completed management plans at the beginning of the rainy season, and received cash transfers around the planting season. Farmers only received the cash transfer in the first year of the study, whereas they received advisory visits and the management plan for two consecutive years. Researchers collected data on livestock ownership, crop production, productive savings, and agricultural investments before, once throughout, and after the end of the program.

Results and policy lessons

The combination of farm management planning and cash transfers positively impacted crop production after the first year and had persistent impacts on livestock and agricultural equipment holdings. While the positive impact on crop production was not sustained in the long-term, households were able to increase their productive savings, which could serve as a buffer against negative shocks.

Agricultural output: One year after receiving the cash transfer, farmers' overall value of agricultural output increased by US$580 (59 percent) relative to the farmers that only received advisory visits. However, increases in crop production faded after two years. Impacts were not sustained in the second year of the study when there were no cash transfers made. However, the impacts of such a program may differ between years as agricultural productivity is highly contingent upon weather conditions during the season.

I*nvestment in agricultural equipment and inputs*: Farmers who received the cash transfers increased their agricultural expenditures in the first year by US$118, a 40 percent increase relative to the comparison group. The benefits of these investments were maintained even after increases in agricultural expenditures faded. Investments in agriculture did not increase for households receiving the management plans only. This suggests that the management plan in itself had little effect on agricultural investments without the additional resources to realize the goals set in the plan.

Household savings: Households that received the cash transfers and management plans increased their productive savings, such as livestock, that could generate income and serve as buffers against negative shocks, relative to the comparison group. Results suggest that farmers stuck to the management plans despite the cash transfer not being conditional on agricultural investments. Before implementing the program at a larger scale, it is important to understand whether the benefits are large enough to outweigh the costs of providing both transfers and management advice. The substantial impacts of this program over two years suggest that it is a good candidate for scaled implementation; however, a better understanding of some program elements is key for designing the most cost-effective program[1].

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1. Researchers conducted a cost-benefit analysis and estimated a rate of return between 74 and 81 percent. They note that these estimates suggest that a scaled implementation of this program could be successful, especially as implementation costs could be reduced without materially changing benefits to participants.