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Does reinforcing agro-dealer networks improve access to and use of agricultural inputs by farmers in Niger?

Programme overview

In Niger, agriculture accounts for about 36 per cent of the gross domestic product. It is the source of income for 85 per cent of the population. Niger's recurrent food crisis has been attributed to low agricultural yields, which in turn are the result of an inefficient agricultural input-supply system. The Niger government has implemented several interventions to improve farmers' access to agricultural inputs.

The *Contribution à l'Education de Base* (CEB), funded by the Alliance for a Green Revolution in Africa, is implementing a project to improve smallholder farmers' access to and adoption of agricultural inputs in Maradi, Tahoua and Zinder regions. CEB is building the capacity of agro-dealers and setting up demonstration plots.

Studies show that farm yields are low in Niger as a result of desertification, erosion and over-utilisation of poor soil. The lack of an effective distribution network and shortage of agricultural input supply further hinders farmers' access to them. The programme intervention is to train farmer organisations (FOs) to improve their agricultural input-supply practices, particularly ordering and distribution inputs. It also seeks to put in place an effective organisational network by strengthening the capacity of FOs through training and certification, along with other business support. Expected programme outcomes include strengthened FO institutional capacity by improving their accountability and ownership structure. This, in turn, will lead to well-structured and empowered FOs that aggregate demand for input and finances, leading to sustained value for farmers.

Impact evaluation overview

This impact evaluation is funded as part of 3ie's [Agricultural Innovation Thematic Window](#). 3ie conducted a scoping exercise that identified existing evidence and where there are gaps in the evidence base. The analysis and consultations during the exercise identified the need for more evidence on the effectiveness of interventions in four areas: (1) interventions that promote communicating effectively with farmers; (2) ones that

About this grant

Grant-holding organisation: Institute of Statistical, Social and Economic Research, University of Ghana
Lead principal investigator: Robert Darko Osei (rdosei@yahoo.co.uk)
Award: \$450,668.91

Primary evaluation questions

1. Does strengthening the capacities of agro-dealers to supply agricultural inputs improve smallholder farmers' access to and use of agricultural inputs?
2. How important is credit as a constraint to the adoption and use of agricultural inputs by farmers?

promote adopting more productive technologies; (3) ones creating markets, and (4) ones strengthening value chains. All funded studies in this thematic window focus on programmes in at least one of these four areas and address one or more associated priority questions, of which this study will address this one:

- What are the cost-effective mechanisms to incentivise smallholder farmers to adopt improved seeds, and better practices and technologies?

The knowledge gained from this evaluation is expected to inform national agricultural policy, particularly in the efficient management of agricultural inputs.

Methodology and identification strategy

A total of 40 FOs, comprised of 1,600 farmers, will participate in a cluster-randomised design. Ten farmers from each FO will be randomly assigned to one of the four treatment arms: (1) comparison; (2) FOs receive only training; (3) FOs receive only credit, and (4) FOs receive both training and credit. Training will cover instruction on products and their use, ordering inputs and distribution, marketing and management of credit and stock.

This impact evaluation will employ both qualitative and quantitative research methods. The qualitative methods will attempt to uncover reasons behind non-adoption of fertilisers, improved seeds and/or other agricultural inputs. It will also look at perceptions among farmers' about factors that cause yields to be low despite adoption (or an increased adoption rate) of some agricultural inputs.

Heterogeneity analysis

The study will test for heterogeneous effects by sex and crop varieties.

Main findings

The study found negative impact of training on use of improved seed. However, when the training is accompanied by demonstration plots, the study finds increased adoption of improved seeds, attesting to the added value of the demonstration component in encouraging seed use. The study found no significant impact on production outcomes, namely crop yields and pre-harvest crop losses. According to the authors, credit availability was an important missing link that prevented the programme from achieving the expected outcomes. Indeed, even though credit was originally part of the study design, the late start of that component meant that it had to be dropped as a treatment arm in the study.

Timeline

Start: June 2014

Baseline report: December 2014

Draft final report: September 2016

End: March 2017



3ie is a member-based, international non-governmental organisation promoting evidence-informed development policies and programmes through high-quality and policy-relevant evidence. One of the ways that 3ie realises this commitment is by supporting and quality assuring impact evaluations, systematic reviews and replication studies of development interventions in low- and middle-income countries in high-priority sectors. 3ie is the global leader in funding and producing evidence on what works, for whom, why and at what cost. We believe that better evidence will help make development more effective in improving poor people's lives.

3ie's Agricultural Innovation Thematic Window is supported by the Alliance for Green Revolution in Africa, the Bill & Melinda Gates Foundation, the International Fund for Agricultural Development and UK aid.

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