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## Managing and implementing impact evaluations: lessons from 3ie agricultural innovation grants

The World Bank's *World Development Report 2008: Agriculture for Development*<sup>1</sup> highlighted the importance of the agriculture sector in international development. Yet, despite the availability of agricultural technologies, few smallholder farmers in developing economies adopt new inputs and practices. One of the factors preventing more productive approaches from being adopted among rural farmers is the lack of effective knowledge dissemination about such practices. Farmers also face different constraints along the value chain, including lack of financial resources and inadequate infrastructures or market inefficiencies, which can restrain farmers' abilities to increase productivity, and subsequent well-being.

The International Initiative for Impact Evaluation (3ie) launched an agricultural innovation grant-making window in 2013 to support impact evaluations aimed at understanding how best to encourage farmers to adopt new inputs and practices. The grants awarded under this window focus on programmes in four areas: (1) promoting effective communication with farmers; (2) promoting the adoption of new technologies; (3) improving market linkages; and (4) strengthening value chains.

3ie supported 16 impact evaluations in Sub-Saharan Africa and South Asia. Four of them have been completed and 12 are ongoing. Each of the programmes being evaluated touch upon multiple stages in the value chain, making them challenging to implement and to evaluate. These difficulties are compounded by the fact that implementing agencies possess varying levels of expertise and knowledge about impact evaluations, as well as acceptance of their usefulness. These characteristics have made 3ie's study management and quality assurance quite challenging.

### Highlights

- How to help an impact evaluation be successful?
  - Crucially, build a strong bridge between implementers and researchers to ensure adherence to the randomisation design.
  - Create partnerships with strong and experienced research teams who increase the capacity of local research organisations.
  - Assure that adequate monitoring systems are in place for programme delivery.
  - Let the implementers' and policymakers' questions drive the methods, rather than the other way around.

This learning brief draws upon the experience of managing and quality-assuring these impact evaluations to provide lessons and recommendations for others commissioning impact evaluations. Although this brief uses the experience of supporting agricultural innovation studies, the lessons and recommendations are not limited

to evaluations in the agriculture sector. The lessons address pertinent issues and challenges that arise during the management of impact evaluations, providing useful insights for donors, international organisations and 3ie, in the challenges of generating evidence that can inform more relevant and pertinent public policies.

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## Recognising when a formative evaluation is more suitable

This study<sup>2</sup> evaluates the Ghana Agricultural Sector Investment Programme, a joint initiative by the International Fund for Agricultural Development and the Ghanaian Ministry of Food and Agriculture, which aims to promote conservation agriculture (CA) techniques among smallholder farmers in northern Ghana. Initially, the study aimed at evaluating a programme focused on nutrition. However, later the ministry reoriented it towards a CA programme to accommodate the fund's priorities and interests. The research team actively engaged with

the ministry to understand the objectives and components of the CA programme to determine how it could be evaluated, given that it was experiencing implementation challenges and design adjustments. Given this situation and the restricted funding timeline, 3ie and key stakeholders agreed that a formative evaluation would be more suitable. The current evaluation reviews CA programmes and includes interviews with key stakeholders and pilot testing of at least two treatment arms to test different approaches to reaching farmers.

This study is an example of the importance of identifying the most appropriate type of evaluation required. When the components of the programme are clearly defined and the implementation is sufficient to produce measurable results, an impact evaluation may be suitable. However, opting for a formative evaluation makes sense when a component is still being defined, as it can benefit from early testing and course correction before going to scale.

## Engaging closely with the implementing agencies

This study<sup>3</sup> evaluates Africare's scaling up of integrated soil fertility management technologies in the Volta region of Ghana through a training-of-trainers approach.

This grant showcases the importance of active and continuous engagement between the implementing agency and the research team throughout the evaluation process. This not only helps to increase understanding about how to evaluate a programme, it also promotes buy-in that can facilitate implementation, and it can increase the likelihood that

the study will be useful to the agency. At the inception stage, implementing agency staff did not have any knowledge or experience with impact evaluations. Researchers worked closely with them to increase their understanding of impact evaluations, what was required and how the evaluation interacted with implementation – relying on the implementation's fidelity to the design (e.g. targeting; components sequencing and roll-out).

The staff were also not familiar with programme monitoring, so the research team put this in

place. The team designed instruments and mechanisms to monitor programme implementation and track any major implementation deviations that might compromise the evaluation. By doing this, the research team was able to alert the implementing agency to problems as they arose. The implementing agency could then remedy the situation and not compromise the evaluation or, alternatively, the evaluation team could identify possible ways to control for these shortcomings.





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## Adjusting when randomising fails: Does reinforcing agro-dealer networks improve access to and use of agricultural inputs by farmers in Niger?

This impact evaluation<sup>4</sup> assesses the Alliance for a Green Revolution in Africa's *Contribution à l'Éducation de Base* programme, which aims to build the capacity of agro-dealers to access and use effective agricultural inputs by reinforcing their networks.

The main issue faced in this study was the failure of the randomised phased-in approach. If rigorously implemented, randomisation is a highly robust method to estimate the causal impact of a programme. However, failures in the randomisation process can threaten the validity of the

evaluation strategy. Inaccurate adherence to the randomisation is one of the major issues observed in the evaluations conducted in this thematic window. Inaccurate adherence to the randomisation can be due to insufficient understanding of or buy-in to the evaluation process from the implementing agency or due to inexperience within the research team on how to conduct and manage randomisation.

In this study, a combination of these two factors emerged, leading to the initial

identification strategy (i.e. the randomisation) no longer being valid. In such cases, depending on the expertise of the team and the data collected, particularly monitoring data, alternatives can still be found to estimate the programme impact. Researchers used an instrumental variable approach to estimate the impact of the programme. However, insufficient monitoring data and poor triangulation of the data made it difficult to achieve highly robust results.

## Lessons from managing evaluations

The following insights come from 3ie's experience in managing and quality-assuring impact evaluations. They provide lessons and recommendations for donors and organisations commissioning impact evaluations.

### Strengthen local capacities to conduct and support impact evaluations

- Create partnerships with strong research teams who increase the capacities of local research organisations;
- Carry out workshops that bring together researchers and implementers to increase understanding of the needs and uses of an impact evaluation; and
- Check that adequate infrastructure and monitoring systems are in place for programme delivery. In case they are not, include a strong monitoring component as part of the impact evaluation.

### Ensure that programmes are well suited for having an impact evaluation and use the most appropriate mixed methods

- Make realistic evaluation questions that are rigorously answerable at the time of evaluation and within the available timeline and budget. Experimental or quasi-experimental methods may be feasible for effectiveness studies. However, consider a range of qualitative and process evaluation approaches to understand the relevance of programme interventions, investigate channels through which an effect is achieved, or examine the extent to which a programme is being implemented well (implementation fidelity); and
- Be realistic and not too ambitious. It is better to answer well whether a particular component of the programme works than to answer incorrectly whether the programme as a whole works.



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## Lessons for future programming

The following insights come from two of the four completed impact evaluations: (1) reinforcing agro-dealer networks to improve access and use of agriculture inputs by farmers in Niger;<sup>5</sup> and (2) evaluating agricultural information creation and dissemination in western Kenya.<sup>6</sup> The lessons showcase broader lessons relevant to programme designers devising incentives to encourage adoption of new inputs and technologies within any development sector:

- *It is important to disseminate locally relevant information to programme beneficiaries.* In the evaluation in Kenya, information regarding the soil fertility of local farms proved to be highly informative for the smallholder farmers, leading to an increase in input adoption rates. Farmers exhibited a high willingness to pay for localised information.

- *The collection of accurate intervention-disaggregated costing data is essential to inform cost-effectiveness analyses.* The evaluation in Kenya highlights the need for this information to effectively measure the impact of farmer field days on use of inputs. The cost of the intervention has implications for the programme's overall effectiveness, sustainability and scale-up potential. In Niger, the researchers indicated that the availability of better cost-related data could have improved their evaluation.
- *The use of information and communications technologies is a low-cost dissemination technique that should be further studied in information-based interventions to understand how it can lead to better impacts.* In the evaluation in Kenya, farmers were receptive to the idea of receiving SMS messages with

agricultural information. However, the intervention did not prove effective in changing awareness, knowledge or increasing use of promoted inputs.

- *Credit incentives are important to facilitate adoption of inputs and programme scale-up.* The Niger evaluation highlights the need to integrate credit components into inputs-related interventions in order to encourage programme take-up and adoption of inputs.
- *Exposure to group-based learning and member-based community organisations, in conjunction with training, is catalytic in increasing the likelihood of effective adoption and use of inputs.* In the evaluation in Niger, the exposure to demonstration plots and agro-dealer networks, in addition to training services, increased farmers' likelihood of adopting improved seeds.



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## About this learning brief

This learning brief draws on the preliminary challenges and lessons from the ongoing impact evaluations under 3ie's agricultural innovation thematic window. These include lessons on study design and methodology, study implementation, and engagement during the course of an impact evaluation. It provides a point-in-time reference for researchers and evaluation commissioners to anticipate and mitigate some of the challenges associated with conducting impact evaluations of agricultural interventions.

This brief was authored by Diana Lopez-Avila and Safiya Husain with editorial support from Beryl Leach and Deeksha Ahuja. They are solely responsible for all content, errors and omissions. It was designed and produced by Akarsh Gupta and Angel Kharya.

## Endnotes

<sup>1</sup>Byerlee, D, De Janvry, A, Sadoulet, E, Townsend, R and Klytchnikova, I, 2008. *World Development Report 2008: Agriculture for Development*. Washington, DC: World Bank Group.

<sup>2</sup>De Brauw, A, Delavallade, C and Ackah, C, ongoing. *Providing incentives to smallholder farmers for adoption of conservation agriculture practices in Ghana*. 3ie formative evaluation.

<sup>3</sup>Spielman, D, Nkonya, E and Andam, K, ongoing. *Evaluation of the impacts of a soil fertility training programme on farm productivity in the Volta region of Ghana*. 3ie impact evaluation study.

<sup>4</sup>Osei, R, Osei-Akoto, I, Asante, FA, Adam, M, Fenny, A, Adu, P and Hodey, L, 2017. *Reinforcing agro dealer networks in Niger: an impact evaluation study*, 3ie Grantee Final Report. New Delhi: International Initiative for Impact Evaluation (3ie).

<sup>5</sup>Osei, R, Osei-Akoto, I, Asante, FA, Adam, M, Fenny, A, Adu, P and Hodey, L, 2017. *Reinforcing agro dealer networks in Niger: an impact evaluation study*, 3ie Grantee Final Report. New Delhi: International Initiative for Impact Evaluation (3ie).

<sup>6</sup>Fabregas, R, Kremer, M, Robinson, J and Schilbach, F, 2017. *Evaluating agricultural information dissemination in western Kenya*. 3ie Impact Evaluation Report 67. New Delhi: International Initiative for Impact Evaluation (3ie).

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March 2018

