

Influencing the design of the World Bank's smallholder farmer irrigation project in Rwanda

About 3ie evidence impact summaries

[Read how 3ie verifies and classifies evidence impact](#)

Highlights

Evidence impact

- The 3ie-supported evaluation informed the design of the Sustainable Agricultural Intensification and Food Security Project, the World Bank's new lending project in Rwanda. The results formed an integral part of the discussions of setting up the new project.

Factors that contributed to impact

- Early involvement and extensive engagement by researchers with key decision makers resulted in evidence uptake of the study recommendations.
- The results of the evaluation were released in time for the World Bank to consider the evidence and recommendations of the study in designing its project.

Impact evaluation details

Title: [Impacts, maintenance and sustainability of irrigation in Rwanda](#)

Authors: Esdras Byiringiro, Maria Jones, Florence Kondylis, John Loeser, Jeremy Magruder, Christophe Ndahimana

Status : Completed December 2019



Context

To address the challenge of food security, commercial agriculture has been encouraged in many developing countries. In Rwanda, most of the smallholders were rain-dependent and cultivated seasonal crops for consumption at home. The absence of irrigation resulted in low yields, which were neither commercially viable nor an extra source of income.

To overcome this challenge and promote economic growth, Rwanda's Ministry of Agriculture and Animal Resources launched its flagship programme: Land Husbandry, Water Harvesting and Hillside Irrigation (LWH), a sustainable land husbandry initiative for hillside agriculture. The aim of the project was to improve irrigation investments to facilitate economic development opportunities for smallholder farmers by improving yields and reducing risk during periods of droughts. The ministry had planned to invest in 9,392 hectares during 2014–2017 and further expand it to 15,300 hectares during 2017–2020.

In 2017, 3ie collaborated with the Ministry of Agriculture and Animal Resources, the World Bank's Development Impact Evaluation and the University of California, Berkeley to study the impacts and sustainability of LWH in Rwanda. Four LWH schemes spanning five districts of Rwanda were part of the study, and 427 households participated in the study.

Evidence

The study findings demonstrated that hillside irrigation increased smallholder yields and cash profits by 70 per cent. Dry season yields were 90 per cent higher for plots in the treatment areas as compared to plots in control areas. Further, the study suggested that farmers who received access to irrigation were more likely to grow horticulture crops. A finding highlighted by the study was on labour market failures being a key constraint limiting the irrigation of commercial crops. Many smallholders rely on their own labour and cannot afford to hire

labourers once they adopt commercial farming.

Evidence impacts

Lessons learnt inform the World Bank's project in Rwanda

Significant positive findings from the impact evaluation informed the design of the Sustainable Agricultural Intensification and Food Security Project, the World Bank's new lending project in Rwanda. The [project acknowledged](#) the challenge identified in the study that, under large-scale irrigation, the positive impacts are restricted to a subset of commercial farmers, with smallholders less likely to benefit. The project thus proposed to support and scale up Rwanda's Small-Scale Irrigation Technology Development Programme, which benefits small farmers who irrigate small pieces of land capable of producing good yields during the drought period.

Suggested citation

International Initiative for Impact Evaluation (3ie), 2020. *Influencing the design of the World Bank's smallholder farmer irrigation project in Rwanda* [online summary], Evidence Impact Summaries. New Delhi: 3ie.

If you have any suggestions or updates to improve this summary, please write to influence@3ieimpact.org

Last updated on 13th November 2020