International Initiative for Impact Evaluation

Evidence gap map

Agriculture, fishing, and forestry

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Agriculture-led growth in low- and middle-income countries: An evidence gap map

Many low- and middle-income countries have predominantly agricultural economies; development of the agricultural sector is therefore key to their economic growth and prosperity. Various agencies working in international development have made agricultural development a priority, dedicating substantial resources to programming in this area. The design and implementation of effective policies and interventions for agriculture-led growth, however, first require accessible information on what works, for whom, and at what cost, and any evidence gaps must be identified and filled.

To address this need, the International Initiative for Impact Evaluation (3ie) was commissioned by USAID's Bureau for Resilience and Food Security to develop an evidence gap map, which describes the available evidence on a broad range of interventions across the agricultural sector that aim to promote inclusive economic growth. The map illustrates the available evidence on the effects of agricultural interventions (e.g., dissemination and delivery of productivity-enhancing innovations, improving the efficiency and accessibility of markets, and supporting a sound regulatory and business environment) on outcomes related to economic growth and prosperity (e.g., adoption of new technologies, quantity and quality of farm outputs, economic and environmental outcomes, empowerment and access for vulnerable groups, and investment in the sector).

Highlights

- The map presents 1,605 impact evaluations and 61 systematic reviews related to agricultural interventions.
- We found extensive evidence on the impact of interventions designed to *disseminate technologies and knowledge to farmers, to increase access to financial and insurance services*, and to establish formal land rights.
- The map reveals evidence gaps regarding interventions designed to *strengthen agricultural markets,* particularly those targeting non-producer actors in these markets. Evidence on outcomes related to non-producer actors is also lacking.
- We have low confidence in the conclusions of most of the systematic reviews.
- Very few studies consider or address gender or equity in their research.

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Main findings

This map identifies 1,605 impact evaluations and 61 systematic reviews that examine the effects of various agricultural interventions on outcomes related to agricultural productivity and resilience. There has been a steady increase in the number of impact evaluations per year since 2000, with a less consistent increase in the number of systematic reviews. Studies took place in 116 low- and middle-income countries, with concentrations in Sub-Saharan Africa, particularly Ethiopia and Kenya, and in South Asia. The greatest number of impact evaluations of any individual country, however, took place in China.

There is a large body of evidence on the impact of trainings and dissemination of productivity-enhancing agricultural innovations to farmers. Interventions that combined multiple components related to innovations and markets are also relatively common. Beyond trainings and innovations, the most frequently evaluated interventions include land rights reform and forest conservation schemes. A moderately sized evidence base also exists for interventions that strengthen producer or marketing groups, disseminate information on effective marketing practices, improve rural transport infrastructure, link farmers to purchasers, and promote women's engagement and empowerment in the sector.

We identified gaps in research on interventions in the market and policy domains. Comparatively few studies examine market-oriented interventions, particularly those targeting non-producer actors in agricultural markets. There is little evidence on the impact of interventions that aim to improve the efficiency of markets by targeting input suppliers, purchasers, processors, and other agribusinesses. There are no evaluations on the impact of financial sector reform on the agricultural sector, and only one evaluation on the impact of migration policy.

The most evaluated outcomes include farmers' adoption, farm productivity, and the income, food security, and poverty of farming households. Product volume/yield is the most frequently measured outcome, followed by household poverty and income, and farmers' input adoption. Outcomes related to empowerment are measured somewhat frequently (125 studies), but not nearly as often as adoption, productivity, or income/poverty (300–600 studies each). The largest gaps in outcomes measured include (non-producer) agribusiness performance, environmental outcomes (other than landscape change), and public and private investment in the agricultural sector.

There are several potential gaps in terms of recent, high-confidence synthesis work. For the most part, the areas with high and low concentrations of systematic reviews mirror those of impact evaluations, though most reviews are low confidence. Despite many impact evaluations of land rights reform, access to financial and insurance services, and multi-component interventions combining training for farmers with access to productivity-enhancing technologies, there is a dearth of recent, high-quality systematic reviews in these areas.

Very few studies consider gender or equity. Of all the impact evaluations and systematic reviews, 80 per cent do not address gender or equity at all. Those that do, primarily measure effects on inequality outcomes and sub-group analysis by sex or socioeconomic status.

Implications for future agricultural programming and research

Overall, this map identifies and makes available evidence on a broad range of agricultural interventions that aim to promote inclusive economic growth. It also highlights gaps in the evidence base and areas where future work could be beneficial.

The findings of this evidence gap map have the following implications:

- This map is a useful tool for decision makers, practitioners, and researchers to quickly identify evidence on the effects of agricultural interventions of interest. The most reliable and actionable evidence will typically be found in medium- and high-confidence systematic reviews. Decision makers can also access impact evaluations investigating the association between agricultural interventions and outcomes in specific contexts.
- Users of this map should exercise caution when interpreting its contents, as it does not determine whether interventions succeed. However, it does reveal whether specific interventions and outcomes have been evaluated and provides links to the associated studies.
- Researchers can fill gaps in primary research by studying interventions and outcomes related to non-producer actors in agricultural markets, the effects of migration policies, and public and private investment in the agricultural sector – though evaluating such policies using counterfactual-based methods may be difficult.
- Additional high-quality, up to date syntheses of the evidence in areas with a concentration of impact evaluations – such as land rights reform, access to financial and/or insurance services, and combined training and technology interventions – may be beneficial.
- Researchers should consider the adoption of equity-sensitive research, as this represents a significant gap in the evidence base concerning how to promote equitable and sustainable growth through agriculture-related interventions.

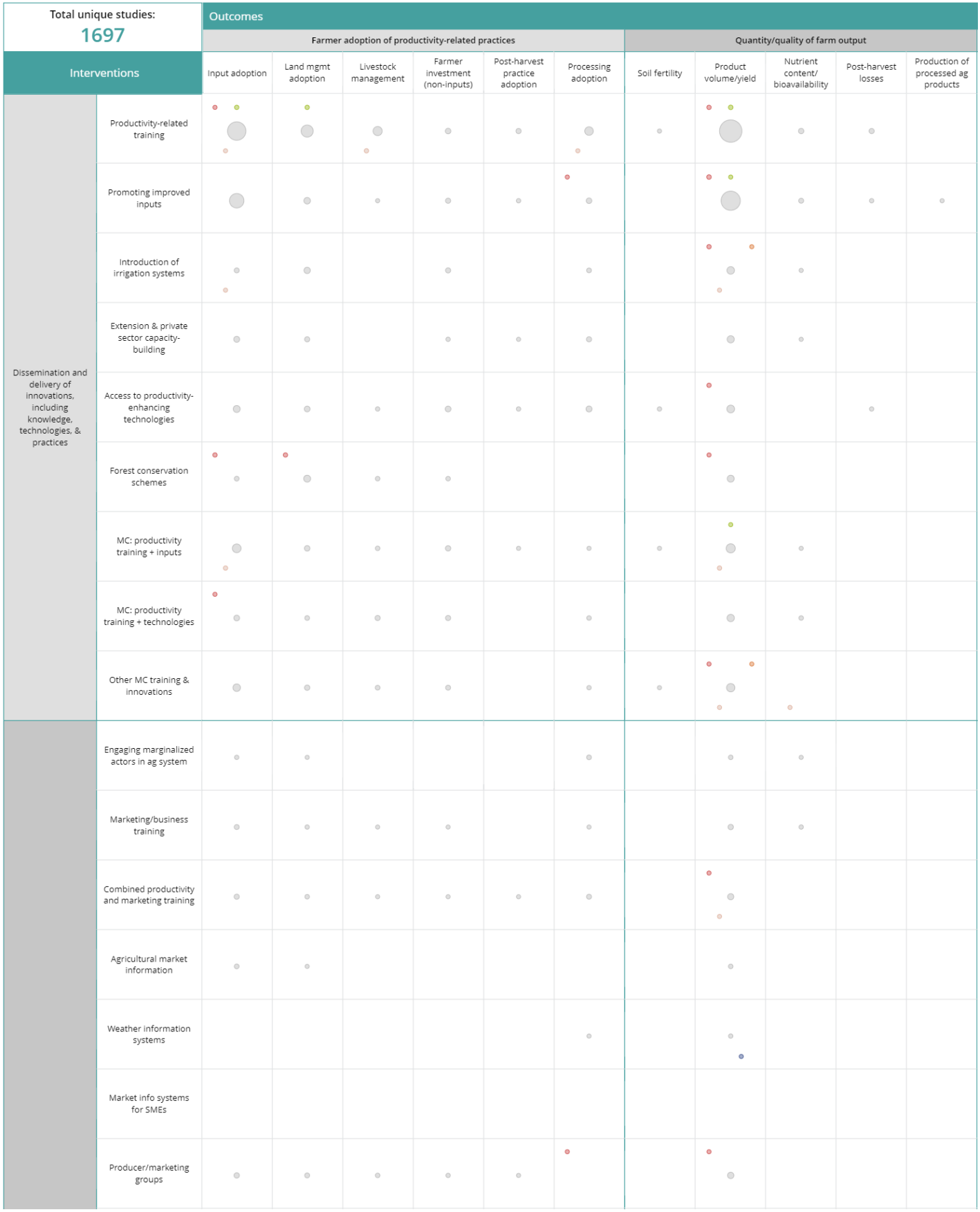
How to read an evidence gap map

The International Initiative for Impact Evaluation (3ie) presents evidence gap maps using an interactive online platform that allows users to explore the evidence base. Bubbles appearing at intersections between interventions and outcomes denote the existence of at least one study or review. The larger the bubble, the greater the volume of evidence in that cell. The color of each bubble represents the type of evidence and, for a systematic review, a confidence rating (as indicated in the legend). In the online version, hovering over a bubble displays a list of the evidence for that cell. The links for these studies lead to user-friendly summaries in the 3ie evidence database. Users can filter the evidence by type, confidence rating (for systematic reviews), region, country, study design and population.

What is a 3ie evidence gap map?

3ie evidence gap maps are collections of evidence from impact evaluations and systematic reviews for a given sector or policy issue, organized according to the types of programs evaluated and the outcomes measured. They include an interactive online visualization of the evidence base, displayed in a framework of relevant interventions and outcomes. They highlight where there are sufficient impact evaluations to support systematic reviews and where more studies are needed. These maps help decision makers target their resources to fill these important evidence gaps and avoid duplication. They also facilitate evidence-informed decision-making by making existing research more accessible.

Agriculture-led growth in low and middle-income countries: an evidence gap map



* This image shows only a part of the Agriculture-led growth in low and middle-income countries: an evidence gap map. For the full map, please visit the website.

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About this map

This brief is based on *Agriculture-led Growth in Low- and Middle-income Countries: An Evidence Gap Map* by Mark Engelbert, Zafeer Ravat, Katherine Quant, Maciej Respekta, Fiona Kastel, Carolyn Huang, Daniel Frey, Faez Ahmed, Binyang Song, Kristen Marie Edwards, Jaron Porciello, and Birte Snilstveit. The authors identify, map and describe the evidence base regarding the impacts of agriculture-focused interventions on economic and welfare outcomes in low- and middle-income countries. The report describes 1,605 completed impact evaluations, 61 completed systematic reviews, 29 ongoing impact evaluations and 2 ongoing systematic reviews, mapped onto a framework of 32 interventions and 36 outcomes spanning 116 low- and middle-income countries.

Funder acknowledgment

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The International Initiative for Impact Evaluation (3ie) develops evidence on how to effectively transform the lives of the poor in low- and middle-income countries. Established in 2008, we offer comprehensive support and a diversity of approaches to achieve development goals by producing, synthesizing and promoting the uptake of impact evaluation evidence. We work closely with governments, foundations, NGOs, development institutions and research organizations to address their decision-making needs. With offices in Washington DC, New Delhi and London and a global network of leading researchers, we offer deep expertise across our extensive menu of evaluation services.

For more information on 3ie's evidence gap maps, contact **info@3ieimpact.org** or visit our website.

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