

# THE IMPACT OF STRENGTHENING AGRICULTURAL EXTENSION SERVICES: EVIDENCE FROM ETHIOPIA

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## KEY MESSAGES

- **Extension services have been implemented on a large scale in developing countries for decades. However, there is little evidence on their impact on the productivity and welfare of farmers.** Our study aims to begin to fill this evidence gap with the goal of identifying and encouraging the uptake of best practices for the delivery of extension services by governments.
- **Our findings suggest that strengthening extension services to make them more responsive to the needs of farmers can induce a switch to more commercial, market-oriented agriculture.** Indeed, we find that the Rural Capacity Building Project (RCBP) had a positive impact on economic participation in the household, land area cultivated and adoption of marketable crops.
- **Female-headed households seem to have benefited equally from the extension services project but it did not contribute to reducing the gender gap in agricultural outcomes** as their initial levels of wealth and consumption, as well as labor and capital endowments were lower.
- **Additional research is required to identify extension services designs that contribute to closing the gender gap,** by addressing more specifically the challenges faced by women in areas such as labor and capital endowment.

## GENDER INNOVATION LAB

The Gender Innovation Lab (GIL) conducts impact evaluations of development interventions in Sub-Saharan Africa, seeking to generate evidence on how to close the gender gap in earnings, productivity, assets and agency. The GIL team is currently working on over 50 impact evaluations in 21 countries with the aim of building an evidence base with lessons for the region.

The impact objective of GIL is increasing take-up of effective policies by governments, development organizations and the private sector in order to address the underlying causes of gender inequality in Africa, particularly in terms of women's economic and social empowerment. The lab aims to do this by producing and delivering a new body of evidence and developing a compelling narrative, geared towards policymakers, on what works and what does not work in promoting gender equality.

Agriculture accounts for 85 percent of employment and 46 percent of GDP in Ethiopia and is dominated by smallholder farming. Although there has been growth in production since 2000, most of the growth has come from increases in the area cultivated rather than an intensification of production. Yields have thus remained low by international standards. Various models of extension services programs have been developed to increase agricultural productivity in many countries. Agricultural extension services are designed to “extend” research-based knowledge to the rural sector, providing assistance and training to farmers to enhance their farming practices, and in turn increase their productivity and improve their welfare. However, research on the impact of such programs on yield growth is not conclusive, and has run into challenges in assessing the relationship between extension services and increased productivity.

Moreover, participation of women in agriculture in Ethiopia is substantial, with estimates lying between 29 percent and 45.5 percent of agricultural labor. However, access to extension agents is significantly lower for women as compared to men. Improving their access to knowledge and information on agricultural technologies may lift one of the barriers to women’s economic empowerment in Ethiopia.

## THE PROGRAM

In 2006, the Ethiopian government’s Rural Capacity Building Project (RCBP) was designed and implemented with the objective of strengthening agricultural services and systems and making them more responsive to the needs of smallholder farmers. The extension system relied on a network of professionally trained extension workers called Development Agents (DA) who were deployed in Farmer Training Centers (FTC). The RCBP supported capacity building at the woreda, regional, and federal levels of the agricultural extension system. The RCBP was implemented in 10 regions, 127 woredas, 635 kebeles and 2,500 FTCs in the country. The program aimed to mainstream gender in all aspects of the extension system to increase female participation.

## HERE’S WHAT WE DID

The World Bank’s Africa Gender Innovation Lab launched an experiment within the context of the RCBP project, to assess the assumption that providing extension services to farmers would help them enhance their farming practices, leading to increased productivity and welfare. In particular, the study analyzed whether the RCBP improved women’s access to knowledge and information on agricultural technologies.

We used a panel dataset collected among farming households in both project and non-project kebeles between 2009 and 2012 to evaluate the impact of the RCBP. The sample included 1,485 households spread across four major regions.

## HERE’S WHAT WE FOUND

**The RCBP increased economic participation in the household, land area cultivated and adoption of marketable crops, suggesting that access to extension helped farmers switch to more commercial, market-oriented agriculture.** It appears the training provided by extension agents could have encouraged farmers to devote more resources to agriculture, by investing in land, better technology and marketable crops with a longer maturation period. Land area, irrigation and tree farming increased in areas where RCBP was implemented. While overall productivity did not improve as a result of RCBP, the farming and selling of marketable crops increased significantly.

**The number of people in the household contributing to income increased in RCBP areas, with more work undertaken off farm.** This could be the result of the adoption of market-oriented agriculture that may require work in areas such as marketing and processing.

**The main impacts of the program, adoption of marketable crop farming and increased labor force participation, benefited male and female-headed households equally.** However, the RCBP did not help to close the gender gap. As female heads of households were initially worse off in all dimensions





(wealth and consumption, labor and capital endowment, access to extension services and farming advice in general), they were still worse off after RCBP.

**After an initial surge in the use of extension services, households that received RCBP increasingly gained advice from sources outside of the government system, such as NGOs.** It is possible that after initially getting a set of useful information from extension agents, households graduated to other sources once they had exhausted the knowledge that the public extension system could provide.

**Initially wealthier households benefited from RCBP significantly more than poorer households, in terms of non-food consumption and level of assets.** The project encouraged investments, with wealthier households being able to invest in the land, by expanding irrigation use and higher quality crop farming, while poorer households invested in cheaper or more liquid assets, such as livestock.

## NEXT STEPS

Next steps should include the piloting and evaluation of new, more innovative approaches to extension aimed at decreasing the gender gap in access to extension services and productivity. This could be undertaken by more specifically targeting the constraints faced by women initially, and testing different modes of delivery services. For example, as wealthier households have larger or better quality networks that they can turn to for advice on agricultural technology, leveling the playing field for poorer households, notably female farmers, may require revising the design of extension services to include partnerships with other actors such as NGOs to ensure improved access to social learning opportunities.

Similarly, more rigorous evidence is needed on whether the presence of female messengers improve learning of agricultural techniques by female farmers. Simple steps such as hiring female agents could not only improve communication to women farmers, but also better meet their informational needs.

For more information on this study, see the Policy Research Working Paper: <https://openknowledge.worldbank.org/handle/10986/27976>

FOR MORE INFORMATION,  
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This work has also been funded in part by The Umbrella Facility for Gender Equality (UFGE), a World Bank Group multi-donor trust fund expanding evidence, knowledge and data needed to identify and address key gaps between men and women to deliver better development solutions that boost prosperity and increase opportunity for all. The UFGE has received generous contributions from Australia, Canada, Denmark, Finland, Germany, Iceland, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom, and the United States.