

# AGFINANCE POSITIVELY IMPACTS SMALLHOLDER FARMS IN GHANA

Rigorous independent research verifies positive impact of Opportunity agricultural loans

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## RESEARCH OVERVIEW

Opportunity International provides smallholder farmers in Ghana with agricultural loans and support (AgFinance) to enhance farm productivity, rural livelihoods, and food security. The Mastercard Foundation supported rigorous research in Ghana from 2015-2017 to measure the impact of Opportunity's AgFinance program.

Conducted by NORC, an independent research institution, this study—uncommon because of its high complexity and cost—represents an important contribution to the body of evidence on the effectiveness of rural microfinance and how to quantify impact.

## RESEARCH FINDINGS

- ▶ **For Agricultural Development:** Agricultural loans can have a positive impact on farm income. Even during a painful recession, overall household livelihoods can remain stable.
- ▶ **For Financial Inclusion:** Many rural clients opt-out of AgFinance during economic downturns, which calls for broader family finance, more stable market linkages, and farmer-focused risk management strategies.
- ▶ **For Impact Measurement:** Evidence on the positive impact of agricultural finance is growing, but the cost and complexity of rigorous impact measurement remain a significant challenge.

## RESEARCH CONTEXT

**AgFinance accelerates financial inclusion, supporting farmers in sub-Saharan Africa to build lasting livelihoods.** Agriculture constitutes 25% of the total GDP in sub-Saharan Africa<sup>1</sup> and 80% of food is produced by smallholder farms, directly employing 175 million people.<sup>2</sup> Over one third of these smallholder farmers—61 million—are living in poverty.<sup>3</sup> To meet the food needs of a growing population, farmers in sub-Saharan Africa are facing a financing gap of \$26 billion to purchase inputs and technology for this vast production growth.<sup>4</sup> Consequently, the need for champions of rural and agricultural development is crucial. Opportunity's AgFinance is one of the most extensive, innovative programs facilitating sustainable access to finance for smallholder farmers in Africa. Since 2009, Opportunity has reached nearly half a million farmers across seven countries through regulated financial institutions.

AgFinance utilizes client-centric financial products, client protection principles, financial education, agricultural training and extension services, and market linkages to strengthen financial systems with long-term solutions for reaching and including rural households.

Opportunity is also a key contributor to global knowledge of agricultural finance. As the broader community strives to generate strong evidence of the effectiveness of AgFinance,<sup>5</sup> Opportunity is conducting regular client satisfaction surveys and other research to continuously improve farmer services and the sustainability of AgFinance for financial institutions.

## THE RESEARCH PROJECT

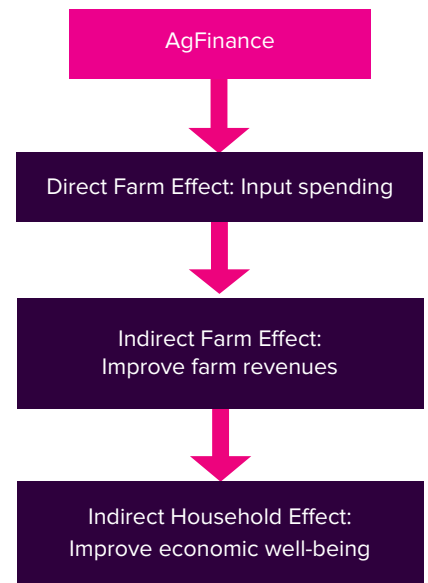
**NORC conducts an independent impact study of AgFinance in Ghana.**

In 2013, Opportunity conducted a groundbreaking impact assessment, prompting the Mastercard Foundation to support an independent impact study that would employ a greater level of rigor to measure the impact of AgFinance on smallholder farms from 2015-2017.

The impact study was conducted by NORC at the University of Chicago, an independent research institution, and surveyed clients served by one of Opportunity's most mature AgFinance partners, Opportunity International Savings and Loans in Ghana.

Using a rigorous, quasi-experimental design, researchers selected and surveyed over 1,600 households (at

### Causal Chain Model



endline) in 70 communities. “Propensity score matching” was used by researchers to statistically match client households—those receiving at least one loan<sup>6</sup>—to non-client households in nearby, similar locations, based on a set of pre-determined variables, such as crops grown, farm-size, education level of farmer, and risk appetite. Financial data for this analysis was gathered from client and comparison households using detailed questionnaires. The study measured impact along the causal-chain, measuring the causal relationship of accessing AgFinance to direct farm effects (e.g., input spending), indirect farm effects (e.g., farm revenue), and indirect household effects (e.g., economic well-being).

## RESEARCH INSIGHTS

**AgFinance services have a positive impact on farm income.** AgFinance loans directly increased farmers’ spending on inputs (e.g., fertilizer, seeds) by 42%. This resulted in a short-term increase in farm revenue of 5% and net farm revenue of 1%. Client household income remained stable.<sup>7</sup>

When clients and non-clients were asked to rate the performance of their farms and their household well-being over the period (2015-2017), client households perceived greater improvements in their farm performance, including farm yield, output, and income over non-clients

by 10-13 percentage points. Clients also perceived greater progress than non-clients in terms of household well-being, including financial status, managing financial shocks, and food availability during the hungry season by 10-14 percentage points. These positive impacts were found despite challenging economic conditions. Thus, Opportunity can assume a higher magnitude of impact on farms and households under better economic conditions. Additionally, this study demonstrated that AgFinance does not erode livelihoods during periods of economic recession.

Positive Findings	
Effect level	Indicator
Direct Farm Effect	<b>42% increase</b> in input spending
Indirect Farm Effect	<b>5% increase</b> in farm revenue <b>1% increase</b> in farm net revenue <b>10-13 ppts greater*</b> client perception of farm performance
Indirect Household Effect	<b>10-14 ppts greater*</b> client perception of household well-being

\*Percentage points greater than change in non-client perceptions

## RESEARCH CHALLENGES

**Economic conditions limited service outreach and the magnitude of client impact.** A painful recession combined with an uncertain government fertilizer policy affected program implementation and farmer income, thus making it difficult to detect financial impacts. Detectable impact was also diluted when the clients took an average of 1.6 loans rather than the projected 2.4 loans over the study period. Additionally, reduced market demand meant that average farm revenue was lower than anticipated. Finally, the high availability of agricultural training and extension services for non-clients contaminated the comparison group, making it impossible to measure the impact of the full AgFinance program.<sup>8</sup>

## INSIGHTS FOR FUTURE AGFINANCE PROGRAMMING

The findings from this study verify the positive impact of AgFinance and validate key strategic directions. In order to address the factors leading farmers to opt out of crop financing, the AgFinance program is working on—

- ▶ **Farmer-focused risk management:** A flexible guarantee fund reducing risk and costs for farmers via collateral, interest rate or collateral requirement buy-downs, emergency loans in lieu of crop insurance, and financing for post-harvest storage—allowing farmers to wait and sell when prices improve, thus increasing profits.
- ▶ **Focus on fewer, high-potential crops** to deepen AgFinance partnerships that can offer farmers more stable, lower risk, and higher value market relationships.
- ▶ **Diversification of rural finance and increased outreach via digital channels** to reduce costs help farmers save, diversify income sources, and meet essential spending needs even when income temporarily declines.

For both Opportunity and the broader industry, this research is a valuable contribution to the small, but growing body of knowledge on the impact of agricultural finance on rural farmer livelihoods.

**Questions?** For more information, contact Knowledge Management, [knowledgemanagement@opportunity.org](mailto:knowledgemanagement@opportunity.org)

<sup>1</sup> OECD-FAO Agricultural Outlook 2016-2025. “Part 1, Chapter 2: Agriculture in Sub-Saharan Africa: Prospects and Challenges for the Next Decade.” 2016.

<sup>2</sup> Alliance for a Green Revolution in Africa (AGRA). “Africa Agriculture Status Report 2017: Climate Change and Smallholder Agriculture in Sub-Saharan Africa.” 2017.

<sup>3</sup> FAO (Food and Agriculture Organization of the United Nations). Family Farming Knowledge Platform. “Smallholders dataportrait.” 2005-2013.

<sup>4</sup> Initiative for Smallholder Finance and the Rural and Agricultural Finance Learning Lab, “Inflection Point: Unlocking Growth in the Era of Farmer Finance.” ISF and RAFL. 2016.

<sup>5</sup> The Mastercard Foundation Rural & Agricultural Finance Learning Lab summarized available studies in 2015 ([https://www.rafllearning.org/sites/default/files/epar\\_2\\_w\\_edits\\_final.pdf](https://www.rafllearning.org/sites/default/files/epar_2_w_edits_final.pdf)), a year after Opportunity launched this impact study of AgFinance in Ghana. Most of these studies, however, were of agricultural value chain interventions, not financial interventions like Opportunity’s AgFinance program. Thus, this research remains a valuable contribution to industry evidence.

<sup>6</sup> Many studies compare households of “likely” clients and/or households in the community at large, diluting the ability of the study to measure statistically-significant impact.

<sup>7</sup> There was no statistical significance found between client and non-client overall household income, which is affected by many factors beyond farm performance.