



Assessing the Impact of Opportunity International's
Agricultural Lending Program
RESEARCH BRIEF



The MasterCard
Foundation

In Partnership with The MasterCard Foundation

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ACKNOWLEDGEMENTS

Opportunity International would like to recognize The MasterCard Foundation for making possible the original impact study on which this research summary is based. “An Impact Assessment of Opportunity International’s Agricultural Lending Program in Uganda, Malawi and Ghana” (July 2013) was written by Dr. Rita Laker-Ojok and Godfrey Kayobyo, after conducting research from April to June 2013 across the three African countries of Ghana, Malawi and Uganda. While the list of contributors and supporters is too long to fully acknowledge, there are a few groups we would like to recognize with special gratitude.

First, the researchers and staff of Opportunity’s participating banks in Uganda, Malawi and Ghana. The research team of Dr. Genzo Yamamoto, Saud Bangash, Gilbert Mkamanga and Kwame Aboagye-Atta, along with 60 enumerators, supported by drivers, local supervisors and data entry specialists, approached the project with passion and patience each day. The management teams at each bank provided the researchers with full cooperation, along with daily assistance from their expert agricultural finance teams, branch managers and support staff.

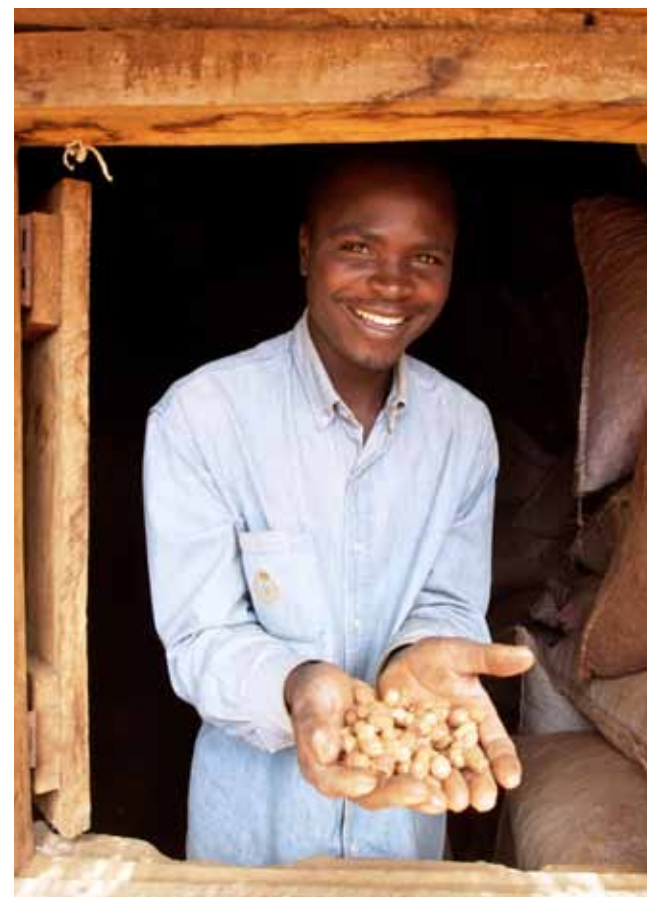
The smallholder farmers who participated in the research study also deserve our appreciation. Their willingness to take time to share their personal experiences will greatly help us as we continue expanding and improving our agricultural finance initiative.

Lastly, in addition to The MasterCard Foundation, we are also especially grateful for the Bill & Melinda Gates Foundation, John Deere Foundation, Caterpillar Foundation, The World Bank, the Weberg Family Trust, the Stanley family and the many individuals whose contributions make our agricultural finance initiative possible.

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EXECUTIVE SUMMARY



In 2013, Opportunity International (“Opportunity”) conducted extensive research in Uganda, Malawi and Ghana to investigate the impact of our rural and agricultural finance initiative on the lives and well-being of our client farmers. Our findings indicate that through Opportunity’s financial and market facilitation services, smallholder farmers have benefited from:

- Access to a full range of financial services
- Access to extension services, such as training in agricultural best practices
- Access to inputs, including improved seed and fertilizer
- Increased production and yield per crop
- Expanded acreage with which to grow more crops
- Links to higher value local crop markets
- Ability to purchase assets and invest to spread out cash flows and diversify risk
- Improved cash flow, which improves education, health care, food security and economic standing

Opportunity’s strategic expansion into Africa’s remote regions has improved the lives of thousands of agricultural clients and their families. Additionally, Opportunity has gained the resources and experience to better achieve its mission and become a global leader in cutting-edge rural banking services for the poor.

RURAL AND AGRICULTURAL FINANCE: A BOLD EXPERIMENT

Agricultural lending involves a number of prominent external risk factors. As a result, most financial institutions avoid reaching out to agricultural households. In some countries, even agricultural development banks have stopped lending to smallholder farmers.

In 2009, in collaboration with The MasterCard Foundation, the Bill & Melinda Gates Foundation, Caterpillar Foundation, John Deere Foundation and other strategic partners, Opportunity embarked upon a bold new experiment: the provision of a full range of financial services to rural communities across Malawi, Ghana, Mozambique, Uganda and Rwanda. The initiative included a strong focus on providing agricultural finance services to smallholder farmers. Opportunity chose to enter this relatively high-risk sector due to our strong commitment to reaching the world’s most vulnerable people, many of whom live in rural areas and rely on agriculture for their household income.

As of June 2013, Opportunity had achieved the following in our existing agricultural finance countries:

- **Disbursed 125,000 agricultural loans totaling \$29 million to smallholder farmers since 2009**
- **Provided financing for more than 20 different high-potential crops**
- **Opened over 1.4 million savings accounts, including 580,000 in rural underserved areas**
- **Reached more than 216,000 active clients with loans for their small businesses**



To determine the impact of the rural and agricultural finance initiative, Opportunity developed a mixed-method research design involving the collection of quantitative and qualitative information:

- A 200+ question survey, with data collected from a random sampling of clients and a matched control group.
- Key informant interviews with farmer clients, bank staff and market stakeholders.
- Focus group discussions with client farmers.
- Information from bank and ESP records, including transactional and farmer tracking data.
- Literature review and value chain analysis for the major crops in Uganda, Malawi and Ghana.

Our findings demonstrate that on average the rural and agricultural finance initiative is making significant and distinctive contributions to improving our clients' agricultural activities.

Opportunity began the impact assessment by pinpointing the three most dominant crops in the agricultural loan portfolios of our banks in Uganda, Malawi and Ghana. We then identified the branches with the largest number of client farmers for each of these crops. Next, we administered a 200+ question survey to a random sampling of these client farmers, establishing a retrospective baseline using farmer recall. To address the challenges of this approach, Opportunity's survey included granular questions to invite careful recollection and multiple related questions on most topics to confirm general findings. The research team also conducted focus group discussions, key informant interviews, and where available, review of farmer group output or sale records and buyer receipts to strengthen research conclusions.

The key challenge was in finding non-client farmers for the control group. Opportunity identified control farmers by seeking out individuals in the same vicinity as clients who had not completed any Opportunity loans but were growing the same crops in similar soil and climatic conditions. While this methodology could not guarantee a perfect match with client farmers across all factors, analyses showed that they remained broadly comparable. Because Opportunity was the only organization offering agricultural finance services in many areas, over 85% of the control group had not received a loan from any financial institution. The remaining 15% had received between one and three loans from a source other than their local Opportunity bank, had just started a loan with Opportunity (and so did not yet count as a client for this research), or had loans with Opportunity that were not agriculture-related. Such farmers were left in the control group, making the comparisons even more real-to-life. Opportunity surveyed a total of 1,244 farmers.

Limited adoption of modern farming techniques in Africa has led to low agricultural output, widespread poverty and high levels of food insecurity across the continent. Africa is home to a quarter of the world's arable land, yet it generates only 10 percent of global agricultural output¹ and imports an average of \$50 billion of food annually.² For Africa's agricultural sector to meet growing local and global demand for food, rural households must transform their subsistence farms into thriving agribusinesses.

Our findings demonstrate that on average the rural and agricultural finance initiative made significant and distinctive contributions to improving our clients' agricultural activities:

1. Client farmers increased their crop yields³ through attaining enhanced access to agriculture loans, modern agricultural inputs and training in good agricultural practices.

- Farmer interviewees valued the training they received from local extension service providers partnered with Opportunity and cited adoption of new agricultural skills as an important reason for improvements in their farming.
- Client households reported using inputs (high quality seeds, fertilizers, pesticides, herbicides) more than control households. For example, 68% of client farmers used fertilizer on their land – 39% more than control farmers.
- Opportunity's agricultural clients achieved significant yield increases except for special cases of crop failure due to external constraints.⁴ Ugandan coffee farmers working with Opportunity registered a 44% increase in yield on average in 2012 relative to their 2009 levels. By contrast, control households registered a 23% decrease.

2. Client farmers increased their agricultural productivity by using loans to rent or purchase additional land. They were also better able to hire labor for farm and non-farm business activities, creating jobs in their communities and diversifying their incomes.

- Clients achieved higher average crop production than control farmers and significant increases in 2012 compared to 2009 in almost all crops.

- Clients had more land under production than control households in both 2009 and 2012 by renting or purchasing additional land (42% rented, 14% bought).
- Client farmers used loans to hire farm labor, tractors and oxen. They hired 78% more farm labor and purchased 30% more animals than control farmers. They also purchased production equipment such as spray pumps, wheelbarrows, watering cans and irrigation pumps.
- Client farmers who also operated non-farm enterprises employed more non-farm labor and had more total employees in 2012 than control farmers.

3. Client farmers connected with more reliable local crop markets with transparent pricing arrangements, offering them access to better prices for their farm outputs.

- Clients' average crop quantities brought to local markets exceeded those for control farmers and increased substantially from 2009 to 2012 in almost all crops.
- Extension service providers helped organize client farmers into groups. This enabled them to demand transparent and equitable prices directly from large crop buyers and processors without using costly middlemen as intermediaries.
- In one Ghanaian community, market buyers were purchasing maize from farmers using 180 kg bags, and then selling the crops to off-takers in 130 kg bags at the same price for considerable profit. Opportunity's facilitation increased client awareness, aggregated client crops to improve sales outcomes, and increased their bargaining power, resulting in better prices.

¹ Jayaram, Riese, and Sanghvi (2010). Agriculture: Abundant opportunities McKinsey Quarterly, Summer 2010.
² FAO (2013).
³ Crop yields refer to total kilograms produced per acre.
⁴ Opportunity's model involves close collaboration with all of the key stakeholders in local value chains to minimize the many risks faced by smallholder farmers. However, there were a small number of situations in which factors outside of Opportunity's control prevented our agricultural clients from improving their crop yields. For example, in 2011, international cotton prices collapsed and production was low because of drought. Additionally, soybean farmers in Malawi experienced a setback due to late delivery of inputs by a new soy wholesaler.

RESEARCH FINDINGS: ENHANCED QUALITY OF LIFE

Opportunity’s true aim in helping boost farmers’ yields, production and market access is to improve the lives of clients through increasing their incomes and quality of life. With this in mind, Opportunity’s research also measured the indirect impact of agricultural loans on a number of quality of life indicators.

Our findings indicate that client households improved their quality of life more than control households through utilizing our services. With access to credit, farmers were able to generate more income from their agricultural activities and improve their cash flow. As compared with control households, they were:

- More likely to improve their poverty status according to the Progress out of Poverty Index.
- Happier with their financial situation. They reported greater improvement in their economic standing in the community and enhanced ability to meet their basic expenditure requirements.
- Better able to put their children in school, afford educational expenses and prevent their children from missing school days.
- More food secure and better able to reduce the total number of hungry days experienced by their household over time.
- More apt to report improved access to health care and greater ability to meet health care expenses.
- For women, more likely to report feeling empowered in their decision-making and control over resources, with these feelings growing with continued participation in agricultural lending.

The vast majority of clients that Opportunity surveyed and/or interviewed reported positive impacts from their partnership with Opportunity through the rural finance initiative. The most commonly cited benefits included improved agricultural yield, greater ability to meet educational expenses and enhanced standard of living.

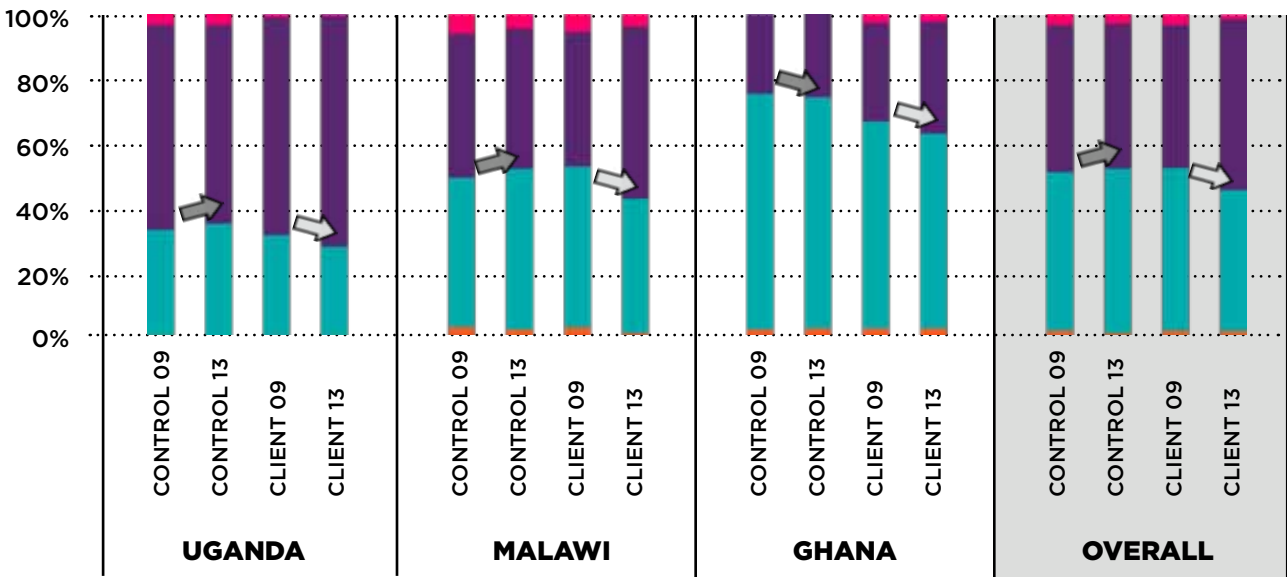
Additional information on how the quality of life research revealed our clients’ improvements in poverty status, food security, educational access and health care access is detailed below.

Improvements in Household Poverty Status

For the purposes of this study, Opportunity elected to use Grameen Foundation’s Progress out of Poverty Index (PPI) to determine the impact of the rural and agricultural initiative on the poverty status of our clients. The PPI is a consistent, industry-recognized tool for examining poverty levels among marginalized groups. It consists of 10 household-income-related questions and produces a final score between 0 and 100, which correlates to a “poverty probability” percentage score. A higher PPI score indicates a greater likelihood of the household being above the poverty threshold, while the opposite is true for lower scores. In Malawi, a score of 15 placed one at 97.5% likelihood of living below \$1.25 per day, and 100% likelihood of living below the \$2.50 per day. On the high end, a score of 90 placed one at 10.4% likelihood below \$1.25 per day and 19.1% below \$2.50 per day. The research design involved incorporation of the PPI into each of the country surveys. Opportunity collected PPI data separately for both 2009 and 2012, enabling us to calculate average PPI scores for clients and control households in each country before and



FIGURE 1: CHANGE IN DISTRIBUTION OF RESPONDENTS BY PPI QUARTILE



DISTRIBUTION OF CLIENTS BY PPI QUARTILE

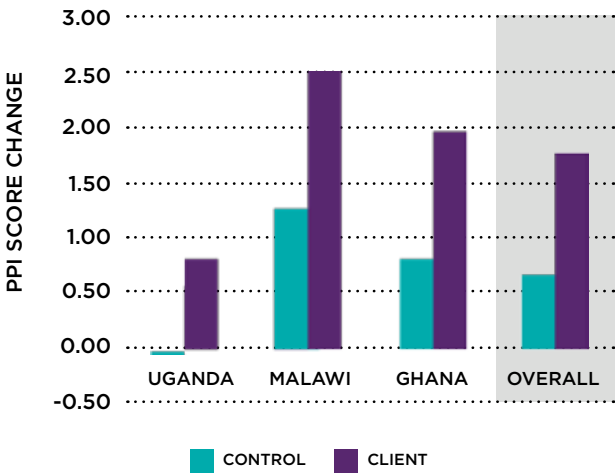


after we provided agricultural financing in the area. The PPI results indicate that:

- **Opportunity successfully reached impoverished farmers – our key target market.** The average PPI score for all clients and comparison farmers surveyed in 2009 was 49, indicating a 56% likelihood that these farmers are living below the \$1.25 per day line and 94.2% likelihood that they are living below the \$2.50 per day line.
- **Client households were more likely to move out of poverty than control households during the four-year interval since 2009.** As Figure 1 demonstrates, Opportunity divided the PPI scores for 2009 and 2012 into four quartiles (with Quartile 1 representing the poorest households and Quartile 4 representing the most financially stable) and found that a significant number of our clients have shifted from Quartile 2 to Quartile 3—evidence that their household economic status is improving. Light grey arrows in Figure 1 point out consistent decreases in the number of Opportunity clients in Quartile 2, while dark grey arrows show that the number of control respondents in Quartile 2 often increased. Although there are some cases where client farmers do worse and control farmers do better, in aggregate, 6.1% of client farmers improved while, in aggregate, control farmers experienced a 1.1% decline.

- **Clients improved their poverty status almost twice as fast as control households.** Figure 2 shows that our clients demonstrated a substantially better rate of change for growth out of poverty as compared to control farmers. This arose from 1.70 loans totalling \$505 per client surveyed on average, indicating that continued partnership between Opportunity and smallholder farmers could produce even more dramatic improvements over time.

FIGURE 2: AVERAGE CHANGE IN PPI PER COUNTRY BETWEEN 2009 AND 2012



Increased Food Security and Decrease in Hungry Days

Food security enables families to maintain consistent access to the food they need to meet their dietary needs and live a healthy life. The study found that our agricultural clients are less likely to grapple with hunger and challenges covering food costs than control households. More specifically, our research revealed that:

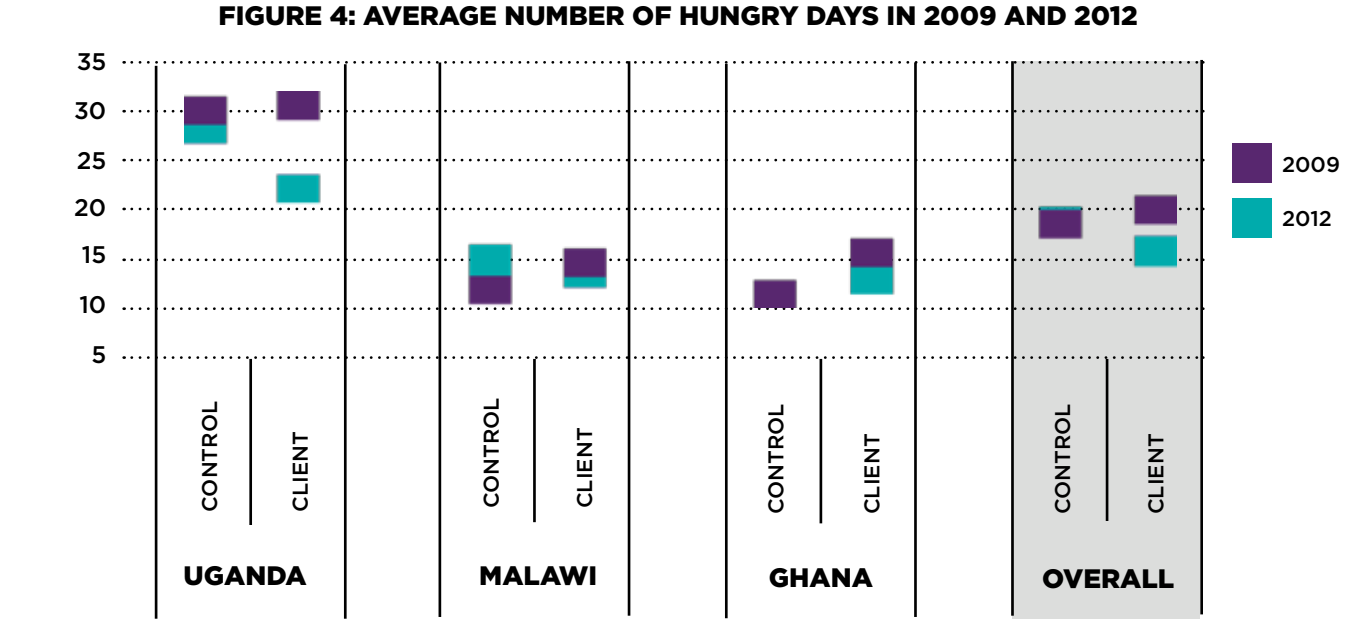
- **Client farmers were more food secure than control farmers.** Because it is a complex, multidimensional concept, measuring food insecurity is an ongoing challenge to researchers and practitioners alike. Opportunity used a slightly modified version of the Household Food Insecurity Access Scale (HFIAS) developed for USAID to measure food insecurity. The study results found that clients were more food secure than the control respondents in 2012, although their distribution was almost identical in 2009. Additionally, fewer client households were severely food insecure compared to control households.
- **Clients were better able to pay for the food their families need than control families.** Figure 3 illustrates that a larger proportion of clients (55%) said they were better equipped to afford food in 2012 than they were in 2009 compared to control respondents (45%). This was most significant in Ghana, but held true across all

three countries. Though Malawi’s recent national food crisis led all Malawian respondents to report that paying for food was difficult in 2012, the data shows that client households in Malawi were still better off than control households.

- **Clients reported fewer hungry days during the last pre-harvest season than control respondents.** Opportunity asked respondents to recall the total days of food shortage their family experienced during the “hungry season” in 2009 and 2012. We took this approach due to the highly seasonal nature of food insecurity in agricultural communities in Africa, where the experience of the “hungry season” just prior to the next harvest is widely documented. Figure 4 compares 2009 and 2012 data, showing that the number of hungry days declined significantly for client households on average in 2012. Meanwhile, the number for control households either stayed the same or, in the case of Malawi, even increased in 2012.

Improved Educational Access for Children

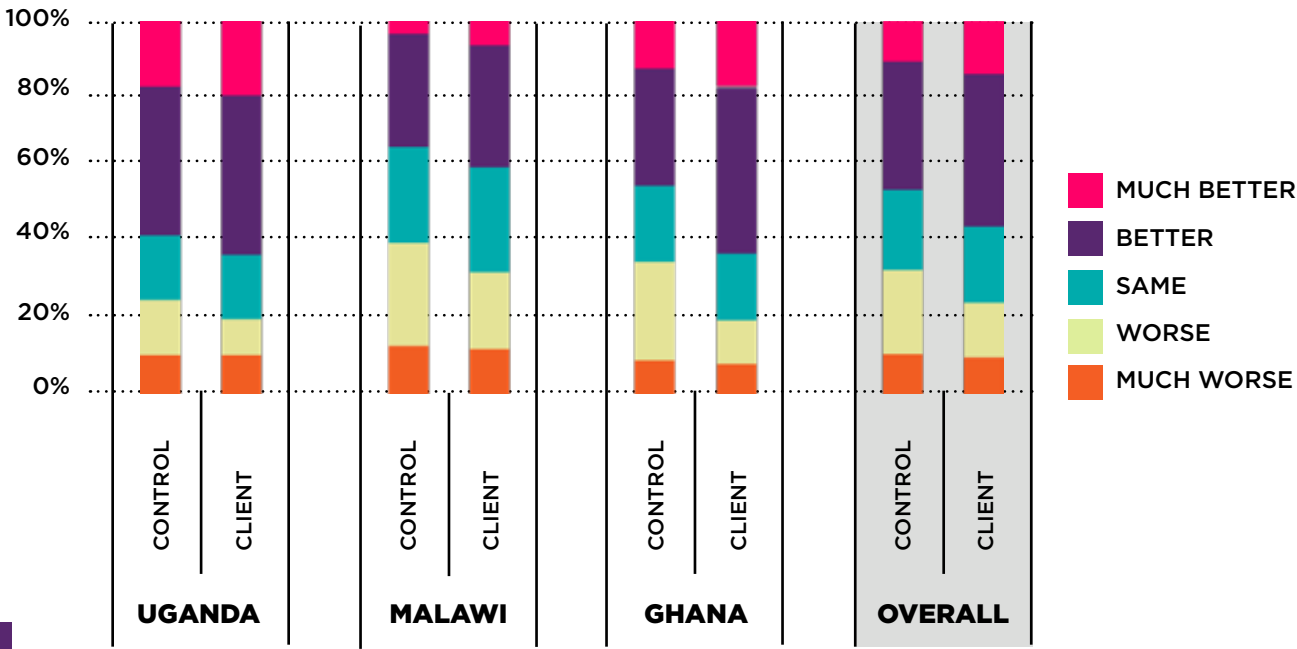
Education is one of the most powerful tools for alleviating poverty, yet many children in the developing world grow up without the chance to learn. Opportunity measured the impact of agricultural finance on education within farmer households because educational access is particularly limited in impoverished rural communities. Our research



revealed that agricultural finance loans made it easier for our clients to send their children to school. By contrast, control households reported more limited educational affordability and made less significant gains in improving their children’s access to schooling over time. Opportunity found that:

- **More clients sent their children to school than control families in 2009 and 2012.** While the proportion of children attending school increased in 2012 compared to 2009 for both client and control households, during both years clients were more likely to send their children to school than control respondents.
- **Our clients’ children missed fewer days of school than control farmers’ children due to late school fees payments.** Client households surveyed in each of the three countries reported that the average number of school days missed in 2012 was less than in 2009. Control households, on the other hand, experienced minimal change overall and the number in Malawi actually increased.
- **Opportunity clients had more cash flow to channel toward school costs than control farmer households.** Our clients were more likely than control respondents to report that they were better equipped to pay for education-related expenses in 2012 as compared to 2009. In Ghana, 42% of clients stated that they were better able to afford school costs, while just 28% of control farmers reported the same improvement over time.

FIGURE 3: PERCEIVED CHANGE IN ABILITY TO MEET FOOD EXPENSES SINCE 2009





Better Access to Health Care

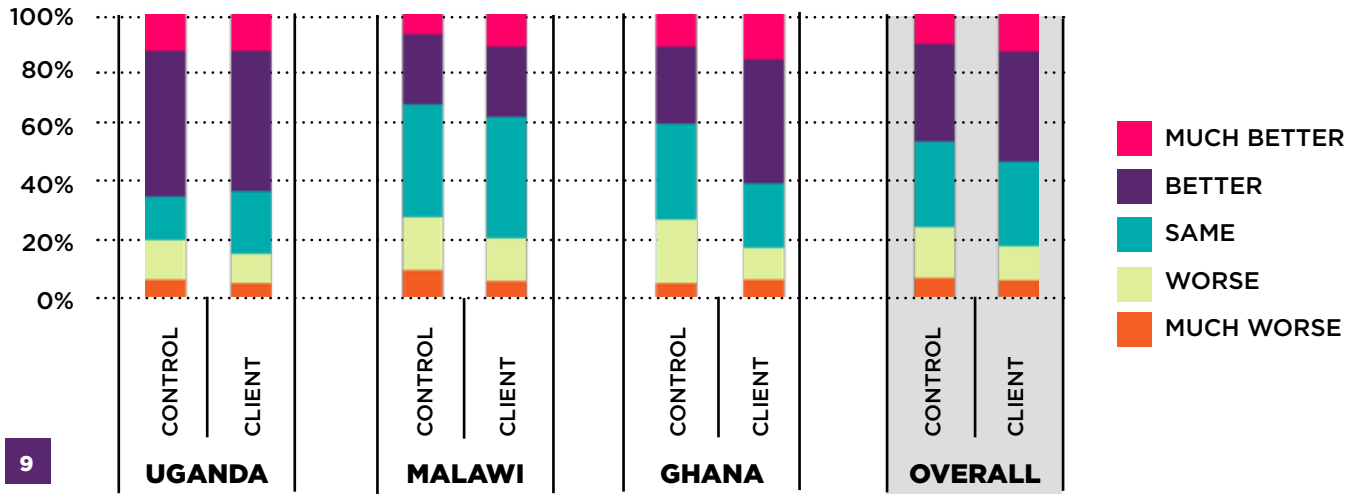
Affordable and accessible health care is a high priority for our clients, as many of them depend on their health to put food on the table every day. The study demonstrated that Opportunity’s financial offerings helped our agricultural clients and their families attain access to vital health care services they may not have received otherwise. Clients in Ghana reported the biggest health care improvements over time for nearly all of the health-related questions in our survey. Our research determined that:

- **Community-wide health care availability improved from 2009 to 2012 for both clients and control farmers.** Because a number of factors can affect our clients’ health care access, Opportunity’s surveys measured respondents’ own assessments of changes in health care access for both their household and their wider community since 2009. The vast majority (over 60%) of clients and control farmers said that their community’s health care access had improved since 2009.
- **Client farmers were better equipped to pay for health-related costs than control farmers.** The survey included questions about respondents’ level of difficulty in meeting health care expenses such as medicine and transport

and the extent to which medical debts were a challenge for their household. Figure 5 shows that clients across the three countries reported a greater ability than control households to pay for medical expenditures in 2012 compared to 2009.

- **Clients’ health care access improved more than for the control group. They also reported more significant improvement in health care access for their household than for their wider community.** Though communities as a whole were better able to utilize health services in 2012 compared to 2009, our agricultural clients reported more improved health care access for their own households than for their communities. Respondents were asked whether health care access for both their community and their household in 2012 was much better, better, the same, worse or much worse than in 2009. In terms of household health care access, 28% of Ghanaian clients stated that they had “much better” access to health care in 2012 compared to 2009 and 49% reported “better” access. By contrast, 19% of Ghanaian control farmers had “much better” health care access and 44% had “better” access. Overall, Ghanaian clients were 6% more likely to state greater improvement in household health care access than community access.

FIGURE 5: PERCEIVED CHANGE IN ABILITY TO MEET HEALTH EXPENSES SINCE 2009



CONCLUSION

Opportunity’s pioneering agricultural intervention extended beyond the provision of loans by facilitating entire agricultural value chains. Our unique rural model requires collaboration between all of the key stakeholders in local agricultural value chains to enable our client farmers to access all of the resources needed to increase their incomes. This is the only way to ensure that farmers improve their livelihoods over the long-term.

Our extensive research demonstrates that this innovative approach to rural and agricultural finance has had a measurably positive impact on thousands of rural families. The findings of the study indicate that Opportunity’s collaborative approach to serving farmers has made them better equipped than others in their community.

By offering access to a full range of financial services along with linkages to local input suppliers, extension providers and crop markets, Opportunity has empowered farmers to increase their crop yields, productivity and access to markets. As a result, they have improved their cash flow, leading them to hire additional farm and non-farm labor and purchase assets. As their agricultural businesses have prospered, our clients have also enhanced their standard of living in areas including poverty likelihood, food security, education and health care access. Though work remains to optimize and scale up our collaboration with farmers, Opportunity’s research affirms the validity of our approach, the overall direction of our strategic focus on rural households and the ability of our rural model to significantly improve the lives of smallholder farmers.





Opportunity International provides access to savings, small business loans, insurance and training to over 5 million people working their way out of poverty in the developing world. Clients in more than 20 countries use these financial services to start or expand a business, provide for their families, create jobs for their neighbors and build a safety net for the future. Opportunity International is a 501(c)(3) non-profit and serves all people regardless of race, religion, ethnicity or gender.

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