

AS GOOD AS THE COMPANY THEY KEEP? IMPROVING FARMERS' SOCIAL NETWORKS

Authors: Kenneth Leonard and Kathryn Vasilaky

KEY MESSAGES

- **Extension services have a history of being relatively expensive and not always effective. At the same time, studies show that informal social networks can be very beneficial in helping increase productivity.**
- **In Uganda, we tested the value of informal social networks for women farmers by connecting the least-productive 30% to some of the most productive women farmers in their own villages.** Results show significant gains in productivity indicating that the path to better outcomes is contained within their own community.
- **Women learned the agricultural information at least as well in a network setting as in a more intensive, formal extension setting.**
- **On average, the social network intervention was less costly and more effectively targeted women and the least productive farmers than traditional extension services.**

Social networks affect all of our lives; the people we know influence us every day, including by sharing their knowledge and experience. If something happens inside our social network, we are more likely to know about it. On the other hand, if our networks do not extend to many individuals, the less new information we are exposed to. This is especially true for people living in poor and remote areas where there is limited access to other sources of information.

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.

Traditionally, approaches to increasing agricultural productivity have focused on extension programs that target men because they are often more visible. Often the expectation is that the extension service trainees will disseminate new information to other farmers in their village, but this rarely happens. This setup is particularly costly for women who are frequently outside the social networks that would allow them to learn about these innovations. The need to more effectively reach women with agricultural information is particularly urgent as we already know that there are large gender gaps in agricultural productivity across Sub-Saharan Africa.

HERE'S WHAT WE DID

Researchers at the University of Maryland thought that linking women who farmed the same crop, yet did not know of one another's experiences, might improve the relevance of women's social networks to their farming activities and so allow them to more effectively spread information that could help them to improve their productivity.

With support from the World Bank's Africa Gender Innovation Lab, the researchers decided to test this theory with an experiment involving cotton farmers in Uganda. This was a highly appropriate context for the experiment for three reasons: (1) cotton was only recently reintroduced to certain regions of Uganda after the civil war and political unrest, so there was an absence of knowledge about the best cotton growing techniques; (2) average productivity was low; and (3) extension services offered for cotton growers were not targeted to women—one suggested reason as to why a large gap in crop yields between male and female-headed households existed.

The researchers used a two-armed randomized controlled trial (RCT) to compare a standard agricultural training program, which targeted men and women, with a social network intervention that only targeted women. The standard agricultural training program was previously implemented by extension agents and involved bi-weekly meetings with participants. This training included male and female cotton farmers who were invited to participate in a series of training sessions during the five critical stages of the cotton season including pre-planting, planting, pesticide use, harvesting and marketing.

For the social network intervention (SNI), the team invited female cotton farmers to a networking session and paired each woman with another female cotton farmer whom they did not already know. The paired women were given photos of each other and asked to speak to each other throughout the cotton-growing season. During the networking session, the paired women identified cultivation issues, chose a collaborative goal, and set times when they would meet to exchange information in the future. The session also involved a learning game, led by two external facilitators, in which incentives were given for learning and remembering new cotton farming facts.¹

HERE'S WHAT WE FOUND

A key element to the success of the social network intervention was that it allowed less productive women to learn from more productive women within their own village.

Even though this intervention may not benefit the top-performing farmers directly it is important that they are incorporated in the intervention for the benefit of the other farmers. Also, being paired with a worse farmer did not reduce the yields of the top-performing farmers.

¹ The same extension training materials and facts were used in the SNI as in the Training arm to teach women about cotton.

IMPACT OF TRADITIONAL TRAINING VS. SOCIAL NETWORK INTERVENTION



The social network approach was at least as effective at spreading new agricultural information as formal training.

Overall, womens' yields increased by 67 kgs/acre under the Formal Training program and 98 kilograms/acre under the SNI, a large increase from the average yield (180kgs/acre). To test whether these gains can be attributed to increased knowledge that women acquired in training or through talking to each other, a quiz of cotton-farming knowledge was administered. Results at follow up showed that participants improved their scores by between 4 and 5%, which translates to an increase in yields of around 15 kilograms per acre. Thus, improved knowledge on the points that the farmers were quizzed on account for some part of the gains. Other potential mechanisms for the gains from the SNI were the overall interaction with one's pair, information learned beyond that of the quiz material, and potentially, access to higher performing farmers outside one's network.

On average, the social network intervention was less costly and more effectively targeted women and the least productive farmers than traditional extension services.

By establishing new network ties with fellow cotton farmers whom they did not previously know, and gaining new information, participants were able to increase their agricultural productivity. This was especially true for the least productive female farmers. The impact appears to work by improving the suitability of women's networks for learning: after the intervention, participants' networks consisted of a higher proportion of female cotton farmers. It was found that increasing the proportion of women in a woman's social network by 10 percentage points leads to an average increase in yield of 26 kilograms per acre.

While the impacts were greatest for women, there were also impacts on men. Villages that participated in the social network intervention observed significant spillovers in productivity to men farmers, though not as great as those of women who participated in the intervention. In comparison, the formal training intervention increased yields for men significantly more than it did so for women.

The overall cost of the traditional training program was approximately \$20 USD per farmer for 354 trained farmers. Each extension trainer worked with between 7 and 30 farmers on a bi-weekly basis. The comparable cost for the SNI was \$5 per farmer, 25% of the cost of the traditional training. Furthermore, there was less variation in how the training was provided. Each SNI trainer handled 14 farmers and followed the same protocol in each session.



OVERALL COST OF TRADITIONAL TRAINING VS. SOCIAL NETWORK INTERVENTION



\$5 USD / FARMER

Social Network Intervention



\$20 USD / FARMER

Traditional Training



The overall cost of the Social Network Intervention was

25%

of the Traditional Training costs.

Thus, the social network intervention was significantly less expensive than the traditional training intervention, yet it achieved at least the same impact on yields on average and demonstrated its highest impacts for the least productive females.

CONCLUSION

By exploiting the power of social ties, social network interventions offer a lower-cost alternative to traditional agricultural training programs and can be particularly effective at improving the productivity of women. The results of the study featured in this brief are particularly relevant to policymakers in Sub-Saharan Africa, where productivity differentials still exist between males and females, and women are less frequently targeted for training.

For more information on this study see the paper: Vasilaky, Kathryn and Kenneth L. Leonard. 2015. "As Good as the Networks They Keep? : Improving Farmers' Social Networks via Randomized Information Exchange in Rural Uganda."

FOR MORE INFORMATION,
PLEASE CONTACT

Markus Goldstein
mgoldstein@worldbank.org

Rachel Coleman
rcoleman1@worldbank.org

1818 H. St NW
Washington, DC 20433 USA