GAAP
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Cereal Systems Initiative for South Asia (CSISA)

Gender Dimensions of Social Networks and Technology Adoption: Evidence from a Field Experiment in Uttar Pradesh

COUNTRY: INDIA
YEAR(S) OF PROJECT STUDY: 2009-2012
PROJECT CONTACT(S): DAVID SPIELMAN (D.SPIELMAN@CGIAR.ORG) and NICK MAGNAN (NMAGNAN@UGA.EDU)

BACKGROUND

The CSISA project was launched in 2009 with the goal of reducing food and income insecurity in South Asia through accelerated development and deployment of new cereal varieties, sustainable crop and resource systems management practices, and better access to information. The project includes widespread delivery and adaptation of production and postharvest technologies to increase cereal production and raise income; and promotion of (i) crop and resource management practices, and (ii) high-yielding, stress tolerant and disease-and insect resistant rice, wheat and maize varieties and hybrids. GAAP looked at two different CSISA projects. This project focused on how gendered social networks affect how men and women within the same household acquire information about agricultural technologies, using the technology of laser land leveling (LLL) as an example.

METHODOLOGY

The study focused on three districts, all located in Eastern Uttar Pradesh, selected to represent the full regional range of rice-wheat cropping systems. Data collection occurred in many steps from May 2011-May 2012. 8 villages were randomly selected in each of the three districts, and the final sample size was 478 households, 392 of which are male-headed. Within the 392 male-headed households (MHHs), 335 households contained a female that identified herself as a primary female decisionmaker (also referred to as female co-heads or FCHs). These 335 households, where both a primary male and primary female decisionmaker are present, were used for a unique analysis whereby network links are known for both a male and female within the same household.

An information session was held in 2011 to introduce households to LLL. This information session was shortly followed by a baseline survey, which included a module on social networks. FCHs were also administered a social networks survey in 2012. Finally, two non-competitive auctions were conducted to elicit households' willingness to pay for LLL. The first was conducted after the initial information session, and the second was conducted one year later.

FINDINGS

- *Intrahousehold communication and decisionmaking:* Over half of all FCHs work on their household's plots, and a similar proportion discuss agriculture with MHHs and participate in decisions about agriculture. These proportions are higher for FCHs in poorer households. Two-thirds of MHHs report discussing agricultural technologies with their wives and an even greater percentage state that their wives' opinions on technology choice are important to them. Furthermore, LLL was a topic of conversation between husbands and wives and women were involved in decisions on how much to bid at the second auction.

- *Network composition and formation*: Social networks of men and women in the same households overlap very little (only about 5 percent of the time). MHHs are more likely to link to other MHHs than to female-headed households. Male social networks are also more heterogeneous with regards to wealth than are female social networks; men from poor households tend to discuss agriculture with relatively wealthy men while women from poor households tend to discuss agriculture with relatively poor women.

- *Exposure to LLL through networks*: Poor FCHs have significantly larger networks than poor MHHs, but wealthy MHHs have larger networks than wealthy FCHs (though this difference is not statistically significant). In addition, MHHs in both wealthy and

poor households have an equal number of links to potential adopters, but poor FCHs have significantly more links to potential adopters than do wealthy FCHs. However, poor FCHs have fewer adopters in their networks than MHHs.

FEEDBACK ON THE STUDY BASED ON INTERVIEWS WITH DAVID SPIELMAN AND NICK MAGNAN

- What was the source of your interviewers for the quantitative and qualitative work? Was it difficult to hire enough qualified interviewers or field workers for collection?

  We used locally-hired (primarily male) enumerators for all of our data collection, including the information sessions and the auctions. While it would have been great to have a field team that included more female enumerators and enumerators who were skilled in qualitative data collection and analysis, our efforts to do organize this were unsuccessful. Instead, we relied on the research team—including IFPRI research assistants/analysts—to gather qualitative information. In the future, we would consider hiring postgraduate students to explore qualitative dimensions of our work.

- What kinds of tools did you use for data collection? Had you used them before? If not, what led you to use them now?

  We used a combination of tools for generating and collecting data: an experimental auction, a randomly assigned treatment, intra-seasonal surveys conducted at the household and plot levels, and supplemental surveys with male and female heads of household. This combination of tools was a first for much of the team, and although several team members had prior experience, the application of these tools to gender and social network analysis was a novel experience for everyone on the research team.

  Another first for many of us was the use of computer-assisted personal interviewing (CAPI)—a combination of survey software and tablet computers—to collect quantitative data. The use of CAPI offered several advantages. First, because CAPI was something new for the enumerators as well as the researchers, it kept the team engaged and enthusiastic even under arduous field conditions. Second, CAPI made the data quickly available to the team for analysis purposes. And while there were occasional problems with both the software and hardware, the CAPI experience opened the door for more rapid, better quality data collection in this project and other future projects.

- Are there any particularities about the region or country of implementation which you think are important to recognize in relation to the gender-asset indicators you collected which are important for other researchers to be aware of? Did any of these context- or country-specific factors influence your survey implementation methodology, and how?

  The project area presents many difficulties for the study of gender dynamics. Social norms tend to limit exclusive access to women for enumerators in some circumstances, and strongly held beliefs about power and control probably obscure our ability to discern nuances in gender dynamics. Norms similarly held by (primarily male) enumerators may have presented similar problems. Despite this, we were pleased with the data we were able to extract and analyze in this project.

- Were there any tools (qualitative or quantitative) that you wished you had used in your data collection? If so, which ones?

  We would have preferred to have more qualified enumerators and qualified female enumerators.

- What do you see as the largest methodological challenges in collecting gender-asset data in general and how can we as a research community work towards filling this gap?

  One of the most significant challenges with collection of data on gender-related issues is determining whether male enumerators can properly understand and ask questions to female respondents. Not being able to find female enumerators is not an excuse to overlook women in a survey, and our male enumerators did a solid job at obtaining responses from female responses.

  A related challenge is finding qualified enumerators. That said, there are a growing number of companies in India that train, supply, and manage enumerators for precisely this kind of work. These companies might be an important source for future endeavors.

  On the analytical side, one of the biggest hurdles to quantitative gender research is that it often means using data in different ways. Specifically, having multiple data points in a single household forces the researcher to think about decision-making as a joint process, which stretches our theoretical and empirical modeling.

For questionnaire(s) and survey instrument(s), please visit: http://gaap.ifpri.info/tools-used-by-gaap/csisa-tools/

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