

---

Research Policy Brief No. 3  
October 2015

---

# Gender gap in agricultural insurance demand

Sonia Akter<sup>a</sup>, Timothy J. Krupnik<sup>b</sup>, Frederick Rossi<sup>b</sup>, Fahmida Khanam<sup>c</sup>

## Background and Objective

---

Promoting gender equality and women's empowerment is an important agricultural development objective, both for the Bangladeshi government and for international donors. Female farmers made up 40 percent of the total agricultural labour force in 2010, with a 7 percent growth in women's participation in agriculture between 2005 and 2010. They should have adequate and equal access to agricultural finance and the ability to reduce their investment risks.

Yet women in Bangladesh tend to be among the poorest and most vulnerable to weather-related risks, one of the major sources of farm income fluctuations for rural households in low-income countries. Weather-index insurance (WII) offers one possible protection against such risks that could also encourage investment in intensified and high-value production. A WII scheme makes payouts when a specified weather parameter is surpassed (for example, if seasonal rainfall falls below a specified threshold, indicating a drought). The chosen threshold must be objective, reliably measured, and strongly positively correlated with the insured's losses.

Women's ability to take advantage of such schemes and generate income in the agricultural sector is impeded by their low social empowerment, weak community influence, and lack of control over and access to income and

## AT A GLANCE

Policy and donor attention to bridging the gender gap in development emphasizes the potential benefits that weather-index insurance (WII) could bring to female farmers in low-income countries.

Our study of male and female farmers' preferences for WII in Southern Bangladesh reveals significant insurance aversion among female farmers.

Differences in financial literacy and in the level of trust in insurance institutions were the key factors driving the differences observed between men and women.

Agricultural development programs that seek to use WII to fulfill gender equity mandates in similar coastal environments are likely to require a strengthening of institutional credibility.

WII should also be coupled with financial literacy programs for female farmers.

Akter, S., Krupnik, T., Rossi, F., Khanam, F. (2015) The Influence of Gender and Product Design on farmers' preferences for weather-indexed crop insurance. LKY School Working Paper.

<http://lkyspp.nus.edu.sg/wp-content/uploads/2015/05/IPA-Working-paper-Akter-et-al.-2015-paper-a.pdf>

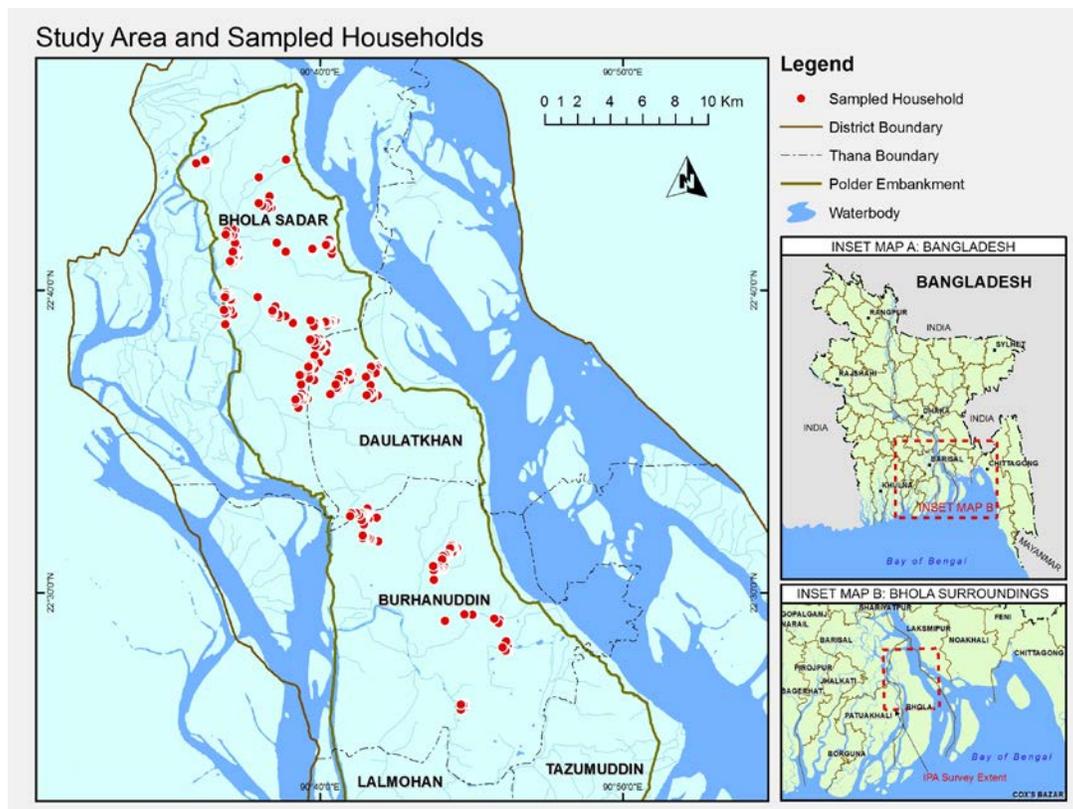
resources. Relative to their male counterparts, women have less access to finance, inputs, education, and associated agricultural extension services, indicating a lack of access to services and information that could help serve as a buffer against the negative impacts of weather-related production shocks.

Bangladesh is a low-lying deltaic country located at the mouth of the Bay of Bengal in the northern Indian Ocean. Within Bangladesh, agricultural policy and development planners have emphasized poverty alleviation, particularly within the coastal zone. In this area, five percent of all households are headed or managed by women, as a result of male out-migration for seasonal and overseas employment, although control over intra-household resources may still be unequally distributed between women and men.

The objective of the present study is to explore the ways in which gender influences the uptake of inclusive weather-index insurance schemes to reduce the risk of weather shock and encourage cropping intensification in the coastal south of Bangladesh, where many donors are now focusing their investments.

## Methodology

We conducted an attribute-based choice experiment survey between 10–28 June 2014 with 303 male and 130 female maize farmers from three sub-districts of Bhola island, including Bhola Sadar, Borhanuddin and Daulatkhan.



An attribute-based choice experiment constructs a hypothetical market by presenting respondents with a series of ‘choice sets’ comprised of paired alternative plans or profiles (e.g. ‘Plan A’, ‘Plan B’). Each profile consists of the same attributes (typically 3 to 5 in number) that define and describe the topic of interest (e.g. a WII plan). All maize farmers in the three sub-districts of the study area, male and female, were considered as the sample frame.

To complement the quantitative data, we also conducted a semi-qualitative study in October 2014 in which 121 farmers (72 men and 49 women) were randomly selected from the initial sample of 433 respondents. Each participant first attended a fully structured personal interview followed by a focus group discussion.

Question 1			
Insurance type	Deposit (per bigha)	If hazard happens	If no hazard
Option A: Wind	₹ 300	75 h /km ₹ 2000	₹ 0
Option B: Flood	₹ 1500	₹ 3000	₹ 1200
None			

English translations of the choice experiment question



Graphics that were used to explain choice experiment questions to farmer participants

The households where women were listed as farmers with local NGOs and Department of Agricultural Extension (DAE) offices were more likely to belong to minority religious communities, and on average they owned significantly smaller parcels of land and non-land assets than male farmers. Households with female farmers were relatively new to maize cultivation. Although their costs of production were not significantly different than households with male farmers, they earned significantly lower revenues (and thus profit) than farms where women were not listed as farmers. The significant difference in revenue reflects a lack of market access for the households that were represented by a woman.

Female farmer households had significantly higher access to institutional credit than the male farmer households. However, no significant difference was observed between the male and female-represented households with respect to prior insurance ownership or formal savings accounts. Compared to men, a significantly smaller proportion of women had higher education, and a significantly larger proportion of female farmers were unfamiliar with the concept of insurance. The sampled women were on average significantly more risk averse, and had a significantly lower discount rate than the sampled men.

## Findings

---

We found evidence of a substantial gender gap in weather-index insurance demand. Female respondents were significantly more likely to be insurance averse than the male respondents.

To understand the drivers of such a gap, we tested men and women farmers' insurance choice with respect to personality traits such as risk and time preferences, level of financial literacy, and the level of trust in insurance institutions. Although women were significantly more risk averse, and were more patient, these factors did not fully explain the gender gap. We also observed a significant difference across genders with respect to institutional trust—for example trust in banks, NGOs, or other organizations that lend money or provide micro-credit—which helps explain the gender difference in WII choice. Women who had been victims of financial fraud in the past were more likely to be sceptical about the credibility of the proposed insurance scheme in delivering payouts in the event of an extreme weather event than were men who had a similar experience. These women further affirmed their lack of trust in local financial institutions by stating a strong preference for government banks as their preferred insurance provider.

Both men and women found WII to be conceptually complex. In Bangladesh, as in many developing country contexts, especially those in risk-prone coastal environments, even conventional insurance packages are rare. More than half of the respondents reported no experience with any type of insurance whatsoever. Men were relatively unfamiliar with insurance, although most understood the mechanism after it was explained to them. Women were significantly less familiar with insurance (indicative of a low level of financial literacy), struggled to understand the insurance mechanism. Most women (75%) implied that since they are not very active outside the household, and because they lack higher education, they rely on male household members to make most financial decisions.

This lack of self-confidence with respect to financial matters was clearly self-evident during our interviews with women. Although in some cases male family members were present during the initial interviews and occasionally helped women understand WII, most female farmers still found the concept to be abstract and complex, and hence avoided making decisions in favour of WII investment.

## Policy implications

---

Three key interventions are necessary to increase interest in weather-index insurance, particularly among female farmers:

- Institutional credibility is essential. Efforts should be made to invest in such institutional credibility by increasing government monitoring and scrutiny such that fraudulent events become less likely.
- Investments are required in women's agency and financial literacy, otherwise women's access to an innovative financial product such as WII will remain constrained.
- WII schemes must be as realistic and simple as possible for the intended clients – particularly women – to understand the insurance product.

Without these three key interventions, our findings indicate that interest in WII – particularly among the already more vulnerable group of female farmers – are likely to remain low in Southern Bangladesh.



<sup>a</sup> Lee Kuan Yew School of Public Policy, National University of Singapore, 469C Bukit Timah Road, Singapore 259772

<sup>b</sup> International Maize and Wheat Improvement Center (CIMMYT), House 10/B, Road 53, Gulshan-2, Dhaka, 1213, Bangladesh.

<sup>c</sup> Social Sciences Division, International Rice Research Institute, Los Baños, Laguna 4031 Philippines.

### Acknowledgements

This research was funded by the Yale Payment and Savings Research Fund of the Innovations for Poverty Action (IPA) program (Grant#YASPR009). This research supported the USAID Mission funded Cereal Systems Initiative for South Asia in Bangladesh (CSISA-BD) project, and was also supported by the Global Rice Science Partnership (GRiSP) program under the Consultative Group on International Agricultural Research (CGIAR). The content and opinions resulting from this research are those of the authors and do not necessarily reflect the views of USAID or the United States Government, and shall not be used for advertising or product endorsement purposes; nor do they reflect positions or policies of the aforementioned organizations.