Social Learning in Technology Adoption: Spatial Econometric Analyses of Rice Farmers in Tanzania
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Back Ground and the Purpose of the Study

- The importance of rice is now increasing rapidly in Sub-Saharan Africa (SSA) (Balasubramanian et al., 2007), and improving its productivity is regarded as a key to boosting domestic rice production and to ensuring food security.
- The Asian Green Revolution can be characterized as an increase in yield per unit area of land (Nakano et al., 2006). However, yield per unit area of land remains low in SSA, this paper investigates the determinants of the adoption of technologies.

Objectives

- We particularly focus on the role of social learning in technology adoption (Foster and Rosenzweig, 1995; Munshi, 2004; Bandiera and Rasul, 2006; Conley and Udry, 2010).
- In our study site, Japan International Cooperation Agency (JICA) conducted a training on rice cultivation in 2008-9.
- In order to draw lessons on how to realize a rice Green Revolution in SSA, this paper investigates the determinants of the adoption of rice production technologies in Tanzania.

Methodology

- The dependent variables are the adoption of MVs (dumb variable), chemical fertilizer use (kg/ha), adoption of improved bund construction, and transplanting in rows (dumb variable).
- We examine the demographic variables which takes one if an ordinary farmer has relative, same church or mosque member, or residential neighbor among key and intermediary farmers.
- We also examine the impact of the adoption of technologies by neighboring ordinary farmers by estimating spatial lag model.
- We also control the household and plot characteristics, including size of the plot, number of working age adult.

Results and Discussions

Table 3: Regression results for the adoption of improved bund and transplanting in rows

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<th>2010</th>
<th>2011</th>
<th>2012</th>
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<td>Improved bunddag</td>
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• We observe positive impact of the adoption of neighboring key and intermediary farmers for the adoption of MVs.
• We also observe positive impact of social network with key or intermediary farmers for chemical fertilizer use.
• However, we do not observe strong impact of social network with key and intermediary farmers for agronomic practices.
• The results may imply that farmer-to-farmer extension approach may be effective for modern input use but less effective for the adoption of improved agronomic practices.

References