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Category	: International Rice Research Conference
Select Theme	: Food systems for the future
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Keyword 1	: The future of rice farming
Keyword 2	: The future of food (systems)
Keyword 3	: New service provisions
Title of Entry	: Technology adoption decisions under climatic stresses: A case of stress-tolerant rice varieties in Bangladesh
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: In Bangladesh, stress-prone areas are typically major rice-producing areas where farmers depend on rice to support income, employment and their livelihood. But climatic risks pose an increasing threat to rice production of poor and vulnerable farmers in those areas. Although new varieties are routinely been developed, the diffusion process is often incomplete despite their potential benefits. There are limited learning opportunities in case of stress-tolerant varieties because their benefits are only revealed under specific stresses conditions. Moreover, there are several uncertainties and risks related to potential outcomes from the adoption of new varieties. These issues create major challenges in adoption studies mainly because of unobserved and heterogeneous effects. The aim of this study is to explore factors that affect the adoption of stress-tolerant rice varieties. We examine how exposure to climatic risks, individual risk and time preferences, rice growing environment, farmers' characteristics, agricultural farm practices and services affect farmers' adoption of stress-tolerant rice varieties. We use a panel data of 1485 households of Bangladesh, interviewed in 2014 and 2017. First, we measure risk and time preferences using expected utility approach from experiment data. Second, we estimate the determinants of stress-tolerant rice varieties adoption using a two stage estimation process: (1) decision to adopt and (2) the intensity of the adoption. These two decisions are estimated jointly. We also consider endogeneity issues and account for selection bias in our sample. Finally, we disaggregate results by adopters to explore the heterogeneous effects of adoption. Our empirical findings provide evidence on the major drivers of adoption and how to overcome constraints in order to accelerate the diffusion of stress-tolerant rice varieties in Bangladesh. Read more»

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