



Mini-Symposium / Thematic Session 9

What Makes Farmers Do What They Do: Behavioural Insights on Technology Adoption Decisions by Smallholder Farmers in South Asia

This mini-symposium will bring together recent research of an ACIAR-funded project on behavioural insights on technology adoption of smallholder farmers in South Asia, one of the poorest regions in the world based. The economy of South Asia is heavily dependent on agriculture; therefore, it is imperative to increase agricultural productivity and profitability. Much of this increase is expected to emanate from improvements resulting from the use of new agricultural technologies. In a bid to improve uptake of new technologies, behavioural economics is, increasingly, being sought to understand drivers of adoption that goes beyond neo-classical economics. In this mini-symposium, we bring together the latest empirical research on behavioural insights on farmer adoption in South Asia from the Farmer Behaviour Insights Project (FBIP) funded by ACIAR.

Paper 1: Designing Behavioural Interventions to Increase Farmers Adoption of Conservation Agriculture-based Sustainable Intensification Technologies

Roy Murray-Prior, Maria Fay Rola-Rubzen, Jon Marx P. Sarmiento, *et al.*

Focus groups and interviews with smallholder farmers and service providers in the Eastern Gangetic plains have provided insights into the design of behavioural experiments to facilitate adoption of conservation agricultural technologies. Behavioural economics (BE) theories were used to guide data collection, analysis and synthesis, with behavioural factors categorised in terms of their 'distance' from decision-making. Recommendations include focussing on successful adoption and technologies first; promoting discounts by service providers (SPs) when farmers organise themselves to seed at the same time; and the use of social marketing that is framed appropriately and sequentially, increasing self and collective efficacy, and using respected local farmers, SPs and networks.

Paper 2: Determinants of Conservation Agriculture-based Sustainable Intensification Adoption Across the Eastern Gangetic Plains: Behavioural Insights

Jon Marx P. Sarmiento, Maria Fay Rola-Rubzen, Rene Villano, *et al.*

We examined the determinants of adoption of CASI technologies focussing on behavioural factors. Using survey data of 2,510 farmers from Bangladesh, India and Nepal, we determined the factors affecting the adoption decision of farmers. Using logit analysis, we found evidence that supports the role of behavioural factors, such as self-efficacy and information-seeking behaviour, in explaining the

CASI adoption decisions of farmers. Adopters have higher levels of these constructs as well as the individual indicators forming these constructs compared to non-adopters.

Paper 3: Behavioural Profiles of Farmers: Insights and Implications for Intervention Designs

Renato A. Villano, Maria Fay Rola-Rubzen, Roy Murray-Prior, *et al.*

We develop a behavioural-based typology of farmers in order to understand the patterns of adoption of Conservation Agriculture-based and Sustainable Intensification (CASI) technologies in the Eastern Gangetic Plains. Using latent profile analysis and data collected from 746 smallholder farmers in Bangladesh, we analyse the relationship between the behavioural profile of farmers and their associated physical, demographic, economic and social capital attributes. Results indicate three distinct profile of farmers, where 78% are traditionalist, 7% are uncommitted and 15% are innovators. Analysis of the key attributes of farmers associated with each profile offers important insights in targeting policy design and delivery messages to increase the uptake of CASI technologies.

Paper 4: Do Pre-Commitment and Micro-Incentive Work in Increasing Adoption of Agricultural Technology: A Behavioural Experiment

Kalyan K. Das, Maria Fay Rola-Rubzen, Arunava Ghosh, *et al.*

In this paper, we examine whether pre-commitment and micro-incentives can nudge farmers to increase adoption of conservation agriculture-based sustainable intensification (CASI) technologies. Using a randomized control trial (RCT) experiment, we tested whether pre-commitment (public commitment) and pre-commitment with micro-incentive (10% discount) improves CASI adoption among smallholder farmers in West Bengal. Using difference-in-difference method, we found that pre-commitment + micro-incentive significantly increased technology adoption, however, pre-commitment alone was insufficient to significantly increase adoption of CASI.

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