Paddy Farmers' Willingness-To-Pay towards Eco-Friendly Farming Technologies: Case of Adoption of Parachute Technology

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The controversial issue of an excessive usage of chemical fertilizers in paddy farming led scientists to investigate on and invent environmentally-friendly production technologies (EFTs) such as 'Parachute Technology' that enhances the efficiency of fertilizer uptake. What factors trigger farmers to adopt EFTs in the field, and more importantly, the "role of economics" in adoption of such technologies is, however, not yet fully disclosed. This study, in particular, explores the outcome of an economic analysis carried out to determine the Willingness-To-Pay (WTP) of farmers, as potential end-users, for Parachute Technology. Data were collected by way of face-to-face interviews supported by a structured- questionnaire from a set of farmers (n=120) registered with a multi-stage multi-criteria project on production and promotion of EFTs in Kurunegala and Anuradhapura districts. Choice experiment method was employed to elicit their Marginal WTP for individual attributes. The estimates from Conditional Logit model revealed that certain attributes, including 'low environmental damage' (i.e. the highest value of Rs. 7,872), 'requirement of training' (Rs. 5,183), 'integration ability with other EFTs at the beginning' (Rs. 4,099) and 'low fertilizer wastage' (Rs. 2,488) possess a significant relationship with farmer's WTP. These imply that the farmers, in general, exhibits positive attitudes and willing to pay relatively high prices for eco-friendly attributes associated with EFTs like Parachute Technology, but needs to expose them to a facilitative process along with financial packages to offset short-term benefits of chemical fertilizer use.

Keywords: Choice experiment, Eco-Friendly technologies, Marginal willingness-to-pay, Parachute technology

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