Adoption of Eco-Friendly Technologies in Paddy Farming in Sri Lanka as an Alternative to Chemical Fertilizer: Exploring the Farmer Perceptions

C.D.A. Lakmali[1], L.H.N. De Silva[1], U.K. Jayasinghe-Mudalige[1], R.S. Dharmakeerthi[2], W.S. Dandeniya[2] and W.K. Balasooriya[3]

[1]Department of Agribusiness Management, Wayamba University of Sri Lanka, Makandura, Sri Lanka
[2]Department of Soil Science, University of Peradeniya, Peradeniya, Sri Lanka
[3]Department of Biotechnology, Wayamba University of Sri Lanka, Makandura, Sri Lanka

There is a greater interest among scientists to develop Eco-Friendly Technologies (EFTs) for paddy farming, from one hand, to reduce chemical fertilizer usage, and to safeguard food supply and ecosystem health, on the other. This paper explores the attitudes and perceptions of farmers that trigger them to use certain EFTs produced such as ('slow release fertilizer', 'organic carbon', and 'microbes') produced through a multi-phased project funded by National Research Council of Sri Lanka. These EFTs were incorporated into the root ball of the rice plant at the nursery stage and then healthy seedlings were planted in the field by using the 'Parachute Technique' method (*i.e.* alternative technology to other modes of seed establishment including 'broadcasting' and 'transplanting'). Farmers from Anuradhapura and Kurunegala districts (n=80) were selected to collect data in terms of farmer attitudes and perceptions linked with six key criteria related to these EFTs including: (1) 'Regulation'; (2) 'Cost'; (3) 'Environment'; (4) 'Performance'; (5) 'Services', and (6) 'Acceptance'. The possible effects of each criterion were written in the form of attitudinal statements and supported by a 10-point likert-scale. The scores provided by farmers on each statement were subjected to the tests on Scale Reliability and Unidimensionality and then used to derive Aggregate Mean Scores. Results suggested that, 'Parachute Technique' was better than broadcasting with respect to Regulation (-1.44), Environment (-2.49) and Performance (-1.57). The farmer perception on parachute technique was 'poor' only for Service (0.19) when compared to transplanting. The outcome of the analysis highlights the importance of generating private and market-based incentives for farmers as potential end-users to encourage adoption of EFTs in paddy cultivation. Further, availability of related services and facilitative institutional framework will have a direct impact on the adoption of such EFTs.

Keywords: Attitudes and perceptions, Chemical fertilizer, Eco-friendly technologies (EFTs)

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