802/F

Adoption of parachute method in rice crop establishment: Evidence from the Kurunegala District of Sri Lanka

Sameera Premarathna[1], Parakrama Weligamage[1*] and Ranjika Walisinghe[2]

[1] Agricultural Economics and Business Management, University of Peradeniya, Peradeniya
[2]Socio Economics and Planning Centre, Sri Lanka Department of Agriculture, Peradeniya

Rice is the main coping strategy for rural livelihood in Sri Lanka. However, rice cultivation is confronted by diverse biotic and abiotic stress conditions limiting its production and productivity. Moreover, continuation of production has become a challenge due to escalating input prices, particularly of labour and increasing competition for inputs. Parachute method is a novel crop establishment method for rice that demands less labour when compared to direct seeding, the most widely practiced method of crop establishment. The objectives of this study were a) to estimate the rate of adoption of parachute method, b) to determine factors influencing adoption and c) to compute welfare gains to producers due to different methods of crop establishment. A survey was conducted in Ibbagamuwa and Nikaweratiya DS areas of Kurunegala District. Eighty-eight farmers selected through multi-stage random sampling representing major irrigation schemes participated in the study. Data on awareness; adoption history; costs, and benefits of cultivation for 2013/14 *Maha* and 2014 *Yala* seasons were collected using a structured survey schedule. Binary logit regression model was used to determine the factors influencing the adoption decision. Unit rice budgets were developed to compare benefits of different modes of crop establishment. According to the results, adoption rate of parachute method in the study area is 30%. Number of extension contacts; level of farmer education; age and farmer's level of involvement in organizations positively influence the decision to adopt the new method. Farmers' perceived benefits of the method are consistent with the intended benefits by extension services. The results further revealed that, average yields were higher (4.86 t/ha and 4.98 t/ha for *Yala* and *Maha* seasons respectively) in farms that used the parachute method when compared to farms that used direct seeding and transplanting. Net revenue for adopters was 13% and 30% higher than non-adopters for Yala and Maha seasons respectively. Although the method is proven as a labour augmenting technology, rate of adoption remains low indicating the potential for awareness creation through proactive extension services and field trials to increase adoption rate to realize more economic benefits to the society.

Keywords: Agricultural extension services, binary logit regression, farm budgeting, labor augmenting technology, major irrigation

parakw@gmail.com Tel: +94 77725702