

## **Mechanization as a Potential Alternative for Skilled Labor Shortage of Paddy Farming Sector in Wet Zone, Sri Lanka**

**T.B. Mallikaarachchi\* and G.C. Samaraweera**

Department of Agricultural Economics, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka

### **Abstract**

Due to the limitation of productivity in dry zone paddy fields, it is necessary to increase the productivity of paddy cultivation in the wet zone by increasing the degree of mechanization as a labour solution strategy. However, according to the literature review, the degree of mechanization in the paddy sector in Sri Lanka is lower than compare to other developing countries. Therefore, this research study tried to find out the potentials for using new agricultural machinery rather than using traditional ways of paddy cultivation in the wet zone. Main objectives of the study were (a) to identify paddy farmers' degree of mechanization in each stage of the paddy farming process, (b) to identify the significant barriers and influencing factors that paddy farmers faced while using agricultural machinery, (c) to workout farmers' costs and benefits associated with agricultural machinery usage, and (d) to suggest recommendations to uplift the mechanization in wet zone as a solution for skilled labour shortage. The data were collected from 100 paddy farmers in the Dodangoda Divisional Secretariat division using a pre-tested questionnaire. Collected data were analysed by using the one-way ANOVA test, cost-benefit analysis, and descriptive methods. The cost-benefit analysis indicated the lowest feasibility score of hiring machinery of both land preparation stage and harvesting and threshing stage and those scores were 0.11 and 0.13, respectively. Accordingly, hiring machinery seems beneficial to farmers. This study revealed that younger age of farmers, high education level, cultivating in hired lands, farmers' experience level, and better land conditions, low availability to cheaper alternatives than machinery act as influencing factors while muddy field condition, availability of cheaper alternatives, cultivating in own land, low education level and increasing age act as barriers for mechanization. The degree of mechanization can be increased if machinery developers can build machines that are compatible with the field condition of local paddy fields. Besides, purchases own mini combine harvester (MCH) is not beneficial to an individual farmer. Therefore, the study suggests purchasing MCH for farmer organizations would be more beneficial for them.

**Keywords:** Agricultural Machinery, Cost-Benefit Analysis, Degree of Mechanization, Labour Solution Strategy, Wet Zone Paddy Farming

**\*Corresponding Author:** [tbmallikaarachchi@gmail.com](mailto:tbmallikaarachchi@gmail.com)