Adoption of Intercropping Among Smallholder Rubber Farmers: Evidence from Kalutara District

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This study attempts to examine the factors which determine the adoption of intercropping among smallholder rubber farmers in the Kalutara district of Sri Lanka. The Cross-sectional data were collected from 150 smallholder rubber farmers from five major rubber-growing regions in the Horana DS division of the district. Adoption of intercropping among rubber farmers was taken as a binary dependent variable whereas demographic, farming, and economic characteristics were taken as independent variables in the study. The data were employed using different analytical tools such as frequency analysis, independent samples t-test, chi-square test, and probit model. According to the frequency results, 79% of the farmers engaged in the intercropping system while 21% of farmers were not adapted to intercropping cultivation. Results of the independent samples t-test proved that average age, family size, farming experience, farm income, immature rubber land size, and distance to the market significantly differ across adaptors and non-adaptors in the intercropping system in the study. The probit model was estimated to examine the factors influencing the adoption of intercropping in rubber cultivation and the results revealed that among the variables related to demographic characteristics, age, education level, family size, and membership of farm organizations are positively associated with the probability of adoption. Among the farming characteristics, ownership of land and nature of time allocation are the major determinants in the model. Cultivators who are sole owners of the land and engaged in full-time rubber farming show more likely to adopt the intercrop than other landowners and part-time engagement in rubber cultivation. Among the economic-related characteristics, farm income positively and the size of immature rubber land negatively impact the adoption of intercropping. The findings of the study may help the policymakers to formulate the appropriate strategies to increase the income and ensure the economic stability of rubber smallholders in the study area.

Keywords: Adapters and non-adapters of intercropping, Binary probit model, Demographic characteristics, Economic and farming characteristics, Immature rubber land