

# MODELING TEA SMALLHOLDERS' ADOPTION DECISIONS ON TEA PLANT VARIETIES IN SRI LANKA: MULTINOMIAL PROBIT MODEL ANALYSIS

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## ABSTRACT

This study was conducted to investigate the impact of tea smallholders' socio- demographic, economic and farming characteristics on their adoption decisions towards three tea plant varieties in Badulla district of Sri Lanka. Data used in the study was collected from a survey using a multi-stage sampling technique during the period November to December in 2019. 108 respondents were randomly selected from three major tea producing regions in the district. Frequency analysis, descriptive statistics, chi-square test and one way ANOVA were used to describe the basic features of tea smallholders whereas multinomial probit model was estimated to examine the impact of the above characters on adoption decisions on tea plant varieties in the study. Among the respondents, 43.5% of the smallholders chose VP 20/25 while 29.6% and 26.9% of them chose VP 20/23 and CY9 tea plant varieties respectively. Chi-square test revealed that, females are more likely to adopt VP20/23 variety while males more prefer to choose VP 20/25 variety in the study. In order to identify the mean differences in yield across three tea plant varieties, one way ANOVA was used and its results found that, average yield derived from the two varieties namely, VP20/25 and VP 20/23 are the same and they are differ from the variety CY9. Estimated results of multinomial probit model showed that, gender, secondary education, farming experience, output from the chosen tea plant variety, prices of each tea plant variety, types marketing channels and frequency of harvest were major determinants on adoption decisions of tea smallholders. Findings of the study recommended that government and extension agents should create a favourable environment like training facilities, pricing policies and proper marketing channels for further improvement on their adoption decisions towards the different types of tea plant varieties in the study area.

**Keywords:** Adoption decisions, economic and farming characteristics, multinomial probit model, tea plant varieties, tea smallholders.