DETERMINANTS, CONSTRAINTS AND ADOPTION DYNAMICS OF RECOMMENDED PRACTICES BY RUBBER GROWERS OF TRIPURA

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Rubber cultivation is a critical component of Tripura's agrarian economy. This study investigated the extent, determinants and constraints of adoption of recommended agricultural practices among 250 rubber growers across six major rubber-producing districts using a stratified random sampling approach. The findings revealed notable disparities in adoption rates. While the use of improved clones (98.0%) and polybag plants (96.8%) was nearly universal, other practices such as mechanization and root trainer planting remained entirely unadopted, indicating significant gaps in the integration of scientific recommendations. Low adoption rates of intercropping (6.8%) and rain guarding (8.4%) further highlighted systemic barriers, including financial limitations, inadequate awareness and limited access to extension services. Chi-square analysis revealed significant associations between socio-economic variables and adoption: education positively influenced rain guarding ($\chi^2 = 18.75$, p $p \leq 0.05$), farm size was linked to intercropping ($\chi^2 = 15.32$, $p \leq 0.05$), and credit access was a key factor for mechanization ($\chi^2 = 22.91$, $p \leq 0.05$). Regression models confirmed these trends, with credit access ($\beta = 0.72$, $p \leq 0.01$) emerging as the strongest predictor of mechanization adoption, followed by education ($\beta = 0.58$, $p \leq 0.01$) and farm size ($\beta = 0.41$, $p \leq 0.05$). Thematic analysis of farmer perceptions underscored key challenges, including high cost (59.6%), poor awareness (34.8%), limited extension penetration (30%) and credit constraints faced by 72.8 per cent of respondents. These findings emphasized the critical need for integrated interventions ranging from subsidized inputs and targeted credit programs to expanded extension services and farmer education to close adoption gaps and promote sustainable rubber cultivation in Tripura.

Keywords: Adoption dynamics, Good agricultural practices, Socio economic determinants, Sustainability strategies

INTRODUCTION

Natural rubber (NR) plantations not only replaced environmentally harmful practices but also became a crucial driver of rural economic growth in Tripura (Joseph *et al*., 2010; Nath *et al*., 2010; Sarkar, 2010; Matouleibi, 2012; Sinha, 2012). As the second-largest producer of natural rubber in India, Tripura accounts for approximately 9 per cent of the country's total rubber production. Since its introduction in 1963 by the State Forest Department for sustainable land development (Bhowmik,

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