

EFFECT OF LAND SIZE ON PRODUCTIVITY OF SMALL SCALE RUBBER PLANTATIONS IN KEGALLE DISTRICT, SRI LANKA

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Sri Lankan rubber sector comprises the estate sector and the smallholding sector while 77% of total production was from smallholders in 2014. An important role was played by the rubber sector specially the rubber small holding sector in Sri Lankan economy. Although smallholding sector dominates, its average productivity is 65kg ac⁻¹month⁻¹ compared to the targeted production of 140kg ac⁻¹month⁻¹. The objective of this study was to examine the relationship between productivity and size of rubber plantations and to identify the average land size that could produce high yields in Kegalle district. Three stage stratified random sampling procedure was applied to collect primary data from 100 small rubber holders in a questionnaire survey. Rubber development officer divisions were selected which occupied 50% or more of the small scale land holders in Kegalle district at first stage and Grama Niladhari (GN) divisions with the same criteria at second stage. Finally land holders were selected randomly from each GN division. Both qualitative and quantitative techniques were employed in analyzing data. Descriptive analysis showed that male farmers dominates (84%) in managing small rubber holdings. Consequently, 49% of the respondents had received primary education and 32% had 10-20 years farming experience. The mean productivity was 73 kg⁻¹ ac⁻¹ month⁻¹ and 3.16 acres was the mean holding size. An empirical model with explanatory variables such as land size, availability of extension services, application of fertilizer, farming experience, income of the land holder, number of tapping plants, age of the plantation, labour used, occupation of the land holder, variety and land suitability, their impact on land productivity were tested. The results indicated a significant negative relationship between land size and productivity. Regression analysis revealed that availability of extension services, income of the land holder and occupation of the land holder have significant positive relationships ($p < 0.05$) and age of the plantation and variety have significant negative relationship with productivity respectively. Response surface result revealed that, the optimum land size which yields higher productivity was 2 acres for small rubber holdings. Hence it can be concluded that the ideal holding size for the small holders in Kegalle district is 2 acres.

Keywords: Land size, Rubber productivity, Smallholders