

POSSIBLE CAUSES OF LOW RUBBER YIELDS IN SMALLHOLDER UNITS IN SRI LANKA

Wasana Wijesuriya, D.M.A.P. Dissanayake, K. Herath, J. Edirisinghe, M. Wijeratne* and V. Abeywardene

Rubber Research Institute of Sri Lanka, Duttonfield, Agalawatta, Sri Lanka.

* Department of Economics and Extension, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka.

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The study is an approach to identify the causes of low yields in rubber smallholdings in Sri Lanka through questionnaire surveys, field inspections and participatory rural appraisals (PRA). Further, a case study is presented which merges information collected from various data collection procedures including farmers' views. The study was conducted in three major rubber growing districts, *viz.*, Kegalle, Kalutara and Ratnapura. Growth Performance Index (GPI) and Yield Performance Index (YPI) were suggested to identify the existing status of immature and mature holdings. The GPI suggests only 35 per cent of the sample had the required tree girth for successive subsidy payments. Based on the YPI, 73 per cent of the fields have recorded below average yields, mainly due to low proportion of holdings under new improved clones. Awareness and adoption rates of most of the recommendations were low, which may be a great set back on achieving expected targets, although new improved clones and planting material are being distributed among smallholders. The Bayesian Network (BN) model helps to come up with suitable remedial measures to improve the productivity in the smallholder sector of Sri Lanka and is of immense importance in making appropriate policy decisions.

Keywords: Bayesian network, Growth, Natural rubber, Performance index, Smallholdings, Yield.

INTRODUCTION

The Sri Lankan natural rubber (NR) sector comprises of large estates with extents greater than 20 ha, medium estates with extents 4 to 20 ha and smallholder units with less than 4 ha. Together with medium estates, the smallholder units occupy nearly 63 per cent of the total extent and are distributed among nearly 200,000 farmers. The remaining lands belong to plantation companies, which have their own processing facilities and generally produce higher yields compared to the smallholder sector. Further, the smallholder yields are well below than

the countries like India and Thailand where the yields are averaging around 1540 and 1362 kg/ha/year respectively (Viswanathan and Rajasekharan, 2001).

The comparative low yields in small holdings under Sri Lankan conditions are mainly due to poor adoption of recommended agronomic practices owing to low and unstable income levels and unsatisfactory extension services rendered to smallholder farmers. The low NR prices that prevailed for a lengthy period posed severe constraints on the viability and sustainability of the rubber cultivation as well as on the adoption