Technical Efficiency and its Determinants of Small – Holder Rubber Farmers in Kalutara: Stochastic Frontier Analysis

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Abstract

Rubber is one of the prime agricultural export crops that brings an exceptional amount of foreign exchange and also provides sustained socio-economic benefits to the country. According to the Agalawatta Rubber Research Institute's (RRISL) statistical data, more than 63% of the national rubber production is significantly contributed by the small rubber cultivators who own less than 20 acres, and have provided a large number of direct and indirect employment opportunities. Rubber production grew by 5.1% to 83.1 million Kgs in 2017 from 79.1 million Kgs recorded in 2016. This growth in natural rubber production was achieved amidst unfavourable weather conditions, particularly during the first half of the year which resulted in severe floods in traditional rubber areas. Among the major categories of rubber produced, sheet rubber production increased by 4.4% while crepe rubber production decreased by 23.3 % in 2017. On the other hand, the cost of production of rubber has been increasing over the years making rubber production less attractive for the smallholder sector. Sri Lankan rubber growing areas are mainly located in the wet zone and the top three growers in the rubber industry in the country are identified as Kegalle, Kalutara and Ratnapura Districts. Kalutara district is well-known for small rubber cultivation because its wet climate and fertile soil are favourable to cultivate rubber and most of the cultivators in the study area are engaged in cultivating rubber by utilizing their traditional knowledge and techniques. Technical innovation and more efficient use of existing technology are the main strategies of achieving high level of output in a small holder rubber sector (Hoang and Coeli, 2009). However, in developing countries like Sri Lanka, mostly new agricultural technologies have become partially successful in improving the productivity.

Keywords: Efficiency; Rubber; SFA; Kalutara.