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**Ecosystem Services of Smallholder Rubber Cultivation: A Case Study in Moneragala District in Sri Lanka**

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**Abstract**

Any type of positive, direct or indirect benefits which are provided free to human well-being is considered as an Ecosystem Service (ESS). Although a land of rubber (*Hevea brasiliensis*) cultivation is a man-made forest, it provides us with an ESS. This study was carried out to assess the Smallholders' Perception on ESS of the Smallholder Rubber Cultivation (SPESSSRC) in Moneragala District. Thus, this study was aimed to find the perception of the Rubber Smallholders (RSs) on the ESS of rubber cultivation and to identify the factors affecting their perception. A questionnaire survey was carried out for the study in 2019, and the sample of RSs was selected with stratified random sampling. The study covered 222 RSs in eight rubber growing Divisional Secretariat Divisions in Moneragala District. Twenty-five items were developed to measure the SPESSSRC namely; Provisioning Services (PS), Regulating Services (RS), Cultural Services (CS) and Supporting Services (SS) provided by the ESS. A five point modified Likert-type scale was used to measure the extent of agreement of items and the mean score for each item was derived. Then the mean perception score of respondents was calculated and their key socio-economic characteristics were measured. Perception of the respondents was categorized as the least, moderate and the most favourable level by confidence interval method. Descriptive method and Spearman's rank correlation analysis were used in data analysis. Items used to measure SPESSSRC were reliable (Cronbach alpha values > 0.7). The overall perception level of RSs towards SPESSSRC was under the most favourable level. About 54% of RSs in this study area considered that SPESSSRC as the most favourable, while 30% as favourable and 16% as the least favourable level. The mean score of overall SPESSSRC was 3.77. The highest mean score was recorded with the PS (3.81), while the lowest (3.73) was recorded with the CS. The mean scores of RS and SS were 3.78 and 3.75, respectively. The level of education ( $r=0.4570$ ), age ( $r=0.7650$ ), the experience in farming ( $r=0.8790$ ) and rubber farming ( $r=0.8870$ ), the extent of rubber farming ( $r=0.6987$ ), training programmes participated ( $r=0.6370$ ) and income from rubber farming ( $r=0.7370$ ) were significantly correlated with SPESSSRC at 0.05 significance level, while gender and the type of job engagement have not shown a significant relationship with perception. Accordingly, perceived perception of RSs explained that rubber cultivation possess ESS.

**Keywords:** Ecosystem service, Rubber cultivation, Smallholders