

(167)

**Medicinal Aromatic Plant Cultivation for the Bioeconomy: Eliciting Willingness from Rural Communities****Munugoda K.D.<sup>1</sup>, Talagala T.S.<sup>2</sup>, Subasinghe S.M.C.U.P.<sup>1\*</sup>, Hettiarachchi D.S.<sup>3</sup>, Cooray A.T.<sup>4</sup>, Hapugoda M.D.<sup>5</sup>**<sup>1</sup>*Centre for Forestry and Environment, Department of Forestry and Environmental Science, University of Sri Jayewardenepura, Nugegoda, Sri Lanka*<sup>2</sup>*Department of Statistics, University of Sri Jayewardenepura, Nugegoda, Sri Lanka*<sup>3</sup>*School of Science, Edith Cowan University, Australia*<sup>4</sup>*Department of Chemistry, University of Sri Jayewardenepura, Nugegoda, Sri Lanka*<sup>5</sup>*Molecular Medicine Unit, University of Kelaniya, Kelaniya, Sri Lanka*\* *upuls@sjp.ac.lk***Abstract**

The COVID-19 pandemic created numerous issues, particularly in Southeast Asia, and the recovery needs strong actions with new economic paths. The Sri Lankan government is also trying to help those who have lost their sources of income. Involving with the trade of medical and aromatic plants (MAPs) bearing unique medical properties will be important in that aspect. Extracted and isolated some secondary metabolites from plants developed life-saving medicine, flavonoids, repellents, cosmetics, and scents with enormous economic potential. India, China, and other Asian countries dominate the global MAP trade. However, Sri Lanka is yet to enter the global MAP market by utilising its abundant plant life. Determining rural communities' willingness to participate in such programmes is crucial. The same authors identified 127 lesser-known potential MAPs as insect repellents by interviewing traditional ayurveda practitioners and subject experts. The current study investigated the willingness of the rural sector in six districts in Sri Lanka (Matara, Rathnapura, Kurunegala, Badulla, Hambantota, and Batticaloa) using a structured questionnaire survey for 480 households. *Cinnamomum verum*, *Citrus aurantifolia*, *C. sinensis*, *C. reticulata*, *Aegle marmelos*, and *Ocimum tenuiflorum* Sub-type Rama were the most abundant top five plant species. The questionnaire also sought information on respondents' demographics, the availability of agronomic plants, MAPs, in their homegardens and their willingness to cultivate and supply medicinal plants. Binomial logistic regression was used to determine the effects of the respondent's district, gender, age, education, total family revenue, availability of agronomic crops, land space available for the cultivation of MAPs, number of non-income-generating family members, members contribute to agriculture, external employees recruited as labourers. Hosmer-Lemeshow test indicated that the model reasonably fits with the data ( $p=0.77$ ). In this case, district ( $p<0.05$ ) and gender ( $p<0.05$ ) were statistically significant while the other variables were not. Compared to Badulla District, the odds of willingness to grow and supply MAPs are approximately five times greater in Batticaloa District, four times greater in Hambantota, Kurunegala, and Matara districts and three times greater in Rathnapura District. Subsequently, the odds of the willingness of males to grow and supply MAPs was greater than females. Finally, it can be concluded that encouraging MAPs cultivation in rural areas will benefit post-pandemic populations while facilitating global trade, which is expected to reach USD 5 trillion by 2050.

**Keywords:** Medicinal aromatic plants, Bioeconomy, Post-pandemic economic future, Rural economy, Indigenous knowledge