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Household willingness to pay for improved plastic recycling: A study in the Western Province of Sri Lanka

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Plastic recycling is the use of post-consumer plastic material in the production of new or similar products. Recycling has significant economic and environmental benefits, as it reduces the demand for virgin materials. This study intends to estimate the benefits to households due to improved plastic recycling and was conducted in the Western Province of Sri Lanka. A sample of 300 households were selected from eight GN divisions in the Colombo, Gampaha and Kalutara districts representing two municipal councils, three urban councils and three Pradeshiya Sabhas. The survey was designed to collect information related to households including socio economic data, plastic waste generation rates, and household's willingness to pay for improved methods of disposal of plastic waste. A hypothetical market was presented to respondents to estimate households' willingness to pay (WTP) using the contingent valuation method.

Multinomial logistic regression analysis was conducted to find out the effect of predictor variables on the response variable (WTP). Predictor variables included in the analysis were; age and level of formal education of the decision maker; monthly household income; local authority type of the household's location; household size, and quantity of plastic waste generated per month. WTP was included in five categories as; LKR 150; 200; 250; 300 and 350. The reference level considered for the logistic regression analysis was level 5 (Rs.350, WTP value). Based on the results of the likelihood ratio test, variables; income; education level of the decision maker and amount of plastic waste generated are significant at 0.05. The R^2 value for the regression model was 0.57. Logistic coefficient (B) for each predictor variable was used to interpret the results for each WTP level. The results could be used in designing appropriate incentives for the sector. Plastic recycling sector improvements through proper policies and support for research are needed by the Sri Lankan Government in reaching sustainable development goals.

Keywords: Post-consumer resource recovery, contingent valuation, multinomial logit, environmental benefits, conservation

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