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Financial benefit-cost analysis of plastic recycling centers in the Western Province

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Recycling of plastic waste provides both financial and economic benefits. Plastic recycling is one of the best strategies that have been initiated in Sri Lanka in the area of waste management. Mainly the National Post Consumer Plastic Waste Management Project managed by the Central Environmental Authority (CEA) engages in facilitation and promotion of plastic recycling activities in Sri Lanka. This study aimed to find out the financial performance and viability of mechanical plastic recycling activities in the Western Province.

All mechanical plastic recycling centres in the Western Province were divided into three categories as; large, medium and small, based on the average amount of plastic waste recovered per month. Two medium scale centers and one small scale centre were included in the study. Management of these centers agreed to cooperate with the study team by providing information on costs and benefits of operations. Financial cost benefit analysis was conducted for three recycling centres. Information on prices and quantities of activities, and other relevant data were gathered through in-person interviews and telephone conversations. A pre-tested structured questionnaire was used in collecting data. Financial benefit cost analysis was conducted separately for the study entities. A time horizon of 20 years for projects and the discount rate of 10% was used in the analysis. Net present value and benefit cost ratio criteria were used as measures of project worth.

According to the results, net present value (NPV) of all three projects is positive. All three entities show benefit cost ratio (BCR) values greater than one. It can be concluded that, the plastic recycling business in small and medium scale categories irrespective of their scale of waste recovery amount, are viable for 20 years from the financial point of view.

Keywords: Mechanical recycling, scale of operation, National Post Consumer Plastic Waste Management Project, mixed-mode surveys, financial analysis