

Rural responsiveness on the usage and adverse effects of plastic and polythene: Case study, Vavuniya District, Northern Sri Lanka

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Plastic and polythene frequently chronicled with environmental pollution and health hazards to human, animals as well as on plants. It has been realized as a wide spreading and worsening environmental scenario among developed and developing nations worldwide. Respective governments and authorities are intensively seeking possible alleviation measures on controlling, banning and introducing alternatives on safeguard the deterioration of environmental health and wealth of nations. This study was aimed to assess the socio-economic aspects of plastic and polythene usage and the perception of rural community on environmental conservation with respect to plastic and polythene. A semi-structured questionnaire was used to collect data from 120 randomly selected respondents belonging to 12 villages and respondents were grouped in three categories: low, medium and high income group to identify the respondent's socio-economic condition, extent of plastic and polythene use, total waste production, proportion of plastic/polythene in waste, existing disposal practices and awareness on the environmental risk of usage along with their educational status. The results revealed that the major proportion (73, 60.83%) of the respondents used plastic/polythene bags and plastic household items more frequently than any other products (metal/paper) regardless of their economic and educational status. Low cost (86, 71.66 %) and easy availability (93, 77.5%) were the main reasons for the widespread utilization of these products. Among the practices used for disposal of plastic bag wastes, open dumping to surrounding areas (88, 73.50%) was the practice widely used by almost all the residents of the villages followed by open burning. Major environmental impacts of usage were identified as accumulation of polythene bags into the surface water bodies (58%), wells (41%), agricultural lands (41%), and health hazards for cattle (28%) animal deaths (7%) and deterioration of scenic beauty of natural landscapes (24%). As far as the perception of respondents on the environmental conservation was concerned; even though they have the intended environmental care, the increased usage of plastic/polythene bags at retail shops, low cost and easy accessibility of kitchen and household items at pavement or retail shops were the driven forces which facilitated the increased use of plastics and polythene products by rural community. Therefore enforcing a monitoring system on the sales of plastic/polythene products at whole and retail scale, further awareness of rural community, introduction of eco-friendly products instead of polythene/plastic products with reasonable cost would be the potential efforts for the good deal of rural community towards the sustainable rural environmental management.

Keywords: Environmental deterioration awareness, Plastics, Polythene