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Human dimension of plastic pollution in Sri Lankan coastal ecosystems: strategizing community-based solutions

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Plastic pollution has become a pervasive environmental issue and has gained considerable attention recently. Plastics have been redefined more easily. However, they have left harmful imprints behind. The intensity of plastic pollution along the coastal areas of Sri Lanka has been rising during the past decade, which requires immediate action. Understanding public perceptions, opinions, and knowledge about plastic pollution is a critical step in effectively engaging society. Changing human behaviour is needed in order to reduce plastic debris inputs. While Sri Lanka is home to plenty of coastal habitats, plastic pollution aided by fisheries, tourism, improper waste management practices and maritime activities have become a primary factor in degrading the ecological balance. The present study focused on understanding the public perceptions regarding plastic pollution in the coastal ecosystems of Sri Lanka. The research was conducted using an online questionnaire survey with participants selected with their relevance to marine protection covering 960 samples. Overall, the survey results indicate that the public views plastics as a serious environmental issue. Results indicate that 86% of respondents believe the coastal ecosystems are under threat by plastic inputs, and 90% believe the threat has been increasing. About 90% of the respondents have a potential knowledge of the coastal ecosystems in Sri Lanka and their significance. Notable ecosystems that respondents are familiar with beaches (92%), lagoons/estuaries (76%), followed by mangrove/seagrass (60%). Ninety-two percent of respondents indicated a desire to reduce plastic use, and the majority of respondents believe that paper (32%) and cloth (30%) are more environmentally friendly alternatives to plastics. However, the results showed that many respondents are not willing to reduce plastic usage immediately. When it comes to plastic pollution abatement, the majority (69%) of the respondents believe that the solutions should arise from the community, while significantly some others (21%) propose stern government contribution. Overall, a clear picture emerged of the perceived threats and support for coastal protection, which can be informed marine managers, policymakers, conservation practitioners, and educators to improve marine management and conservation programs. The outputs from the research can contribute toward developing adequate, appropriate strategies to address the issues of plastics and foster community-based methodologies to conserve the coastal ecosystems from plastic pollution.

Keywords: Coastal ecosystems, Conservation, Plastic pollution, Public perception, Sri Lanka.