Exploring community attitudes and perceptions towards solid waste management: a case study of Kerala, India

Vishnudatha Venu[1], Akshay Ranjith[2] and S. Ambika[1,*]

[1]Environmental Engineering Division, Department of Civil Engineering, Indian Institute of Technology Hyderabad, Kandi, Sangareddy 502 285, India
[2]Department of Civil Engineering, Indian Institute of Science, Bengaluru 560 012, India

The present study in Kerala aimed to investigate the perceptions and behaviours of 430 respondents towards household waste generation and management. The survey outcomes were used to determine the personal attributes, awareness and perceptions of the people towards solid waste management. Spearman correlation analysis was performed to identify the possible correlation between the personal attributes of respondents and their awareness and perceptions. The results showed that most participants fell within the age range of 20–60; majority of them were graduates having an income above Rs 40,000. Food waste was found to be the predominant type of waste generated, about 65%. Over 50% of the respondents considered waste as a resource. The study also revealed that education plays a crucial role in addressing waste management problems. Almost 85% of the respondents supported imposing penalties for open dumping of waste and 63% supported composting of domestic waste. Respondents showed a growing willingness to act against improper waste management and disposal. Thus, the study brings out the importance of education and awareness programmes in shaping individuals' perspectives towards waste management and reducing waste generation as well as highlights the need for an all-inclusive strategy for effective solid waste management.

Keywords: All-inclusive strategy, perception analysis, questionnaire survey, solid waste management, Spearman correlation

of community participation has a direct impact on the effectiveness of solid waste management initiatives. Unfortunately, local authorities have struggled to mobilize communities and educate individuals on the fundamentals of waste handling and storage techniques including in their own households. To improve the design, implementation and effectiveness of solid waste management initiatives, authorities and governments need to consider the degree to which the public embraces those initiatives. Understanding people's perceptions, awareness and willingness towards solid waste management practices is vital for increasing the effectiveness of waste management.

The study area chosen is Kerala, the first Indian state to achieve 100% primary education (2016 State Report)[2]. The health status of it is also far ahead of other states. But it still lags in effective waste management. Solid waste management has become a serious issue in Kerala. About 3.7 million tonnes of solid waste is generated annually in the state[3]. But its management and disposal are still a problem. Main reason for this is the lack of a successful model for waste management. Waste management is an essential service to be provided by the municipal and local government authorities at the local and state levels. But failure of the planners and administrators to foresee the emerging threats, lack of training of non-governmental organizations (NGOs) and community-based organizations (CBOs), absence of appropriate technology, and non-participation of the people are some of the reasons for the waste management problem. The active engagement of community