

## **Abstract**

Road side dumping and mixed collection of all types of wastes, is common practice in Kurunegala city in spite of introducing a new solid waste management project at high investment by Municipal Council. Poor public participation fades efficiency of public investment due to lack of knowledge to self governs the practice as a responsible generator.

This study was conducted to assess knowledge, practices and their associated factors regarding solid waste management among the grade 10 students in the MOH area of municipal council Kurunegala, which extends over 11.34 Km<sup>2</sup>, hosting population of 30, 700.

A descriptive cross sectional study was carried out to meet the objective. Sample was selected by cluster sampling with probability proportionate to size. Altogether 450 students were participated from government schools. The study instrument consisted of a structured self administered questionnaire. The knowledge, practices and associated factors were categorized by giving scores to the responses.

Results indicate 88.6% of study population has poor knowledge. There is statistically significant association between unsatisfactory practices at school (91.3%,  $p=0.018$ ) and household (92%,  $P<0.001$ ) levels with poor knowledge.

The study population having good knowledge on sequential steps under the national strategy is 22.7%, where as 36% and 19.6% separately collect bio-degradable, reusable and recyclable waste to “satisfactory” level while 8.8% and 15.1% produce compost respectively at school and household levels. This indicates the study population adopts good practices in ad-hoc manner to a limited extent, mainly due to lack of proper knowledge among total population.

Statistically significant association found between good knowledge level of the students and number of family members being less than or equal to 4 (100%,  $p=0.001$ ). Similar significant association found between poor knowledge level of students and; > Rs.10,000/= of monthly family income (64.6%,  $p=0.015$ ), inadequate contribution from school curriculum (82.5%,  $P=0.018$ ), inadequate contribution from health promotion school programme (86%,  $p=0.033$ ), inadequate access to external knowledge sources (87%,  $p=0.006$ ).

A significant association is found between satisfactory practices at school level and; Sinhalese (93.8%,  $p=0.003$ ), mothers' education above O/L group (65.4 %,  $p=0.002$ ), fathers not employed as professionals or clerical (77.2%,  $p=0.040$ ), adequate contribution from health promotion school program (60.5%,  $p=0.011$ ). Statistically significant association noted between unsatisfactory practice at school level and; Buddhists (85.1%,  $p=0.006$ ), inadequate contribution from local authority (70.7%,  $p < 0.001$ ), external knowledge sources (72.5%,  $p < 0.001$ ).

Also a significant association found between satisfactory practices at household and mother being a housewife (72.7%  $p=0.003$ ). There is a significant association between unsatisfactory practices at household and; males (57.2%,  $p=0.030$ ), > Rs, 10,000/= monthly family income (65.2%  $p=0.025$ ), inadequate contribution from local authority (82.5%,  $p < 0.001$ ) and inadequate contribution from health promotion school program (59.4%  $p=0.006$ ).

No significant association found between practice at school as well as house hold levels and; the land size of resident (respectively  $p=0.407$  and  $p=0.126$ ), distance from school to resident (respectively  $p=0.125$  and  $p=0.966$ ).

The study recommends enhancing students' knowledge and practices on solid waste management. Municipal council with participation of teachers and students shall start national strategy based school waste management scheme.

Introducing health promotion school programme to all schools with components focus on health effects of wastes and mitigations, guiding students to explore knowledge and exposing them to best practices is an effective way to address the issues identified.

In order to equally transfer knowledge among students across the age levels and across the school categories, it is recommended to review the course curricular of government school to accommodate different attributes of solid waste management under relevant subjects to perceivable extent from primary to secondary education levels. This will enabled the government achieving relevant national objectives in long term perspective.

Key words: Solid waste, Health promotion schools, Knowledge and practices