

Study on solid waste management in different income groups of Lucknow city

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SUMMARY : Management of solid waste in India's growing urban areas is a challenging problem. Current practices of unscientific dumping of domestic waste have created serious environmental and public health concerns. This study attempts to study the municipal solid waste management (MSWM) in the capital city of Uttar Pradesh, Lucknow, by a primary survey of 150 households segregated on the basis of income and settlement profile. Estimates of willingness to pay (WTP) were also measured based on parametric modeling. The study indicated that about 77 per cent of domestic waste was biodegradable; segregation of waste and their disposal and about 23 per cent of total waste generated was non-biodegradable which also included recyclable material. The entire study area was divided as a (low income group), B (medium income group) and (high income group) which produced 27 per cent, 28 per cent and 45 per cent of non-biodegradable waste, respectively. The mean WTP was found to be Rs.34 to 46 per month. WTP can be utilized for collecting monthly charges for door to door collection for different settlements in a better way.

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Rapid industrialization, urbanization and population growth (Singh *et al.*, 2011) have led to severe waste management problem in several cities of developing world like India (Narayana, 2009), Malaysia, Nepal, Bangladesh. Although MSW is the catastrophic potential of either global warming or stratospheric ozone depletion has posed threats to environment quality and human health (Singh *et al.*, 2011). India is an agricultural based country having present pollution of about 1200 million. Due to uninterrupted relocation of peoples in India, the share of urban population has increased from 10.84 per cent in 1901 to 31.16 per cent in 2011. It is expected that by 2025 urban population in India shall reach 50 per cent of the total population while the quantity of waste of municipal solid waste generated is expected to triple (www.geetenjalienvirotech). Municipal solid waste management encompasses planning, engineering, organization, administration financial and legal aspects of activities associated with

generation, storage, collection and transfer to all wastes collected and controlled by the municipalities and comprises of most diverse categories of waste (Kurian, 2002; Ramachandra, 2006). It comprises of waste from several different sources such as domestic waste, commercial waste, institutional wastes and demolition waste (Ramachandra, 2006). The uncontrolled urbanization of many Indian cities devoid of many infrastructural services such as water supply, sewage and municipal solid waste management worldwide are overwhelmed by several problems related to solid waste due to lack of serious efforts by town/city authorities' garbage and its management has become tenacious problem and this is notwithstanding the fact that the largest part of municipal expenditure is allocated to it. It is not uncommon to find 30-50 per cent expenditure of staff and resource being utilized by urban local bodies for their operation despite this, there has been a progressive decline in the standard of service with respect to collection and