

## Solid Waste Generation, Composition And Potentiality Of Waste To Resource Recovery In Narayanganj City Corporation

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**Abstract :** One of the cities in Bangladesh that is developing the fastest is Narayanganj City Corporation. In 2011, the municipality of Narayanganj was transformed into a city corporation, with 27 wards combining Kadamrasul Municipality, Siddhirganj Municipality, and Narayanganj Town. It is also one of Bangladesh's most important industrial centers in Bangladesh. Narayanganj City Corporation (NCC), which has had high development growth, is also generating more solid waste on a high per-capita basis. Because of the increasing rate of population expansion, business activity, industrial development, and fast urbanization, NCC is today creating more waste than ever before. The enormous amount of solid garbage produced in NCC is currently causing air pollution, soil contamination, water pollution, drainage system blockages, and an unpleasant urban environment. The study aimed to find out the amount of solid waste produced per day in NCC by exploring the waste composition and potentiality of resource recovery from the produced solid waste. This study considered household surveys, polythene bag surveys, questionnaire surveys in commercial and industrial sectors, KIIs, FGDs, and lab tests to identify the total amount of waste generated in NCC with waste composition and potentiality for energy recovery from the generated waste. This study has explored that NCC is producing about 922 tons of solid waste per day from households, commercial activities, and industrial sectors where the existing waste collection rate by NCC authority is only about 50% of total generated waste. This study has also explored that about 75% of daily-produced solid waste is perishable with comparatively high moisture content whereas 18 % and 7% are non-perishable and hazardous. It is also explored that there is no resource recovery plant for solid waste management in NCC. On the other hand, this study has explored that the calorific value of the produced solid waste favors resource recovery like waste to electricity. The generated solid waste composition is also in favor of waste-to-biogas, and waste-to-compost fertilizer production. This study has advocated that initiatives need to develop a solid waste management plant in NCC for resource recovery from solid waste. This research may provide a quick overview of the rate of solid waste generation, its composition, and the potential for resource recovery from solid waste in Bangladesh's metropolitan regions. It can also provide information and knowledge to other trash departments in different cities and municipalities in Bangladesh.

**Keywords :** solid waste, waste composition, waste management, resource recovery from solid waste

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