

## **GIS Application in Urban Solid Waste Management: A Case Study of Dar es Salaam, Tanzania**

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Like most developing countries, urban solid waste management is a critical issue in Tanzania. According to the 2012 Census, the population of the Capital City, Dar es Salaam, was 4.36 million, accounting for 10 percent of the total Tanzania Mainland population and 50% of its urban population. This was much higher than the pre-census projection of 3.27 million. The City of Dar es Salaam has become the third fastest growing City in Africa and among the ten fastest growing cities in the world. With a total land area of 1,500 km<sup>2</sup>, it is Tanzania's largest industrial and commercial centre where more than 70% of the population lives in unplanned and under-serviced areas of the city. With rapid urban population growth, solid waste management is turning to be a big challenge for local government inflicting serious consequences on public health and environment.

To improve the overall solid waste system and management, an improvement plan has been prepared for Dar es Salam under the Dar es Salaam Metropolitan Development Project (DMDP) program. The current situation of waste disposal system is analyzed and options for better management and operation are proposed. Population, land characteristics (relief/slope/soil), land use/land cover, transportation routes and proximity to water bodies are the parameters considered to propose sustainable location for collection and transfer points. GIS technique has been used for spatial analysis of the above mentioned parameters to identify appropriate solid waste disposal locations and transportation routes. This paper presents the extract of this study as a case study illustrating the application of GIS as a decision support tool for planning urban solid waste management.