

**SOLID WASTE MANAGEMENT PLAN FOR SELECTED  
SECTORS OF ISLAMABAD USING GIS TECHNIQUES**



**By**

**NAHEED FATIMA**

**Department of Earth and Environmental Sciences  
Bahria University, Islamabad**

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## ABSTRACT

Solid waste is one of the most visible and pressing urban environmental problems in both developed and developing countries. Urbanization, demographic growth and economic development all contribute to the generation of waste, which overloads the capacities (budget, personnel and infrastructure) of the local authorities. If solid waste is not managed properly, it could have effect on health and environment. Geographical Information System is a latest tool that provides spatial and non spatial data in so many areas for better planning and decision making. In this study GIS tool was used to monitor existing solid waste system in the selected sectors (F-6, F-7, G-6 and G-7) of Islamabad for relocation and proper management plan.

Waste generation is higher than the carry capacity of waste bins in sector G. There are 15 extra trolley and 7 skips in sector F-6 that is relocated to sector G-6 and G-7 on the basis of sensitivity like school, hospitals and markets. There are 46 trolley that have been reallocated within the sector F-6 according to the buffer analysis of sensitive areas and waste generation pattern.

In sector F-7 there are 10 extra trolley and 4 skips, proposed for relocation in other sectors. There are 98 trolley placed in the sector G-6 with no skip. The waste generation in this sector is high so by using the GIS tool 65 trolley and 5 skips were relocated against the requirement of 79 trolley and 6 skips.

There are only 23 trolley with 20 skip were placed in sector G-7 which is the highest waste generating sector among the selected sectors, so on the basis of analysis the required number of trolley is 224 and 14 skips. By using GIS tool 90 trolley and 14 skip has reallocated within the sector G-7 against the waste generation and population density.

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## **ABBREVIATIONS**

SWM	Solid waste management
ISWM	Integrated solid waste management
MSW	Municipal solid waste
EPA	Environment protection agency
HDPE	High density polyethylene
PEPA	Pakistan environmental protection act
P&D Departments	Planning and development department
TMA	Town municipal authority
CDA	Capital development authority
GIS	Geographic information system