

## Survey of Solid Waste Management in Mahabad, Iran

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The quantity and quality of municipal solid waste (MSW) in Mahabad city has changed because of the population growth and changes in lifestyle [1,2]. However, at present, the solid waste management (SWM) in this city, which generates more than 140 tons/day, has not reached an acceptable level in source reduction or recycling, with only 60% of homes recycling waste, such as plastic containers, papers, and newspapers [3]. Currently, no waste treatment facilities are present, and hence, waste is collected and dumped in open lands 30 km from the city [4]. Research on current SWM practices in Mahabad city reveals that there are many issues that need to be addressed. This paper discusses the primary reasons for the poor performance of the current system and offers solutions for improving the current MSW management.

\* Sweeping is regularly and fairly well conducted in some parts of the city; however, in most parts of the city, especially in low-income neighborhoods and slums, due to frequent littering on streets and roads, and garbage disposal in open spaces and open drains after collection hours, the city remains dirty. Furthermore, sweeping in the suburbs is not conducted regularly. To avoid this problem, authorities should consider SWM for the entire city, which includes a comprehensive plan as well as an awareness campaign about cleanliness in public areas.

- Inappropriate waste storage methods, which result in unhygienic conditions, foul smell, and proliferation of flies and other vectors, must be addressed by withdrawing the use of temporary stations and direct loading of waste from households. Temporary stations must be completely cleaned after waste collection, and enough containers with sufficient volume should be designed, especially for commercial areas.

- The present collection and transfer approach is nonsystematic and performed manually, and it is neither economical nor efficient. GIS-based analysis and optimization techniques can be used to determine optimal ways of utilizing available manpower and resources for waste collection and transfer. Furthermore, regular maintenance of vehicles is necessary.

- The present approach of waste disposal is not acceptable, and it should be moved to a new place that is specifically designed for sanitary landfilling.

A systematic and scientifically integrated SWM is needed, which will cover all the required functions. Furthermore, corporation between the government and people will help achieve the aims of SWM; this must be considered by authorities as a key point. In addition, due to the lack of resources and suitable planning, these aims cannot be achieved without the close cooperation of the government and citizens.

### References

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