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# SITE SELECTION OF MUNICIPAL SOLID WASTE LANDFILLS USING ANALYTICAL HIERARCHY PROCESS METHOD IN A GEOGRAPHICAL INFORMATION TECHNOLOGY ENVIRONMENT IN GIROFT

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## Abstract:

Municipal solid waste generation is among the most significant sources which threaten the global environmental health. As an ideal selection depends on considering several independent factors concerning land use, socio economy and hydrogeology, the use of a multi criteria evaluation method seems inevitable. Taking benefit of geographic information system as a tool in combination with geographical information technology, equips the spatial decision support systems in appropriate site selection of sanitary landfills. The present study involves a kind of multi criteria evaluation method under the name of weighted linear combination by using geographical information technology as a practical instrument to evaluate the suitability of the vicinity of Giroft city in Kerman province of Iran for landfill. Water permeability, slope, distance from rivers, depth of underground watertable, distance from residential areas, distance from generation centers, general environmental criterion and distance from roads are the criteria which have been taken in to consideration in the process of analyzing. Superposing all of the raster type layers including geomorphologic, hydrologic, humanistic and land use criteria in land suitability, the final zoning of appropriate, fairly appropriate and inappropriate districts have been identified. Considering relative priority of all criteria in comparison with others, a specific weight is designated to each criterion according to their total influence on the whole process of decision making. The results from the application of the presented methodology are zones for landfill with varying zonal land suitability. Finally the zones will be ranked in descending order to indicate the priority of different options in front of the eyes of decision makers. The results achieved by this study may help policy makers of Giroft city by a variety of options for being considered as sanitary landfill locations.

## Keywords:

Analytical hierarchy process ، geographical information technology ، landfill ، site selection

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