

Use of Remote Sensing and GIS Techniques in the Selection of Best Possible Solid Waste Disposal Sites in Mafraq City - Jordan

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Solid waste disposal is considered as one of the major environmental problems in Jordan. The management and operations involve the collection, transportation and waste disposal have been carried out in an arbitrary way, without taking into consideration any environmental standards. Due to high population growth rate compounded by other economical and technical constraints, this problem has become more complicated. This inevitably requires urgent measures to protect the environment.

Mafraq city, which is one of the major cities in Jordan, has been chosen for this study to suggest the best possible solid waste disposal sites, using remote sensing and geographic information system (GIS) techniques. The selection of disposal site was based on the environmental standards issued by U.S. Environmental Protection Agency (U.S. EPA) and the environmental standards applied in some European countries such as the UK. The geological situation, landuse types, topography, drainage system, water wells, static water level distribution, wind direction and major access roads were taken into consideration in the analysis. The selection of the best possible solid waste disposal sites had been accomplished according to the EPA standards for landfill criteria and spatial analyses.

Keywords: solid waste, disposal site, remote sensing, spatial analysis, GIS