

**IDENTIFICATION OF SUITABLE LANDFILL SITES USING GIS-MULTI-CRITERIA
ANALYSIS IN KOHAT CITY, PAKISTAN**

Hira Faiz, Fatima Khattak, and Samiullah

Department of Geography, University of Peshawar

samigeo78@gmail.com

Abstract

There has been a steady increase in the urban population in the Kohat city in the last two decades. This increase in population resulted in increasing generation of solid waste causing a serious problem of the pollution in the surrounding environment due to inappropriate disposal of solid wastes. In this study an effort was made to use Geographic Information System (GIS) and Remote Sensing (RS) for the identification of suitable landfill sites for the proper disposal of the solid wastes produced. In this case study ten parameters were used in order to satisfy all environmental, social and economic conditions. SPOT satellite image and land capability maps were used as a base maps. Land use, airport, roads, waterbodies, slope, elevation, land values, water table and land capability were the parameters used as a criterion for site selection of landfill sites. ArcGIS software was used for the processing and finding result. Different analysis tools were applied to perform different analysis functions. Multi influencing factor (MIF) used to assigned weights according to their importance or percent influence. Final results were in the form of suitability map by using the Weighted Overlay tool. Resulted map shows the area in three regions, not suitable, moderate and high suitable for landfill sites. The highly suitable areas were mostly located in the southern and western part of the Kohat city.