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| Thesis Title | Selection of Potential Sites for Solid Waste Disposal, Using Geographic Information System (GIS) Technology: A Case Study of Saraburi Municipality |
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## ABSTRACT

One of serious environmental problem which is now becoming more and more seriously is disposal waste problem. Almost all of solid wastes in municipalities and sanitary districts of Thailand have been managed by dumping on land. This method has affected the overall environment public health, and caused the breeding of rodents, rats, insects, cockroaches, and flies. Especially, it produces leachate which contaminates soils, surface water and groundwater. Therefore, selection of potential sites for solid waste disposal should be carried out based on the appropriate criteria using efficient analytical technique.

Saraburi Municipality, Saraburi province was chosen as the case study. The procedure of the selection of potential sites for solid waste disposal were divided into 2 parts. Firstly, 8 physical factors, i.e. slope, covered soil, soil permeability, soil depth, geology, groundwater level, surface runoff and landuse were weighted adn rated. Secondly, other factors like transportation routes, rivers and canals, distance from municipality, and solid waste collecting cost were considered. All factors and data were entered, stored and analysed using geographic information system or GIS technique.

From the total area of 2,883.66 sq.km., there are 412.53 sq.km (14.31%) as high potential areas for solid waste disposal; 1,325.58 sq.km. (45.97%) as medium potential areas and 578.52 sq.km. (20.06%) as low potential areas. The locations of high potential areas can be also indicated.

Application of GIS technique as a tool assisting all data collection and analysis has been proved to be able to efficiently help the selection of potential sites for solid waste disposal of municipalities and sanitary districts.