

UNIVERSITI TEKNOLOGI MARA

**IDENTIFYING FEASIBLE RECREATIONAL
TRAILS FOR PEOPLE WITH DISABILITIES USING
GIS AS A TOOL FOR DECISION MAKING**

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ABSTRACT

As population increases, the need for public recreation facilities and resources increases. Based on current trend in Malaysia, recreational forest attracted a large number of visitors due to increase of leisure and wealth, as well as the upward trend in nature appreciation. Forest parks now play an important role in providing recreational and leisure needs for the people. Leisure service professionals and organization are concerned with offering recreational opportunities in parks that will maintain and improve the quality of life of the people, including people with disabilities. Public park and recreation providers are constrained by limited time and funding to plan for, and implement, recreational facilities for people with disabilities. Geographic information system (GIS) has recently emerged as a helpful and accountable tool to fulfill the mission of providing sufficient and equitable park and recreation services. The potential of Geographic Information System (GIS) technology is applied in this study using Multi Criteria Decision Analysis (MCDA) and Analytical Hierarchy Process (AHP) method. Four criteria have been identified for locating the suitable trail. They are slope, river, road and view points. Trail suitability study in this research consists of generating pairwise comparison matrix for each criterion factor with AHP technique. The generation of weight and rank is carried out using Microsoft Excel. The result of AHP weight is used to generate the suitability map. The suitability analysis is done using map calculator in ArcGIS. This analysis produced a raster format result and the suitability map is then reclassified into three classes, which are; most suitable, suitable and not suitable. Ground verification is carried out to confirm the result. Comparison is made and it is determined that Keruing Trail is the most suitable trail for people with disabilities because it was located on a slope less than 5%, the trail head was located near the road, there was no river crossing and has the most interesting view points. The potential use of GIS for identifying feasible recreational trail for people with disabilities is demonstrated in this research. GIS is indeed one of the most efficient technologies in recreational trail planning.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

The need for recreational park are increasing, with the rise of longevity, mobility and leisure of the growing population in urban areas. Rapid population growth, increased mobility, and prolonged economic expansion resulted in a high degree of urbanisation, with a typically low-rise high-density development. The explosive and often uncontrolled growth led to serious degradation of the living environment; including air and water pollution, expanding temperature diffusion, and lack of public open spaces. People need the deep influence of nature to balance the effects of life in the modern city or more prosaically relief from central area pressures (Jamil, 2002).

Environment is the word of the day. Everybody is talking about preserving the forest and creating parks as people have more time on leisure and recreation. The Langkawi Declaration and the Rio Summit are testimonies on the seriousness to preserve and utilize appropriately our forest for the enjoyment of the people. Like the U.S and other Western countries, Malaysia is also concerned with conserving its forest and at the same time make way for recreational activities.

The National Forestry Policy (1978) provides for the development of recreational forests for ecotourism. The concept of Recreation Forest was first described as the conservation of adequate forest areas for recreation education and the protection of the country's unique flora and fauna.