

The Distribution of The preparatory Schools in Medina: A Study in Spatial analysis

Abstract

Medina has a great historical and religious position in Saudi Arabia and the Arab, Islamic worlds. Medina's population growth makes a pressure on its services. There was a need to increase the number of prep. schools in line together with the increased rates of population growth. This results in unsuitable sites for schools both site characteristics and distribution.

This paper aims at evaluating the spatial characteristics of prep schools in Medina, their distribution and their buildings' characteristics, applying some ARC GIS 10.5 spatial analysis tools. It explores the spatial distribution of schools and its relations to the surrounding environment, in terms of some environmental hazards, such as floods, traffic accidents and mobile phone towers. On the other hand the study examined the students' enjoyment of gardens and parks and their satisfaction of the schools distribution and spatial characteristics.

The most important results of this study are the increasing number of prep schools that occupy governmental buildings composed of two or three floors with good status. Schools have a distributional density at the city core. Their distribution takes the direction of the North east– southwest, in line with the general direction of residential land use in the city.

There are numbers of schools are vulnerable to a potential risk of floods, mobile phones' towers and traffic accidents. On the other side the largest number of the schools are found on a distance over 500 meters between them and gardens and parks.

The study has shown that, a small number of students go to schools on foot, while most of them are satisfied with the schools' locations and surrounding land uses. The largest number of students feel their schools are safe from roads hazardousness and are satisfied towards the environment around the school.