

بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



جامعة عين شمس

التوثيق الإلكتروني والميكرو فيلم

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ASSESSMENT OF BASIC SERVICES IN URBAN SETTLEMENTS USING GEOGRAPHIC INFORMATION SYSTEMS

Submitted By
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B. Sc. Of civil Engineering, Higher Technological Institute,
Tenth of Ramadan, 2000
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Studies and Research, Ain Shams University, 2011

A Thesis Submitted in Partial Fulfillment
Of
The Requirement for the Doctor of Philosophy Degree
In
Environmental Sciences

Department of Environmental Engineering Sciences
Institute of Environmental Studies and Research
Ain Shams University

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Abstract

This thesis aims to assist the spatial distribution, sufficiency and equality of the educational and health services in the urban mass of Egyptian cities. Two cities were selected for the study. The first application was applied on El Mansoura City in Dakahleya Governorate, located in the Nile Delta and surrounded by arable lands with no desert extension. The target was to assess and improve its situation in the urban mass without sprawling on the arable lands. The second application was applied on the Tenth of Ramadan City, located in the desert extension in El-Sharkeya, one of the first generations of the new communities in Egypt. The target was to assess and improve the current situation of the services and avoiding extension of infrastructure outside the city urban mass boundary. The assessment was conducted using the spatial analysis tools in ArcGIS 10.4.1 software and following the guidelines set by GOPP for deriving the standards, thresholds and sphere of influence for the locations of each of the two services for each city. The directory of distribution of land-use activities for the Egyptian cities was studied and followed.

Applying the spatial analysis on the relevant GIS layers in the geographic database and following the mentioned guidelines, the assessment revealed a shortage of both services in both cities. Such shortage was depicted in spatial analysis and maps pointing out the situation in each city administrative boundary/sheyakha. The cities' extensions were also assessed in order to ensure the use of available vacant lands. Accordingly, field visits were conducted for such vacant lands and finally new locations for the educational and health services was proposed for the two cities. The new proposed locations follow the GOPP guidelines and abide the directory of distribution of land-use activities in the Egyptian cities.

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