Abstract

Osama S. Tolba

The Role of GIS in Documenting Bahrain's Historic Cities

Geographic information systems have long been established as useful tools for urban planning. The aim of this study is to put forward applications of GIS (Geographic Information Systems) to urban conservation in cities with architectural heritage. The study presents a specific database design to be integrated within a GIS, and the methodology of gathering data for such a database. This study concerns Bahrain's architectural heritage, which includes many significant historic buildings as well as an overall traditional character of Bahrain's old towns. This heritage is endangered due to extensive new urban development and the general neglect over the past decades. The study also describes an experimental database that is implemented for documenting the urban character of the old towns of Manama and Muharraq. This database was tested during a partial visual survey of Manama. It is hoped that this database will be the nucleus of a long-term process of urban conservation in the Kingdom of Bahrain. The work described here is part of a larger study conducted by the UNDP (United Nations Development Program) and the municipal government in Bahrain. A group of international experts in urban planning, urban design, and historic preservation also presented their own specific recommendations. The author of this paper was responsible for designing the GIS that helps in documenting the historic cities of Bahrain. This report proposes the development of a geographic information system for urban conservation planning. The system supports planning specialists and decision makers in their areas of work, such as the creation of urban conservation zones and redevelopment strategies. The system documents existing structures and their present conditions in order to assist in decisions regarding their preservation, restoration, and possible reuse. Such a system will also help the municipalities in regular heritage management tasks.