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GIS-BASED URBAN SUSTAINABILTY ASSESSMENT: THE CASE OF DAMMAM CITY, SAUDI ARABIA

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ABSTRACT

The concept of sustainable development has been widely accepted as a laudable goal to be achieved by different nations. Countries and municipalities especially in developing countries still find it difficult to operationalize the principles of sustainability. Those communities that are able to apply it do not have adequate means of evaluating how successful the application is. This study discusses the assessment of the application of the principles of sustainability especially with regards to city planning. The vast opportunities of spatial analysis made available by the advances in GIS technology and their utilization in sustainability assessment are also discussed. Based on the discussion, a framework of indicators is developed to assess the sustainability of Dammam city, Saudi Arabia. The study concluded that some aspects of sustainability are not addressed by the planning process and the plan document. The planning process and the plan document addressed economic sustainability issues more than social and environmental issues. The result of the GIS-based sustainability assessment of the study area produced similar findings. The study developed a sustainable planning guidance and made some recommendations based on the findings.

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