

Spatio-Temporal Assessment of Urban Growth and Land Use Change in Islamabad Using Object-Based Classification Method

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Abstract : Rapid land use changes have taken place in Islamabad, the capital city of Pakistan, over the past decades due to accelerated urbanization and industrialization. In this study, land use changes in the metropolitan area of Islamabad was observed by the combined use of GIS and satellite remote sensing for a time period of 15 years. High-resolution Google Earth images were downloaded from 2000-2015, and object-based classification method was used for accurate classification using eCognition software. The information regarding urban settlements, industrial area, barren land, agricultural area, vegetation, water, and transportation infrastructure was extracted. The results showed that the city experienced a spatial expansion, rapid urban growth, land use change and expanding transportation infrastructure. The study concluded the integration of GIS and remote sensing as an effective approach for analyzing the spatial pattern of urban growth and land use change.

Keywords : land use change, urban growth, Islamabad, object-based classification, Google Earth, remote sensing, GIS

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