

Using Remote Sensing Techniques to Assess the Changes in the Rate of Urban Green Spaces in Egypt: A Case Study of Greater Cairo

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Abstract:

Urban Green Spaces (UGS) are highly valued by landscape and urban planners for their positive impact on city quality of life. More than half of Cairo's population has less than 0.5 m²/person, which is a staggering ratio that is considerably below the city's average of 1.7 m². Egypt has a per capita UGS ratio of 3.1 m², compared to 11.8 m² in Paris and 26.7 m² in London. The National Organization for Urban Harmony (NOUH) created a guideline to assist Egyptian urban planners in improving the qualified ratio of UGS per capita. The purpose of this research is to assess the impact of the NOUH guideline on the Greater Cairo (GC) region and Cairo city districts between 2010 and 2019 using free-easy access data such as Landsat and LandScan datasets. In Cairo, UGS increased by 942 hectares at a 34.6 percent pace, from 2724 ha in 2010 to 3666 ha in 2019. In GC region, the number of people living in unqualified rate districts has increased from 36.4 percent in 2010 to 87.5 percent in 2019. The new districts maintained the region's greatest per capita UGS rate (41.6 m²/capita).

Keywords:

Urban Green Spaces, Landsat, LandScan, Greater Cairo, Remote Sensing, GIS

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