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Research Article

Geospatial Analysis of Land Use Change and Grassland Degradation in Pune's Urban Hills

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ABSTRACT

Urbanization is a widespread phenomenon worldwide, and it is particularly intense in South Asian developing countries like India. This study focuses on the land use and land cover (LULC) changes in the hills of the Pune metropolitan region, one of India's fastest-growing metropolises. The study utilized Landsat 8 satellite data and analysed it in QGIS software using a semi-automatic classification plugin. The land use maps were categorized into four classes: built-up, tree cover, savanna, and water. We also conducted field surveys to identify and record human activities that negatively affect grassland vegetation. The hilly region of Pune is facing significant pressure from urban growth. The original savanna vegetation on these hills is diminishing due to the introduction of exotic plantations and other human activities. Safeguarding Pune's savannas requires a multi-pronged approach, with public awareness campaigns at the forefront. Educating citizens, naturalists, conservationists, and policymakers is essential for their preservation. Building public understanding and fostering community engagement is fundamental for these critical areas' long-term protection and sustainable management. Through highlighting current trends and challenges, this study aims to provide valuable insights for sustainable land-use planning in Pune's urban hills, ensuring the preservation of these natural habitats for the future.

Key words: Anthropogenic activities, Built-up, Exotic plantations, Grassland-Scrub, Slums, Urban sprawl