

GIS ANALYSIS ON THE IMPACT OF URBAN PLANING ON URBAN FOREST CHANGE WITH REFERENCE RATHNAPURA MUNICIPALITY AREA.

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Urban planning can have a significant impact on urban forest cover, leading to changes in spatial distribution. This GIS analysis examines the impact of urban planning on urban forest change in the Rathnapura Municipality area. Using satellite imagery from the multispectral USGS Landsat 8 in the past decade and such data as historic records and land use maps from the Sri Lanka Survey Department. This study is based on assessing the impact of urban planning on urban forest change in the Rathnapura Municipality Area. as a study problem and mainly focus on evaluating the changes in urban forest cover within Rathnapura Municipality over 2003-2022 as specified period and identifying the effective areas of forest due to urban planning. not only that, but also to identify the pattern of forest change, identify areas where urban planning affects forests, and propose recommendations. The study maps show the changes in location of forest cover in relation to urban development and infrastructure expansion in the area. The results show a significant decline in forest cover in high-density urban areas and an increase in forest cover in other areas with planning strategies. The study suggests that the current urban planning policies and decisions in Rathnapura Municipality have given insufficient consideration to the protection of urban forests in the new township area. The paper concludes by recommending more sustainable and integrated approaches to urban planning that prioritize biodiversity conservation, green infrastructure, and open spaces to promote a healthy and sustainable urban environment. The findings of this study can contribute to the formulation of evidence-based policies and decisions towards a more sustainable and resilient development of urban areas.

Keywords - *GIS, Urban planning, Urban Forest change, Rathnapura Municipality, Sustainability*

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