Assessment and Prediction of the Effect of Urbanization on Greenery in 9th Mile Corner Ngwo, Enugu State, Nigeria, Using Remote Sensing.

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SUMMARY

Urban greenery provides a wide range of ecosystem functions including habitat for native species and recreation for residents; It protects us from the adverse greenhouse effects of climate changes. This study applied remote sensing in assessing the effect of urbanization on greenery in 9th Mile Corner Ngwo, Enugu state, Nigeria. The multi-date Landsat Tm, ETm+ and (OLI TIRS) were openly sourced from United State Geological Survey website. The time series images were from Landsat path 188, row 56. The Normalized Difference Vegetation Index (NDVI) was applied herein in order to extract the greenery from the remotely sensed data. The NDVI value of the study area for 1989, 1999, 2009 and 2019 were reclassified using ArcGis 10.1; during the classification, the two major classes that were identified are Vegetation area and Non vegetation area. Regression analysis was applied to predict the trend of greenery depletion in the study area. The results show that in 1989, 1999, 2009 and 2019, the percentages of greenery within the study area are 94.4%, 91.43%, 90.50%, and 82.67% respectively while the prediction shows that in 2029 and 2039, the percentage of greenery in the study area will be 75.82% and 65.00% respectively. Consequent upon the statistical analyses of the empirical results, the trend is an evidence of the inference that the greenery within the study area has been depleted and will be dwindling in the course of time due to urbanization and industrialization. If greenery will be so depleted as predicted in this study, it will bring about the consequent negative effects of climate change, therefore, it is strongly recommended that the state government as well as the local planning authority should implement strong development control measures and encourage reforestation within the study area in order to avert the impending danger.
