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Classify Land Use/Cover Change and Its Impact on Soil Erosion Using GIS from 2005 to 2015 in Nzhelele Valley Limpopo Province, South Africa

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Abstract : The main objective of this study was to classify land use/cover and how it has changed in Nzhelele Valley Limpopo Province, South Africa. The study aimed to identify and analyse the types of land use/cover in the years 2005, 2010, and 2015 with a view to assess the impact on soil erosion over time. Using GIS, the changes within land use/cover were assessed through the classification of satellite images. The study area was classified into four major land cover/use classes, which are vegetation, gravel road, built up land and agricultural fields. Over the period 2005-2015 the resultant land use/cover demonstrated (i) a significant increase (12%) for vegetation cover, (ii) a significant decrease in agriculture (16%) land use/cover, (iii) increase in built-up land (1%), as well as (iv) an increase in gravel roads (3%). This study envisages assisting policy makers in decision making on land use management for Nzhelele Valley.

Keywords : land use, land cover, change, soil erosion
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