

# Land Use Change Analysis Using Remotesensing,Gis and Landscape Metrics(Case study: Kermanshah city,iran)

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## Abstract

Growth and expansion of urban settlements has caused significant landscape pattern changes in addition to land use changes in the cities. This phenomenon has various effects on the structure and function of ecological systems change. Knowledge of variability process in the assessment of environmental impacts of development is important due to the negative effects caused by the improper use of land and land use changes. This knowledge helps to the sustainable land planning and management. This study was conducted to study the landscape changes process in Kermanshah. The main materials employed for this study were TM (1991),Landsat ETM satellite image (2007) of the study area and metrics of class area, number of patches, mean patch size, edge density and mean shape index. Landscape metrics analysis indicated extensive replacement of green space, gardens, forests and pasture by residential/agricultural land or water. Obtained results indicated that the number of patches and edge density might be reduced while the area increased. In other words, they are negatively correlated. Changes in the spatial characteristics are effective in the ecological function. Therefore, they should be considered in planning and land use planning mode.

**Keywords:** GIS, Landscape, metric, spatial characteristics, city of Kermanshah

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