Use of Remote Sensing and GIS techniques in Monitoring of Land Use/ Land Cover Changes: Case Study of Kanaan area of Diyala Province, Central Iraq

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Abstract: This study was conducted on the floor coverings in the Kanaan area of Diyala province, central Iraq, between latitudes $44^° 39' 23.47$ '- $45^º 02 ' 39.81^"$ and$33^º 28' 29.47^"$ – $33^º 42' 37.51^"$ an area of 993.506 km ^{2}. The field survey was based on ground observation points. Two satellite data the first for the Landsat 7 sensor ETM + (row 37 and path 168) captured on 18/4/2009 and the second satellite Landsat 8 sensor OLI_TIRS (row 37 and path 168) captured on 2/3/2019 was used. The results were classified as unsupervised on the spatial data. The result of the classification showed that 5 plant coverings, including forest and orchard trees, exploited agricultural land, unexploited agricultural land, buildings and Constructions, and barren land. They were identified and compared with land control 75 points. The classification and evaluation of the satellite data were based on the error matrix. The percentage of each category and the whole plan were 81 and 86% in 2009 and 2019 respectively. Respectively, and reached a clear deterioration of the vegetation cover by 34.53% or equivalent area of 79. 884 km^2, and an increase in the area of agricultural land by 67,895 km^2 (26.35%) during the study period.

Keywords: Vegetation degradation, Land coverings, Remote sensing, GIS