



Land Use Land Cover Change Detection Using Remote Sensing and Geographic Information System in Canal Command Area, Karnataka

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Abstract: Changes in land use land cover are a dynamic process taking place on the surface and it becomes a central component in current strategies in managing natural resources and monitoring environmental changes. LULC change detection is the process that helps in determining the changes related with land use and land cover with reference to geo-rectified remote sensing data. The objective of this paper is to analyze the land use land cover changes in the canal command area, Karnataka, India is using multi temporal remote sensing data (LANDSAT-8 of year 2015 and 2017) land use land cover changes has been performed. Eight LULC classes were established as crop land, fallow land, rockout crop, salt affected area, settlements, vegetation, water body and waterlogged. The LULC changes were unsupervised for classification during post-monsoon 2015 and 2016 waterlogged area was 2033.28 ha and 1703.07 ha, per cent respectively. The salt affected area was 1567.44 ha and 1232.91 ha, respectively. Waterlogged area shares 2026.89 ha and 1149.66 ha and salt affected area was 1336.86 ha and 1595.52 ha for pre-monsoon 2016 and 2017. Supervised classification during post-monsoon of 2015 and 2016, the waterlogged area was 1441.98 ha and 1489.77 ha, and salt affected area was 1797.03 ha and 1762.11 ha, respectively. Similarly for pre-monsoon 2016 and 2017, the waterlogged area indicates that the anthropogenic activity like settlement, road and industrial area is largely broadened.

Keywords: Change detection, Geographic Information System, Land use land cover, Remote Sensing
