



Landscape Analysis Using GIS and Remote Sensing For Assessing Spatial Pattern in Forest Fragmentation in Shendurney Wildlife Sanctuary, Western Ghats, India

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Abstract: In this study an attempt is made to assess the forest degradation in Shendurney Wildlife Sanctuary, Western Ghats, India by evaluating the land use change and by appraising the rates of forest fragmentation. The study was done using two data sets obtained from Landsat 7 and landsat 8 over a period of fifteen years from 2000 to 2015. The analyses performed in the study includes land use change analysis. Due to climate change and human interruption the barren land has increased by 19 percent and 17 per cent of land cover reduction in Semi Deciduous Forest. Fragmentation analysis resulted with increase in non forest area of 13.94 percent, decrease in area of 250-500 ha is about 168.19% ha and area more than 500 ha is decreased by 15.67% ha. The derived values are then assessed by ground truth, with reference to random point generated using ArcGIS10.4.2. Cohen's Kappa confers us with in close proximity of our classification scheme, 92.25% ha accuracy for land use classification results and 83.27% of accuracy for fragmentation analysis result. The remote sensing and GIS reveals that the area of forest under study is affected by the surrounding areas in varying magnitude.

Keywords: Land use change analysis, Fragmentation analysis, Cohen kappa, Western ghats
