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Title:	Analysis of Landuse and Landcover Data for Giridih District of Jharkhand to Identify a New Industrial Zone using Remote Sensing and Gis Techniques
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Abstract:	Site selection is a critical decision made by private and public owners that affects a wide range of activities ranging from land use planning to sitting of industrial facilities. As such, industrial site location analysis is a big business, whether measured in terms of amounts invested, decisionmakers involved, employees affected, or the economies of the area influenced. Determining facilities locations is critical to the success and failure of such investments. The advanced space technology known as geospatial technology is a perfect tool to come out with site location . In the present study, identification of suitable site for industry establishment in Giridih district of Jharkhand, India is one of the evidence of Geospatial technology for mankind development. satellite landsat-7 ETM+ data has been used to find out land use land cover, geomorphology, ground water mapping of the study area. However road maps, river map, rail of the study area were extracted from satellite data, Survey of India (SOI) topographic map on 1: 50,000 scale. Land use Land cover mapping, geomorphology mapping, Groundwater mapping, slope mapping, road and rail network, and river mapping was done using on screen visual interpretation of landsat-7 ETM+ data. Attribute is given to all the classes. Each class in spatial layers is assigned with weighed value 1 to 10 based on the relative importance to suitability. After that all thematic vector layers were integrated and introduced in to overlaying and weightage analysis to carry out Point allocation approach using Boolean logic approach using Multi decision criteria mapping using Arc GIS 9.3 to target potential sites for Industrial development. The sum of Weightage of spatial layers using weighted overlay analysis, the result have been classified as high, medium, low and not suitable Ranking (order of priority) was done based on the knowledge of study area to select the best sites for industry development. Outcome generated through the GIS analysis shows that 160.85 km2 areas are highly suitable, 407.85 km2 areas is moderately suitable, 4398.30 km2 area is less suitable for industry development. Remote sensing data analysis in this study has helped to derive quantitative information on spatial and temporal relationships of land use/land cover and its potential sites for industry development. A multi criteria approach was employed in conjunction with GIS-based overlay analysis to identify the new industrial zone.
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