



Land use/land cover change and soil fertility mapping using GIS and remote sensing: A case study of Parasai-Sindh watershed in Bundelkhand region of central India

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Abstract

An assessment of soil quality with land use/land cover change was carried out at Parasai-Sindh watershed located in Jhansi district of Bundelkhand region. A total of 56 soil samples were collected and analyzed for soil quality assessment. Soil maps were generated using geostatistical interpolation tools of ArcGIS software. Inverse distance weighing (IDW) proved superior over universal kriging interpolation method, as it had less root mean square error (RMSE) for soil parameters (pH, OC, EC, P, K). Results revealed that more than 50% watershed area had soil quality in good or very good category. Area under crops and agroforestry/plantation was increased post interventions, indicating good impact of watershed practices.

Keywords: Geostatistical, Land use, Remote sensing, Soil quality, Watershed