



## Crop Acreage and Crop Yield Estimation using Remote Sensing and GIS Techniques, Bulandshahr District

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**Abstract:** Present study was conducted in the Bulandshahr district, Uttar Pradesh, India, for land use land cover changes, density of vegetation, difference vegetation index and estimation of crop yield for the year of 2000 and 2014. Remote sensing and geographical information system techniques were used in this study. Five land use land cover classes were identified such as built-up land, open land, crop land, and natural vegetation and water bodies through supervised classification with an accuracy of 97.9 and 99.5 per cent for the year 2000 and 2014, respectively. Increment in built-up land, open land and crop land were observed while natural vegetation was decline up to 15.6 per cent in fourteen years. Highest NDVI values for 2000 and 2014 were 0.4141 and 0.4166 while lowest were -0.4127 and -0.4166. In the crop yield estimation, an average of  $3.7 \times 10^6$  ton ha<sup>-1</sup> crop production was estimated. Overall, the study showed that the use of remote sensing and GIS in crop yield estimation was better as compared to traditional techniques.

**Keywords:** Crop yield estimation, Difference vegetation index, Geographical information system, Normalised difference vegetation index, Remote sensing