

**SPATIAL ANALYSIS OF LAND POTENTIAL INDEX IN RELATION TO
THE UTILIZATION OF REGIONAL SPATIAL PLANNING USING
GEOGRAPHIC INFORMATION SYSTEMS
IN BANTUL REGENCY, SPECIAL REGION OF YOGYAKARTA**

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ABSTRACT

Bantul Regency possesses a diversity of land potential that has not been fully utilized optimally in accordance with the directives of the Regional Spatial Plan (RTRW). Inappropriate land use may lead to environmental degradation and spatial imbalances. This study aims to analyze the compatibility between the land potential index and land use based on the RTRW using a Geographic Information System (GIS) approach. The method employed is a hierarchical quantitative method through a multi-parameter overlay technique involving soil type, slope, land use, rainfall, and rock type. The data were classified, scored, and weighted to produce a land potential index. The results of the study show that areas with Very High LPI account for 0.54%, High 17.11%, Moderate 47.01%, Low 34.96%, and Very Low 0.39%. The compatibility between land potential and land use in the RTRW reaches 63.04%, categorized as “appropriate”, while 36.96% is classified as “inappropriate”. This indicates the need for evaluation in the implementation of the RTRW to ensure land use in tune more closely with the biophysical potential of the area.

Keywords: Land Potential Index, GIS, Bantul, Spatial Planning, LPI, RTRW, Overlay