

**KEKRITISAN LAHAN DI SESAR OPAK BERBASIS
SISTEM INFORMASI GEOGRAFIS DI KALURAHAN SRIMULYO
DAN TERONG, KABUPATEN BANTUL,
DAERAH ISTIMEWA YOGYAKARTA**

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ABSTRAK

Daerah Istimewa Yogyakarta salah satu wilayah yang sebagian besar lahan kritis memiliki 79.123 ha, terutama dibagian sesar aktif yaitu Sesar Opak. Penelitian ini bertujuan untuk mengetahui dan menganalisis tingkat kekritisan lahan, faktor-faktor yang mempengaruhinya, dan menyusun peta kekritisan lahan berbasis Sistem Informasi Geografis (SIG) di Kalurahan Srimulyo dan Kalurahan Terong, Kabupaten Bantul yang berada dalam jalur Sesar Opak untuk perencanaan pengelolaan dan konservasi lahan. Penentuan titik sampel dilakukan dengan metode *purposive sampling* berdasarkan peta kelerengan di sekitar Sesar Opak. Pengambilan titik sampel 9 titik di Kalurahan Srimulyo dan 9 titik di Kalurahan Terong. Parameter sifat tanah yang diamati yaitu tekstur tanah, struktur tanah, permeabilitas, dan kadar C-Organik. Hasil analisis di skoring dengan klasifikasi peta penutupan lahan, peta erosi, peta kemiringan, kemudian di *overlay* menjadi peta kekritisan lahan. Hasil penelitian menunjukkan bahwa Kalurahan Srimulyo memiliki tingkat kekritisan lahan lebih tinggi (46,6%), sedangkan Kalurahan Terong kekritisan rendah (40,7%). Perbedaan pada Kalurahan Srimulyo ini dipengaruhi oleh rendahnya C-Organik (<1%), nilai erodibilitas agak tinggi (0,343-0,408), dan morfologi perbukitan aktif di sekitar Sesar Opak, sedangkan Kalurahan Terong memiliki nilai erodibilitas sangat rendah (0,000-0,103). Peta kekritisan lahan yang dihasilkan dapat menjadi dasar perencanaan pengelolaan lahan berkelanjutan dan mitigasi degradasi lahan pada wilayah yang terpengaruh sesar aktif.

Kata Kunci: Erodibilitas tanah, Erosi tanah, Geomorfologi, Kemiringan lereng

LAND CRITICALY IN THE OPAK FAULT BASED ON GEOGRAPHIC INFORMATION SYSTEM IN THE VILLAGES SRIMULYO AND TERONG, BANTUL REGENCY, SPESIAL REGION YOGYAKARTA

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ABSTRACT

The Special Region of Yogyakarta is one of the regions with the most critical land, covering 79,123 ha, especially in the active fault zone, namely the Opak Fault. This study aims to determine and analyze the level of land criticality, the factors that influence it, and to compile a land criticality map based on the Geographic Information System (GIS) in Srimulyo Village and Terong Village, Bantul Regency, which are located along the Opak Fault for land management and conservation planning. Sampling points were determined using purposive sampling based on a slope map around the Opak Fault. Nine sampling points were taken in Srimulyo Village and nine in Terong Village. The soil parameters observed were soil texture, soil structure, permeability, and organic carbon content. The analysis results were scored using land cover maps, erosion maps, and slope maps, which were then overlaid to create a land criticality map. The results showed that Srimulyo Village had a higher level of land criticality (46.6%), while Terong Village had a lower level of criticality (40.7%). The difference in Srimulyo Village was influenced by low organic carbon (<1%), moderately high erodibility (0.343-0.408), and active hilly morphology around the Opak Fault, while Terong Village had very low erodibility (0.000-0.103). The resulting land criticality map can be used as a basis for sustainable land management planning and land degradation mitigation in areas affected by active faults.

Keywords: Soil erodibility, Soil erosion, Geomorphology, Slope gradient