

**ANALISIS KUALITAS TANAH
PADA SAWAH TADAH HUJAN DAN IRIGASI TEKNIS
DI KALURAHAN KARANG TENGAH KAPANEWON IMOIRI
KABUPATEN BANTUL**

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ABSTRAK

Penilaian kualitas tanah merupakan langkah penting dalam mendukung keberlanjutan sistem pertanian, terutama pada lahan sawah. Penelitian ini dilaksanakan di Kalurahan Karang Tengah, Kapanewon Imogiri Kabupaten Bantul yang memiliki beberapa pola pengelolaan pada tanah sawah. Penelitian ini dilakukan dengan tujuan untuk mengetahui karakteristik tanah dan membandingkan kualitas tanah berdasarkan indeks kualitas tanah sawah tadah hujan dan sawah irigasi teknis di Kalurahan Karang Tengah, Kapanewon Imogiri, Kabupaten Bantul. Metode yang digunakan dengan perhitungan indeks kualitas tanah menggunakan kriteria Mausbach dan Seybold (1998) dengan modifikasi. Pengambilan sampel tanah dilakukan secara komposit, selanjutnya dianalisis di laboratorium terhadap tekstur, berat volume, porositas, C-organik, pH, P tersedia, K-tersedia, N-total dan diukur jeluk mempan. Hasil penelitian menunjukkan karakteristik tanah pada sawah irigasi teknis memiliki tekstur lempung, memiliki jeluk perakaran relatif dalam, berat volume 0,8 – 2,1 g/cm³, porositas bervariasi dari baik hingga jelek, pH netral, C-organik rendah-sedang, N-total rendah, P-tersedia sedang-tinggi, K-tersedia sedang-rendah, dan KPK berkisar tinggi hingga rendah. Sedangkan untuk tanah sawah tadah hujan memiliki tekstur lempung, jeluk perakaran relatif dalam, berat volume 1,5 – 1,9 g/cm³, porositas bervariasi dari baik hingga jelek, pH netral, C-organik rendah-sedang, N-total rendah, P-tersedia sedang-tinggi, K-tersedia sedang-rendah, dan KPK berkisar tinggi hingga rendah. Keragaman indeks kualitas tanah pada sawah tadah hujan dan irigasi teknis memiliki kriteria rendah pada sawah tadah hujan curam (0,344). Kriteria sedang pada sawah irigasi teknis agak curam (0,410), sawah tadah hujan datar (0,430), sawah tadah hujan agak curam (0,441), sawah irigasi teknis curam (0,443), sawah tadah hujan landai (0,485), sawah irigasi teknis datar (0,519), dan sawah irigasi teknis landai (0,580).

Kata Kunci : Indeks Kualitas Tanah, Tanah Sawah, Sawah Tadah Hujan, Sawah Irigasi Teknis

**SOIL QUALITY ANALYSIS
IN RAINFED AND TECHNICALLY IRRIGATED RICE FIELDS
IN KARANG TENGAH VILLAGE, IMOGIRI SUB-DISTRICT,
BANTUL REGENCY**

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ABSTRACT

Soil quality assessment is an essential step in supporting the sustainability of agricultural systems, particularly in rice fields. This study was conducted in Karang Tengah Village, Imogiri Sub-district, Bantul Regency, which has several rice field management patterns. The objective of the research was to determine soil characteristics and compare soil quality based on the soil quality index (SQI) of rainfed and irrigated rice fields in Karang Tengah Village, Imogiri Sub-district, Bantul Regency. The soil quality index was calculated using the criteria of Mausbach and Seybold (1998) with modifications. Composite soil samples were collected and analyzed in the laboratory for texture, bulk density, porosity, organic C, pH, available P, available K, total N, and rooting depth. The results showed that irrigated rice fields have clay texture, relatively deep rooting depth, bulk density ranging from 0.8 to 2.1 g/cm³, porosity varying from good to poor, neutral pH, low to medium organic C, low total N, medium to high available P, medium to low available K, and cation exchange capacity (CEC) ranging from high to low. Meanwhile, rainfed rice fields also have clay texture, relatively deep rooting depth, bulk density ranging from 1.5 to 1.9 g/cm³, porosity varying from good to poor, neutral pH, low to medium organic C, low total N, medium to high available P, medium to low available K, and CEC ranging from high to low. The soil quality index of rainfed and irrigated rice fields showed variations, with low criteria found in steep rainfed rice fields (0.344). Moderate criteria were found in slightly steep irrigated rice fields (0.410), flat rainfed rice fields (0.430), slightly steep rainfed rice fields (0.441), steep irrigated rice fields (0.443), gently sloping rainfed rice fields (0.485), flat irrigated rice fields (0.519), and gently sloping irrigated rice fields (0.580).

Keywords: Soil Quality Index, Rice Field Soil, Rainfed Rice Field, Technically Irrigated Rice Field