# STATUS KERUSAKAN TANAH UNTUK PRODUKSI BIOMASSA PADA LAHAN BEKAS GALIAN INDUSTRI BATU BATA DI KALURAHAN SITIMULYO, KAPANEWON PIYUNGAN, KABUPATEN BANTUL

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## ABSTRAK

Kegiatan industri batu bata sering kurang memperhatikan kelestarian lingkungan dan mengakibatkan kerusakan sifat-sifat tanah, sehingga menurunkan produktivitas lahan bekas galian. Tujuan dari penelitian ini adalah mengetahui jenis kegiatan dalam industri batu bata yang menyebabkan kerusakan sifat-sifat tanah, menentukan status kerusakan tanah untuk produksi biomassa, dan memetakan status kerusakan lahan bekas galian di Kalurahan Sitimulyo, Kapanewon Piyungan, Kabupaten Bantul. Penelitian dilaksanakan pada bulan Maret sampai dengan Oktober 2021 menggunakan metode *survey*. Titik sampel pewakil ditentukan secara *purposive,* yakni pada lahan bekas galian yang belum difungsikan dan yang difungsikan kembali untuk budidaya. Parameter kriteria baku kerusakan tanah meliputi kedalaman jeluk , kebatuan permukaan, komposisi fraksi, berat isi (BV), porositas total, permeabilitas, pH, daya hantar listrik (DHL), redoks potensial (Eh), dan jumlah mikroba. Penetapan status kerusakan tanah untuk produksi biomassa melalui tahap *matching* dan *scoring* sesuai ketentuan Kementerian Negara Lingkungan Hidup Republik Indonesia (2009). Hasil penetapan diperoleh dua status kerusakan yaitu Rusak Ringan (R.I) dan Rusak Sedang (R.II) dengan faktor pembatas kedalaman jeluk (s), komposisi fraksi (f), porositas total (v), permeabilitas (p), dan redoks potensial (r). Status Rusak Ringan dengan faktor pembatas f dan r seluas 9 ha, Rusak Ringan dengan faktor pembatas f, p, dan r seluas 43,9 ha, Rusak Ringan dengan faktor pembatas s, f, p, dan r seluas 6 ha, dan Rusak Sedang dengan faktor pembatas s, f, v, p, dan r seluas 5 ha.

Kata kunci: industri batu bata, kerusakan tanah, produksi biomassa

# STATUS OF SOIL DAMAGE FOR BIOMASS PRODUCTION IN EX-BRICK INDUSTRY EXCAVATION LAND IN SITIMULYO VILLAGE, PIYUNGAN DISTRICT, BANTUL REGENCY

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## ABSTRACT

The activities of the brick industry pay less attention to environmental sustainability and causes damages to soil properties, resulting in a decrease in the productivity of ex-excavated land. The aims of this study were to knowing the types of activities in the brick industry that cause damage to soil properties, to determine the status of soil degradation for biomass production, and to map the conditions of soil degradation status on ex-excavated land in Sitimulyo Village, Piyungan District, Bantul Regency. This research was carried out from March to October 2021 using a survey method. Representative sample points were determined using the purposive method on ex-brick mine excavations that had not been used and those that were used for cultivation. The parameters used in this research were soil depth, surface rock, fraction composition, bulk density (BV), total porosity, soil permeability, pH, electrical conductivity (DHL), redox potential (Eh), and the number of microbes. Determination of soil degradation status for biomass production was based on matching and scoring stages in accordance with the provisions of the Ministry of Environment of the Republic of Indonesia (2009). The degradation states of the soils in the research area could be classified into: Light Degradation (R.I) and Moderate Degradation (R.II) with the limiting factors of solum depth (s), fraction composition (f), total porosity (v), soil permeability (p), and redox potential (r). The area with the status of Light Degradation with limiting factors f and r is 9 ha, Light Degradation with limiting factors f, p, and r is 43.9 ha, Light Degradation with limiting factors s, f, p, and r is 6 ha, and Moderate Degradation with limiting factors s, f, v, p, and r is 5 ha.

*Keywords : biomass production, brick industry, soil degradation*