

RINGKASAN

Masalah utama yang timbul pada areal penambangan batuan basalt adalah dampak terhadap lingkungan, yang salah satunya adalah potensi terjadinya erosi. Hal ini dikarenakan erosi dapat membawa lapisan tanah hasil penimbunan kembali yaitu tanah hasil pengupasan yang terdiri dari tanah pucuk dan material *overburden*. Dampak lain dari erosi adalah tanah tidak subur lagi jika ditanami, terjadi degradasi lahan dimana menipisnya permukaan tanah bagian atas, adanya penurunan kemampuan tanah untuk meresapkan air (infiltrasi) dan terjadi sedimentasi yaitu pengendapan di sungai akibat butiran-butiran tanah yang terangkut pada saat erosi.

Penelitian ini dilakukan di area penambangan bahan tambang batuan basalt di Kabupaten Banyumas, Jawa Tengah. Penambangan batuan basalt di lokasi penelitian dipergunakan dalam pengerjaan pondasi bangunan PLTA yang sedang dikerjakan disekitar wilayah penelitian. Dengan adanya kegiatan tersebut maka peneliti ingin melakukan analisis pengaruh sifat fisik tanah terhadap kemudahan tanah tererosi. Penelitian ini dilakukan dengan cara observasi lapangan dan pengambilan sampel yang kemudian dibawa ke laboratorium untuk dilakukan analisa. Sifat fisik tanah diperoleh berdasarkan hasil pengujian sampel tanah di laboratorium meliputi tekstur, kandungan bahan c-organik dan permeabilitas tanah.

Dari hasil penelitian dapat diketahui bahwa parameter yang berpengaruh terhadap erodibilitas tanah di lokasi penelitian adalah tekstur (pasir, lanau dan lempung) dengan koefisien korelasi ($Y = -0,081 + 0,015 \text{ sand} + 0,004 \text{ silt} - 0,007 \text{ clay}$ $R^2 = 0,87$). Sedangkan kandungan c-organik dan permeabilitas tidak berpengaruh terhadap erodibilitas.

ABSTRACT

The main problem that occurs in basalt mining areas is the effects on the environment. One of the effects on the mining environment is erosion potential. This is due to the fact that the erosion can bring backfilled soil layers, which consists of topsoil and overburden. Another effects of erosion is that the soil is infertile when planted. The degradation of the soil leads to depletion of the soil surface, to a decrease in the ability of the soil to absorb water (infiltration), and sedimentation, which deposits in the river due to the debris transported during erosion.

This research was conducted in the mining area of basaltic rock in Banyumas District, Central Java. The mining of basalt rocks at the research site was used to build foundations for hydropower structures that were worked around the research area. With this activities, the researchers want to analyze the effect of the physical properties of the soil on the ease of the eroded soil. This research was done by field observation and sampling, which were then sent to the laboratory for analysis. The physical properties of the soil are obtained based on the laboratory soil test results, including texture, organics content, and soil permeability.

From the results of the study, it can be seen that the parameters that effects soil erodability at the site of investigation correlate the texture (sand, silt, and clay) with a correlation coefficient ($Y = -0,081 + 0,015 \text{ sand} + 0,004 \text{ silt} - 0,007 \text{ clay}$ $R^2 = 0,87$). The c-organic and the permeability have no effects on erodibility.