

INTISARI

Peningkatan pemanfaatan lahan tanpa memperhatikan kapasitas kemampuan lahan dan kesesuaian lahan telah meningkatkan degradasi lahan. Kelembaban tanah menjadi salah satu faktor pembatas pemanfaatan lahan dalam bidang pertanian. Desa Banyuasin Kembaran, Kecamatan Loano, Kabupaten Purworejo, Provinsi Jawa Tengah masuk ke dalam sub-DAS Loano merupakan salah satu DAS yang mengalami degradasi lahan secara masif dan termasuk ke dalam DAS Prioritas konservasi oleh KEMENHUT memerlukan penelitian terkait tataguna lahan. Pemanfaatan teknologi SIG mempermudah dalam perencanaan tataguna lahan yang memperhatikan ketahanan lahan. Penelitian dilakukan di Desa Banyuasin Kembaran dengan pengambilan sampel tanah untuk proses analisis kedalaman tanah, permeabilitas, dan tekstur menggunakan metode grid 100x100 m dan analisis kelembaban menggunakan Soil Topographic Index. Hasil analisis tanah yang didapatkan menunjukkan tekstur tanah didominasi geluh dan geluh lempungan dengan permeabilitas 0,157 – 12,927 cm.jam⁻¹ masuk ke dalam permeabilitas lambat sampai sedang dengan rerata nilai permeabilitas 4,186 cm.jam⁻¹. Daerah penelitian memiliki kemiringan yang didominasi kemiringan agak miring dan miring dengan variasi kedalaman/ketebalan tanah 77-245 cm dan rerata kedalaman 152,81 cm. Pada daerah penelitian menunjukkan adanya potensi akumulasi yang menghasilkan area berkelembaban tinggi dengan indeks STI yang didapatkan hingga 15,76. Indeks STI pada titik sampel Lembah Perbukitan Vulkanik-Struktural Berbantuan Andesit berkisar 3,51 – 15,76 dengan rerata 7,06, sedangkan nilai STI pada bentuklahan Perbukitan Vulkanik-Struktural Berbatuan Andesit Terkikis Sedang berkisar 1,72 – 7,59 dengan rerata 4,68, dan nilai STI pada bentuklahan Perbukitan Vulkanik-Struktural Berbatuan Andesit Terkikis Lemah berkisar 2,75 – 11,48 dengan rerata 5,63.

Kata kunci : Soil Topographic Index (STI), DAS, Kelembaban Tanah, Degradasi Lahan

ABSTRACT

The Increase of land use without considering land capacity and land suitability has increased land degradation. Soil moisture is one of the limiting factors for land use in agriculture. Banyuasin Kembaran, Loano District, Purworejo Regency, Central Java Province is included in the Loano sub-watershed, which is one of the watersheds that has experienced massive land degradation and is included in the conservation priority watershed by the Ministry of Forestry requiring research related to land use. The use of GIS technology makes it easier for land use planning that pays attention to land resilience. The study was conducted in the village of Banyuasin Kembaran by taking soil samples for the analysis of soil depth, permeability and texture using the 100x100 m grid method and moisture analysis using the Soil Topographic Index. The results of the soil analysis showed that the soil texture was dominated by loam and loam with a permeability of 0.157 – 12.927 cm.hour⁻¹ into slow to moderate permeability with a mean permeability value of 4.186 cm.hour⁻¹. The research area has a slope that is dominated by a slightly steep and steeping slope with a soil depth variation of 77-245 cm and a mean soil depth of 152.81 cm. The research area shows the potential for accumulation which results in a high humidity area with an STI index of up to 15.76. The STI index at the sample point of the Andesite-assisted Volcanic-Structural Hills ranges from 3.51 to 15.76 with a mean of 7.06, while the STI value at the Volcanic-Structural Hills landforms Eroded Andesite Rocks is in the range of 1.72 to 7.59 with a mean of 4.68, and the value of STI on the landforms of the Volcanic-Structural Hills of Weakly Eroded Andesite Rocks ranged from 2.75 to 11.48 with a mean of 5.63.

Keyword : Soil Topographic Index (STI), Watershed, Soil Moisture, Land Degradation