

Oleh :

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INTISARI

Kapasitas infiltrasi tiap tipe penggunaan lahan berbeda-beda akibat pengaruh pola penggunaan lahan dan sifat-sifat fisik tanah didalamnya. Penelitian ini bertujuan untuk mengetahui kapasitas infiltrasi, sifat-sifat fisik tanah dan hubungan sifat-sifat fisik tanah terhadap kapasitas infiltrasi tiap tipe penggunaan lahan yang terdapat pada Sub DAS Ngrancah Kabupaten Kulon Progo, DIY.

Metode penelitian yang digunakan adalah penghitungan rata-rata kapasitas infiltrasi tiap tipe penggunaan lahan pada jenis tanah Kompleks Latosol Kuning Kemerahan dan Litosol (Lk/Li) dan Kompleks Latosol Coklat Kemerahan dan Litosol (Lc/Li) dan pengujian sifat-sifat fisik tanah di dalamnya. Parameter sifat-sifat fisik tanah yang diteliti adalah Struktur, Tekstur, Permeabilitas, Berat jenis, Berat volume dan Porositas tanah. Tiap unit lahan dibedakan berdasarkan penggunaan lahan dan jenis tanah yang ditentukan dengan *purposive sampling*. Kemudian hasil penelitian di analisis secara deskriptif dengan penyajian data tabel dan grafik Kapasitas infiltrasi, tipe penggunaan lahan serta perbandingan kapasitas infiltrasi tiap tipe penggunaan lahan yang dibantu oleh data pendukung yakni tebal solum tanah dan penampang horizontal vegetasi penyusun tiap tipe penggunaan lahan.

Hasil Penelitian menunjukkan bahwa Kapasitas infiltrasi di Sub DAS Ngrancah pada jenis tanah Kompleks Latosol Kuning Kemerahan dan Litosol penggunaan lahan hutan sebesar 69,444 mm/jam, kebun campur sebesar 29,630 mm/jam, tegalan sebesar 4,952 mm/jam, pemukiman dan pekarangan sebesar 5,556 mm/jam dan sawah tadah hujan sebesar 8,889 mm/jam. Pada jenis tanah Kompleks Latosol Coklat Kemerahan dan Litosol (Lc/Li) penggunaan lahan kebun campur sebesar 37,000 mm/jam, tegalan sebesar 42,333 mm/jam, sawah tadah hujan sebesar 7,889 mm/jam dan pemukiman dan pekarangan sebesar 6,619 mm/jam. Kapasitas infiltrasi terbesar adalah hutan dan kebun campur serta tegalan (jenis tanah Lc/Li) dengan sifat fisik tanah struktur dan tekstur serta pentupan lahan serta solum tanah bahan organik yang tebal. Sedangkan kapasitas infiltrasi terkecil adalah sawah tadah hujan, tegalan (jenis tanah Lk/Li) dan pemukiman dan pekarangan dengan sifat fisik tanah yang rusak akibat pemadatan tanah, pola penggunaan lahan di atasnya, kondisi permukaan lahan yang terbuka dan solum tanah bahan organik yang tipis.

Kata kunci : Sub DAS Ngrancah, Kapasitas infiltrasi, Sifat-sifat fisik tanah, penggunaan lahan

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ABSTRACT

Infiltration capacity in each land use type is different because of the influence of land use pattern and the soil physical characteristics. The aims of this research were to investigate infiltration capacity, soil physical characteristics and its connection to infiltration capacity at several land use areas in Ngrancah Sub Watershed, Kulon Progo Regency, DIY.

The research methods that was used were measurement on infiltration capacity average in each land use type on the kinds of soil at Reddish Yellow Latosol Complex (Lk/Li) and Litosol, and Reddish Brown Latosol Complex and Litosol (Lc/Li), and testing of soil physical characteristics. The parameters of soil physical characteristic that was examined were the soil structure, texture, permeability, bulk density, volume density, and land porosity. Each unit of the land has differences based on land use and kind of soil which be determined by purposive sampling. Then the result of this research was analyzed descriptively and be completed by table of data, infiltration capacity graph, type of land use, and the comparison of each type of land use with the complement data i.e. land solum thickness and horizontally section vegetation on each type of land use.

The result of this research showed that infiltration capacity in Ngrancah sub watershed on Reddish Yellow Latosol Complex land type and Litosol (Lk/Li) on forest land use were 69,444 mm/hour, mixed garden were 29,630 mm/hour, dry land cultivation were 4,952 mm/hour, settlement and yard were 5,556 mm/hour, and rain dependent rice field were 8,889 mm/hour. On reddish Brown Latosol Complex land and Litosol (Lc/Li) with mixed garden land use were 37,000 mm/hour, dry land cultivation were 42,333 mm/hour, rice field were 7,889 mm/hour, lawn and settlement were 6,619 mm/hour. The biggest infiltration capacity came from the forest and mixed garden and also dry land cultivation (Lc/Li land type), with the soil physical characteristic structure and texture, land covering and the thickly of organic land solum. Whereas the smaller infiltration capacity derived from rain dependent rice field, dry land cultivation (Lk/Li land type), the settlement and yard with the damaged soil physical characteristic due to intensive land use activities, land use model above it, opened land surface condition, and the thinly layer of organic land solum.

Keywords : *Ngrancah Sub Watershed, Infiltration Capacity, Soil Physical Characteristics, Land Use.*

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