

INTISARI

Penelitian ini bertujuan untuk mengetahui sifat-sifat tanah banjar topografi di lereng selatan Gunungapi Batukaru; mengklasifikasikan tanah sampai kategori Rupa; mengkaji hubungan antara komponen satuan lahan dengan sifat penciri Rupa tanah; mengkaji pengaruh penggunaan lahan terhadap satuan Rupa Tanah; mengetahui agihan Rupa tanah pada skala 1 : 25.000. Penelitian ini dilaksanakan di Kecamatan Selemadeg, Kabupaten Tabanan, Propinsi Bali, dari bulan Juni hingga September 1997.

Metode penelitian meliputi analisis banjar topografi menjadi satuan lahan yang mencerminkan bentuklahan, posisi topografi, kemiringan lereng dan bentuk penggunaan lahan melalui interpretasi foto udara ditunjang oleh peta topografi, geologi dan penggunaan lahan. Pemerian profil tanah di lapangan dan analisis tanah di laboratorium, variabel yang diamati meliputi morfologi (warna, jeluk, struktur, konsistensi, drainase, penyelaputan, rekahan dan karatan); permeabilitas; tekstur; pH; kapasitas tukar kation; daya hantar listrik; kadar bahan organik; P_2O_5 ; kation tertukar; kejenuhan basa; tipe mineral lempung; dan data penunjang seperti suhu dan curah hujan. Klasifikasi tanah dilakukan sampai kategori Rupa menurut Sistem Taksonomi Tanah tahun 1994. Hubungan antara komponen lahan dengan sifat-sifat tanah ditentukan dengan analisis korelasi dan regresi, sedangkan agihan Rupa tanah disajikan dalam bentuk peta tanah.

Hasil penelitian menunjukkan bahwa sifat-sifat tanah seperti solum, kadar lempung, pH, kadar bahan organik, kation tertukar, kejenuhan basa dan kapasitas tukar kation meningkat dari lereng atas menuju lereng bawah (koefisien korelasi antara 0,316 sampai 0,738) dan semakin menurun dengan bertambahnya kemiringan lereng (koefisien korelasi antara -0,238 sampai -0,911). Tanah di daerah penelitian dapat diklasifikasikan ke dalam 6 Rupa tanah yaitu Vertik Tropaquepts, halus, campuran, isohipertermik; Oksiaquik Vertik Eutropepts, halus, campuran, isohipertermik; Tipik Eutropepts, halus, campuran, isohipertermik; Oksiaquik Vertik Hapludalfs, halus, campuran, isohipertermik; dan Tipik Hapludalfs, geluh halus, campuran, isohipertermik; Tipik Hapludalfs, halus, campuran, isohipertermik. Sifat penciri klasifikasi tanah terutama dibedakan oleh tingkat perkembangan horison, kelembaban, dan tekstur tanah. Sifat penciri Rupa tanah dan agihannya dipengaruhi oleh bentuk penggunaan lahan yaitu lahan sawah memberikan penciri aquik dan vertikal serta tekstur tanah yang lebih halus dari pada lahan kebun campuran. Pemilahan banjar topografi menjadi satuan lahan memberikan Rupa tanah yang berbeda, sehingga gayut dijadikan sebagai satuan pemetaan Rupa tanah.

ABSTRACT

The present research has the objectives of studying of soil properties of southern toposequence of Batukaru volcanic; determining soils classification up to family category; associating land unit components with soils family properties; and construction of thematic soil map of 1 : 25.000 scale. The Study was done in subdistrict of Selemadeg, Tabanan Regency, Province of Bali, from June to September 1997.

The methodes in the present study involves toposequence analysis to land unit with distinct of landform, topographic position, slope, and land use base on aerial photographs interpretation supporting by topography, land use and geology maps. Soils properties were investigated by augering and pits as well as laboratory analysis, variables under consideration were soils morphology (color, solum, structure, consistency, coating, cracking, motlling, and soil drainage); permeability; texture; pH; electric conductivity; cation exchange capacity; organic matter; P_2O_5 ; exchangable cation; base saturation; clay mineral type; and supporting variables such as themperature and rainfall. Soils were classified using Soil Taxonomy (Soil Survey Staff, 1994) up to soil family category. Linking soils properties to land components was explained using regression and correlation analysis, and soil family distribution was depicted in the soil map being constructed.

The results showed that soils properties such as solum, clay content, pH, organic matter, base saturation, exchangable cation, and cation exchange capacity increased from upper slope toward downslope (correlation coefficient range of 0,316 to 0,738), and decreased with the slope increasing (correlation coefficient range -0,238 to -0,911). Soils in the study area could be classified into six classes: Vertic Tropaquepts, fine, mixed, isohyperthermic; Oxyaquic Vertic Eutropepts, fine, mixed, isohyperthermic; Typic Eutropepts, fine, mixed, isohyperthermic; Oxyaquik Vertic HapludalFs, fine, mixed, isohyperthermic; and Typic HapludalFs, fine-loamy, mixed, isohyperthermic; Typic HapludalFs, fine, mixed, isohyperthermic. Land use affected soil family classification: rice field characterized aquic and vertic family with finer soils texture compared to lands with mixed cropping. Toposequence analysis into land unit base on topographic position and slope gradient accordance with soil family and thus might be used as family mapping unit.