Intisari

Kajian karakteristik fisik tanah pada wilayah rawan longsor telah banyak dilakukan namun belum banyak yang membahas tanah di bagian mahkota longsor secara khusus. Kajian-kajian tanah pada kawasan longsor pada umumnya membahas karakteristik endapan longsor untuk tujuan pemanfaatan sumberdaya lahan. Kajian tanah pada bagian mahkota longsor mempunyai nilai manfaat untuk kegiatan pengendalian longsor susulan. Tujuan penelitian mencakup (1) kajian faktor-faktor fisik tanah pada bagian mahkota yang akan menjadi penyebab longsor, (2) kajian perbedaan sifat-sifat fisik tanah pada berbagai tipe tingkatan aktivitas longsor.

Penelitian diawali dengan pengumpulan data yang dilakukan melalui survei lapangan dan analisis laboratorium. Penentuan titik sampel ditetapkan berdasarkan peta aktivitas longsor yang sudah dibuat oleh peneliti terdahulu. Ada 18 titik pengamatan dan pengukuran atas dasar pertimbangan 3 ulangan tiap tingkatan aktivitas longsor di bagian hulu, tengah dan hilir Sub-DAS Bompon. Pengambilan contoh tanah dilakukan pada kedalaman 0-50 cm dan 50-100 cm pada bagian mahkota longsor. Data hasil pengukuran dianalisis melalui uji LSD (Least Significant Difference Test) dengan taraf signifikansi 5%. Hasil penelitian dibahas secara teoritis berdasarkan pendapat para peneliti terdahulu.

Kejadian longsor di sub-DAS Bompon berasosiasi dengan karakteristik wilayah (morfologi lahan dan karakter fisik tanah) dan intervensi manusia yang berupa modifikasi lahan (jenis vegetasi, teras, pengolahan). Hasil kajian menunjukan bahwa tanah di daerah penelitian memiliki sifat peka terhadap longsor. Konsistensi tanah pada tipe aktivitas longsor aktif, *suspended*, *reaktivasi*, *dorman*, *abandoned*, dan stabil memiliki harkat nilai tinggi. Terdapat perbedaan sifat fisik tanah pada parameter tekstur tanah, batas gulung, dan batas cair antar tipe aktivitas longsor dan kadar air maksimum antar kedalaman tanah.

Kata kunci: sifat fisika, tanah permukaan, tipe, mahkota, longsor.

Abstract

The study of soil physical characteristics in landslide-prone area had been widely performed but the discussion of the soil at the landslide crown is limited. Most of studies of soil in the landslide areas were commonly discussing the characteristics of landslides sediment for the land resources utilization. The study of soil in the landslide crown section has important role in controlling activity of subsequent landslide. The objectives of this research were (1) to study the physical factors of soil in the landslide crown that has potential to cause landslides, (2) to study the difference of soil physical properties at various types of landslide activity levels.

The study began with data collection through the field surveys and laboratory analysis. The sample points were determined based on landslide activity maps from previous study. There are 3 replications for each level of landslide activity from the upper, middle and lower part, as the total 18 measurement points of the Bompon Sub-watershed. The soil samples were taken from 0-50 cm and 50-100 cm depth at the crown of the landslide. The measurement–data were analyzed through LSD method (Least Significant Difference Test) with 5 % significance level. The results of this research then discussed theoretically based on literature from previous study.

Landslides in the Bompon sub-watershed were associated with regional characteristics (land morphology and soil physical character) and also human intervention such us land modification (vegetation, terraces, processing). The results showed that the soil in the study area were susceptible to landslides. The value of soil consistency were high both in active, suspended, reactivation, dormant, abandoned, and stable landslide types. There were some soil physical properties differences in–soil texture, rolling boundaries, and liquid limits in each types of landslide activity, and also maximum moisture content within soil depths.

Keywords: physical properties, surface soil, type, crown, landslide.