SARI

Daerah penelitian berada di Desa Candirejo dan sekitarnya, Kecamatan Semin, Kabupaten Gunungkidul, Daerah Istimewa Yogyakarta. Penelitian ini bertujuan untuk mengetahui pengaruh karakteristik tanah lapukan litologi, yaitu ukuran butir dan tingkat pelapukan batuan terhadap laju infiltrasi air ke dalam tanah. Pengambilan data lapangan dilakukan dengan melakukan pemetaan geologi terlebih dahulu. Pengukuran data laju infiltrasi, pengambilan sampel tanah untuk uji granulometri, dan pengamatan tingkat pelapukan batuan dilakukan sebanyak 30 titik amat pada satuan tuf lapili, satuan tuf, satuan *grainstone*, dan satuan *wackestone.*

Analisis data dilakukan secara spasial dan statistika dari data laju infiltrasi, persentase ukuran butir halus, serta tingkat pelapukan batuan. Analisis statistika mencakup analisis deskriptif, uji normalitas, uji komparatif beda rata-rata, uji korelasi, dan analisis regresi linear sederhana. Analisis spasial dilakukan dengan cara menampalkan peta laju infiltrasi dengan peta ukuran butir halus dan peta tingkat pelapukan batuan. Kedua analisis tersebut dilakukan untuk mengetahui tingkat hubungan antara laju infiltrasi dengan karakteristik tanah lapukan litologi di daerah penelitian. Hasil pengukuran laju infiltrasi menunjukkan bahwa satuan *grainstone* memiliki nilai laju infiltrasi rata-rata tertinggi dibandingkan satuan litologi lainnya. Kemudian nilai laju infiltrasi rata-rata selanjutnya secara berurutan adalah satuan *wackestone,* satuan tuf lapili, dan terendah satuan tuf. Dari analisis statistika dan spasial, diketahui bahwa terdapat pengaruh karakteristik tanah lapukan litologi, yaitu ukuran butir halus dan tingkat pelapukan batuan terhadap nilai laju infiltrasi di daerah penelitian. Semakin tinggi persentase ukuran butir halus dan tingkat pelapukan batuan, maka laju infiltrasinya akan semakin rendah. Dan sebaliknya, semakin rendah persentase ukuran butir halus dan tingkat pelapukan batuan, maka laju infiltrasinya akan semakin tinggi.

Kata kunci : Candirejo, ukuran butir, tingkat pelapukan batuan, laju infiltrasi.

ABSTRACT

The research area located in Candirejo Village and its surrounding villages, Semin District, Gunungkidul Regency, Special Province of Yogyakarta. This aim of this research is to determine the effect of lithological weathering soil characteristics, namely grain size and rock-weathering level on the infiltration rate of water into the soil. Field data collection is carried out by conducting geological mapping first. Measurement of infiltration rate data, soil sampling for granulometry tests, and observations of rock-weathering level were carried out as many as 30 points on the lapilli tuff unit, tuff unit, grainstone unit, and wackestne unit.

Data analysis was performed spatially and statistically from infiltration rate data, percentage of fine grain size, and rock-weathering level. Statistical analysis includes descriptive analysis, normality test, comparative test of average difference, correlation test, and simple linear regression analysis. Spatial analysis is done by patching the infiltration rate map with fine grain size maps and maps of rock weathering levels. Both analyzes were conducted to determine the level of relationship between infiltration rates and lithological characteristics in the research area. The infiltration rate measurement results show that the grainstone unit has the highest average infiltration rate compared to other lithology units. Then the next average infiltration rate is the wackestone unit, the lapilli tuff unit, and the lowest tuff unit. From statistical and spatial analysis, it is known that there are effects of lithological weathering soil characteristics, namely fine grain size and rock weathering rate on the infiltration rate values in the study area. The higher the percentage of fine grain size and rock-weathering level, the lower the infiltration rate. And conversely, the lower the percentage of fine grain size and rock-weathering level, the higher the infiltration rate.

Keywords: Candirejo, grain size, rock-weathering level, infiltration rate.