GEOLOGI DAN ANALISIS KESTABILAN LERENG SERTA IDENTIFIKASI ZONASI RAWAN LONGSOR DAERAH SAMPANG DAN SEKITARNYA KECAMATAN GEDANGSARI, KABUPATEN GUNUNGKIDUL DAERAH ISTIMEWA YOGYAKARTA

ABSTRAK

Daerah penelitian berada pada Desa Sampang, Kecamatan Gedangsari, Kabupaten Gunungkidul, Daerah Istimewa Yogyakarta. Kecamatan Gedangsari merupakan daerah dengan tingkat kelongsoran yang tinggi, sehingga perlu dilakukan analisis kestabilan lereng dan penentuan zona kerawanan longsor pada daerah penelitian. Penelitian dilakukan untuk menyajikan kondisi geologi daerah telitian, mencakup geomorfologi, struktur geologi dan stratigrafi. Pengambilan data geologi teknik juga dilakukan untuk mengetahui nilai kestabilan lereng dan penentuan zonasi kerawanan longsor dengan bantuan beberapa parameter pendukung. Metode penelitian yang dilakukan adalah pengambilan data geologi seperti struktur geologi dan litologi yang akan dilakukan analisis laboratorium seperti petrografi, mikrofosil dan paleontologi. Pengambilan data geologi teknik juga dilakukan dan di analisis menggunakan *software slide 6.0* dengan metode *spencer.* Secara geomorfologi, daerah penelitian terdiri atas 4 satuan bentuk lahan yaitu perbukitan struktural (S1), lembah struktural (S2), gawir (S3), dataran alluvial (D1) dan tubuh Sungai (F2). Pola pengaliran yang berkembang pada daerah penelitian yaitu, pola pengaliran paralel (PRL), dendritik (DND). Secara stratigrafi, daerah penelitian terdiri atas 3 satuan batuan yakni dari tua ke muda satuan batupasir Kebo-Butak, satuan batulapilli Semilir, dan satuan endapan aluvial. Struktur geologi yang berkembang adalah kekar, sesar mendatar kiri, sesar kanan naik dan sesar kanan turun. Hasil analisis kestabilan lereng 1,4 termasuk dalam klasifikasi lereng labil (longsoran sering terjadi), lereng 2 termasuk dalam klasifikasi lereng stabil (longsoran jarang terjadi), lereng 3 termasuk dalam klasifikasi lereng kritis (longsoran pernah terjadi) dan lereng 4 termasuk dalam klasifikasi lereng labil (longsoran sering terjadi). Daerah zona kerawanan longsor dibuat berdasarkan parameter berupa data curah hujan, jarak terhadap sesar, jenis batuan, kegempaan, kemiringan lereng, tata air lereng, penggunaan lereng dan hasil analisis kestabilan lereng. Daerah penelitian terdapat 2 zona tingkat kerawanan longsor yaitu zona kerawanan rendah dan zona kerawanan sedang.

Kata kunci : geologi, kestabilan lereng, zona rawan longsor

GEOLOGY AND SLOPE STABILITY ANALYSIS AND IDENTIFICATION OF LANDSLIDE-PRONE ZONATION SAMPANG AND SURROUNDING AREAS GEDANGSARI SUB-DISTRICT, GUNUNGKIDUL REGENCY SPECIAL REGION OF YOGYAKARTA

ABSTRACT

The research area is located in Sampang Village, Gedangsari Sub-district, Gunungkidul Regency, Yogyakarta Special Region. Gedangsari Subdistrict is an area with high landslide rate, so it is necessary to analyze the slope stability and determine the landslide vulnerability zone in the research area. The research was conducted to present the geological condition of the study area, including geomorphology, geological structure and stratigraphy. Technical geology data collection was also conducted to determine the value of slope stability and landslide vulnerability zonation with the help of several supporting parameters. The research method is to collect geological data such as geological structure and lithology which will be analyzed by laboratory such as petrography, microfossils and paleontology. Engineering geology data collection was also carried out and analyzed using slide 6.0 software with the spencer method. Geomorphologically, the study area consists of 4 landform units namely structural hills (S1), structural valleys (S2), faults (S3), alluvial plains (D1) and river bodies (F2). Flow patterns that develop in the study area are parallel (PRL) and dendritic (DND). Stratigraphically, the study area consists of 3 rock units, namely from old to young Kebo-Butak sandstone unit, Semilir batulapilli unit, and alluvial sediment unit. Geological structures that develop are joints, left slip fault, reverse right slip fault and normal right slip fault. The results of the stability analysis of slopes 1,4 are included in the classification of unstable slopes (avalanches often occur), slope 2 is included in the classification of stable slopes (avalanches rarely occur), slope 3 is included in the classification of critical slopes (avalanches have occurred) and slope 4 is included in the classification of unstable slopes (avalanches often occur). Landslide vulnerability zone area is made based on parameters such as rainfall data, distance to faults, rock type, seismicity, slope slope, slope water system, slope use and slope stability analysis results. The study area has 2 zones of landslide vulnerability level, namely low vulnerability zone and medium vulnerability zone.

***Keywords**: geology, slope stability, landslide vulnerability zones*