PERENCANAAN SISTEM PERINGATAN DINI BENCANA TANAH LONGSOR DI DUSUN LUCU PALONGAN DESA CAMPOAN KECAMATAN MLANDINGAN KABUPATEN SITUBONDO JAWA TIMUR

Teuku Mukhlis
18956/PS/MPBA/06

Telah dipertahankan di depan Dewan Penguji
Pada tanggal 19 Maret 2008

Pembimbing Utama
Teuku Faisal Fathani, ST., MT., Ph.D

Pembimbing Pendamping
Ir. Ign. Sudarno, MT

Anggota Dewan Penguji Lain
Ir. Dwikorita Karnawati, M.Sc., Ph.D

ABSTRACT

The research is initiated by soil mass movement occurrence in Lucu Palongan Sub-village, Campoan Village, Mlandingan District, Situbondo Regency, East Java. The soil mass movement situated in community's farm land is a typical ground faulting with soil cracks subsided by 3 meters at the crown area. Lucu Palongan Sub-village is located at hills terrain which is critically prone to soil mass movement due to the morphological characteristic of plateu with steep slopes in addition to geological setting of volcanic breccia bedrock covered by colluvial sediments namely gravel, pebble, sand, silt and clay.

The study is conducted to find out the causal factors and mechanism of soil mass movement, to observe the condition of the affected areas and society, to discover the areas vulnerable to landslide effects and to plan early warning system for landslide disaster. The primary data for the research is gathered from field investigation or observation. Geological and topographical maps of those areas are correspondingly required as well. The study employs field research and laboratory work method. Analysis on the slope stability is carried out by employing SLOPE/W program.

The study finds out that soil mass movement in Lucu Palongan Sub-village is a typical slide. The causal factors of soil mass movement at the researched areas are the farm lands existed on the slopes have caused water on land surfaces accumulated, thence the intensity of water slipping into subsurface increased, shear strength of soil significantly diminished due to saturation, and loads over slopes intensified. The most vulnerable areas to landslide are Bretan and Batuampar Sub-village of Selowogo Village. The indications of soil mass movement were initially noticed by the residents of Lucu Palongan Sub-village through landslide monitoring instrument. Afterward, the information was communicated to the people of Bretan and Batuampar Sub-village. Once receiving information, the residents of Bretan and Batuampar Sub-village have to immediately manage evacuation to the schemed evacuation route.

Keywords :
Soil Mass Movement, SLOPE/W, Early Warning System, Community Based Development, Landslide Monitoring Instrument