

Community empowerment for landslide disaster mitigation in Ngrancah hamlet, Pendoworejo village, Kulon Progo district, Indonesia

Wahyu Wilopo^{1,2}, Doni Prakasa Eka Putra^{1,2}, Teuku Faisal Fathani^{2,3}, Egy Erzagian¹, Esti Handini¹

¹*Departement of Geological Engineering, Faculty of Engineering, Gadjah Mada University, Indonesia*

²*Center of Excellence of Technological Innovation for Disaster Mitigation (GAMA-InaTek), UGM*

³*Departement Civil and Environmental Engineering, Faculty of Engineering, Gadjah Mada University*

E-mail: wilopo_w@ugm.ac.id

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Abstract

Community empowerment in landslide-prone areas of in Ngrancah Hamlet, Pendoworejo Village, Girimulyo Subdistrict, Kulon Progo District, Indonesia was motivated by a landslide occurring in early March 2018 that damaged residents' houses and road infrastructure. The objectives of the research are to know the geological condition, to understand the mechanism of landslide, and to recommend the landslide mitigation actions. The method used is field survey, which includes aerial observation, observation of soil and rocks, observation of signs of landslide, and the delivery of research results to the community through socialization activities. The results show that the mechanism of landslide in Ngrancah Hamlet is influenced by geological conditions such as morphology, lithology, and triggered by high rainfall. The landslide can be divided into two types, the rotational slides in the hills and creeping in the residential area. Community empowerment in the area was done by disseminating the results of study either directly or through poster to increase society's knowledge and understanding of landslide so that communities and related agencies can perform mitigation actions such as filling cracks with waterproof material, coating existing ponds with waterproof layers, developing drainage systems in hilly areas and residential areas, and cleaning up unstable material in the hills. In addition, installing a simple gauge from roll meter can be used to monitor of land movement. Finally, the community also has the ability to conduct an independent evacuation to face landslide.