

## Risiko Dampak Longsor terhadap Jalan pada Trase Bedah Menoreh di Kecamatan Girimulyo Kabupaten Kulonprogo

Oleh:

Deni Saputra

18/435077/PMU/09588

### Abstrak

Rute Jalan Bedah Menoreh merupakan jalur transportasi alternatif baru yang dikembangkan pada sisi Timur Perbukitan Menoreh Kabupaten Kulonprogo. Pembangunan rute ini dimaksud untuk memperlancar roda perekonomian dengan menyambung titik pariwisata yang banyak tersebar di kabupaten ini, namun daerah yang dilalui merupakan daerah dengan catatan kejadian longsor dengan intensitas sering terjadi. Kecamatan Girimulyo menjadi pilihan lokasi penelitian karena memiliki kejadian longsor terbanyak sebesar 36,9% dari total kejadian longsor di seluruh Kabupaten Kulonprogo menurut catatan tahun 2007 hingga 2018. Penelitian ini akan menggambarkan tingkat risiko longsor terhadap jalan, beserta risiko dampak dengan proyeksi periode ulang 1, 3, dan 5 tahun. Penelitian ini memiliki empat tujuan yaitu (1) menilai bahaya longsor terhadap jalan, (2) menilai kerentanan jalan akibat longsor, (3) menilai kapasitas infrastruktur jalan dalam upaya pengurangan risiko, (4) menilai risiko longsor dan risiko dampak langsung akibat longsor, serta (5) menilai dampak tak langsung akibat longsor. Perhitungan bahaya didapat dari probabilitas spasial maupun temporal kejadian longsor dengan periode ulang 1, 3, dan 5 tahun. Penilaian kerentanan menjadikan jalan sebagai *elemen at risk*. Peta risiko longsor digambarkan terklasifikasi kedalam lima klas, sedangkan risiko dampak langsung digambarkan dengan probabilitas kerugian dalam rupiah. dampak tidak langsung menggambarkan beban biaya tambahan oleh komuter yang dicatat melalui Lalu Lintas Harian Rerata. Hasil penelitian menunjukkan pada periode ulang 1 tahun, area penelitian memiliki risiko sangat rendah sebesar 26,3% dari keseluruhan kejadian longsor, risiko rendah 21,1%, risiko sedang 21,1%, risiko tinggi 26,3%, dan risiko sangat tinggi sebesar 5,3%. Terdapat penambahan jumlah risiko sangat tinggi pada risiko periode ulang 3 dan 5 tahun, masing-masing menjadi 36,8%, sedangkan risiko sangat rendah mengalami trend penurunan untuk 3 dan 5 tahun, masing-masing sebesar 10,5% dan 5,3%. Risiko Dampak Langsung memiliki total kerugian akibat jalan rusak baik karena tertimbun material longsor maupun jalan ambles sebesar Rp.55.342.268, Rp.117.404.532, Rp.145.394.906 untuk masing-masing pada periode ulang 1, 3, dan 5 tahun. Dampak tidak langsung dalam bentuk kerugian komuter dengan total sebesar Rp. 1.388.813.

Kata Kunci: Bedah Menoreh, dampak longsor, spasial-temporal longsor

## Landslide Direct Risk of *Bedah Menoreh* Route Plan in Girimulyo District Kulonprogo Regency

by:

Deni Saputra

18/435077/PMU/09588

### Abstract

The *Bedah Menoreh* Road Route is a new alternative transportation route developed on the east side of the Menoreh Hills, Kulonprogo Regency. This route tries to increase the economy by connecting the tourism spots that are widely spread in this regency, but behind that, the area traversed is an area with a record with the intensity of landslides often occurring. Girimulyo sub-district was chosen as the location of the study because it had the most landslides with 36.9% of the total 2,213 landslides in all Kulonprogo regencies according to the 2007 to 2018 records. This research will describe the degree of landslides risk amount on the road along with the impact return period probability 1, 3, and 5 years in return periode. This research have five objectives, namely (1) assessing landslide hazards to roads, (2) assessing road vulnerability due to landslides, (3) assessing road infrastructure capacity in risk reduction efforts (4) analyzing landslide risk and calculating the risk of direct impacts due to landslides, and ( 5) assess the indirect impact of commuting losses on blocked roads due to landslides. Calculate hazards through both spatial and temporal probabilities of landslides with return periods of 1, 3, and 5 years. Vulnerability and capacity refer to roads as elements at risk and risk reduction. Landslide risk is divided into five classes, while the risk of direct impact is a probability in Rupiah based on the calculation of damage to the record of landslide events five years past. The indirect impact illustrates the additional cost burden by commuters recorded through Average Daily Traffic. The results showed that in the 1 year return period, the study area had a very low risk of 26.3%, a low risk of 21.1%, a moderate risk of 21.1%, a high risk of 26.3%, and a very high risk of 5.3 %. There was an increase in the number of very high risks to the risk of return period 3 and 5 years, each to 36.8%, while the very low risk experiencing a downward trend for 3 and 5 years, respectively 10.5% and 5.3%. Direct Impact Risks have total damage of Rp.55,342,268, Rp.117,404,532, Rp.145,394,906 for return period of 1, 3, and 5 years respectively. The indirect impact was in the form of a total commuter loss of Rp. 1,388,813.

Keyword: *Bedah Menoreh*, risk impact, spatial-temporal landslide