

PEMETAAN ZONASI BAHAYA *SAND-DRIFT* DI PANTAI GLAGAH DAN SEKITARNYA, KECAMATAN TEMON, KABUPATEN KULON PROGO

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New Yogyakarta International Airport (NYIA) merupakan salah satu proyek infrastruktur yang dipersiapkan untuk menghadapi perkembangan jumlah pengunjung di Yogyakarta. Lokasi proyek NYIA berada di atas satuan *saturated dune fields* yang berada di Desa Glagah, Temon, Kulon Progo. Kehadiran morfologi tersebut menjadi indikasi awal bahwa butir pasir dapat terangkut serta tergerakkan oleh angin. Maksud dari penelitian adalah menentukan zonasi potensi bahaya dari fenomena *sand-drift*. Tujuan yang ingin dicapai adalah mengetahui karakteristik gumuk pasir wilayah studi berdasarkan ukuran butir dan tingkat keaktifan gumuk pasir, mengetahui faktor yang mempengaruhi *sand-drift* serta mekanisme *sand-drift*, dan penentuan zona bahaya *sand-drift* berdasarkan korelasi data faktor penyebab *sand-drift* dan karakteristik gumuk pasir. Metode yang ditempuh adalah studi pra-lapangan meliputi analisis citra dan pustaka; pengambilan data lapangan meliputi pemetaan geologi, geomorfologi, tata guna lahan, pengukuran kedudukan *ripple*, pengambilan sample, dan pengukuran volume sedimentasi menggunakan *sand-catcher*; dilanjutkan dengan analisis laboratorium, meliputi analisis granulometri, diagram *wind-rose*, dan penentuan zona potensi *sand-drift* menggunakan *Analytical Hierarchy Process* (AHP). Hasil yang diperoleh: karakteristik gumuk pasir di wilayah studi adalah butir penyusun berukuran pasir sedang - pasir halus pada daerah pesisir, relatif menghalus semakin ke arah darat; endapan pasir juga memiliki sortasi baik, bersifat *loose*; terdapat dua satuan gumuk pasir, yakni satuan *embryo dunes* dan satuan *fore dunes*. Faktor berpengaruh dan mekanisme *sand-drift*: pola arah angin *southeasterly*, kecepatan angin berkisar 8,5 – 28 km/jam, dan *sand-drift* terpengaruh oleh tata guna lahan. Sedang, mekanisme *sand-drift* pada wilayah penelitian: 60% tertransport secara *surface creeping* dan *rolling*, 38% tertransport secara *saltasi*, dan 2% tertransport secara *suspension*. Berdasarkan ranking pembobotan kumulatif dari tiga, terdapat tiga zonasi potensi *sand drift*, yakni zona bahaya *sand drift* tinggi (63.91%), zona bahaya *sand drift* sedang (35.43%), dan zona bahaya *sand drift* rendah (0.66%).
Kata Kunci: *sand-drift*, *sand-dunes*, NYIA, transportasi sedimen.

SAND-RIFT HAZARDOUS ZONE MAPPING OF GLAGAH BEACH, TEMON COUNTRY, KULON PROGO REGENCY

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The New Yogyakarta International Airport Project is one of the focuses of the Central Government in tackling the issue on the visitors' demand-growth in Yogyakarta. The project itself is being built on a saturated sand-dune unit, located in Glagah Village, Temon, Kulon Progo. The presence of the mentioned geomorphologic unit indicates that the sand-grains are movable by wind. The purpose of the research is to determine the potentially-hazardous zone due to the effect of sand-drift. The research aims to figure out the characteristics of the sand-dunes based on the grain-size domination and the type of sand-dunes based on the activity rate, to determine the factors that affect sand-drift and its drifting mechanisms, and to determine the potentially hazardous zones based on the correlation of causing factors and its characteristics. The research was conducted through several phases, namely pre-field image analysis and literature studies; field-data acquisition which include geologic, geomorphologic, and land-use mapping, ripple direction measurement, sand-sample collection, and the quantification of sedimentation volume using a sand-catcher; followed by the laboratory analysis, which include granulometry and wind-rose diagram analysis, and the sand-drift zones are determined by Analytical Hierarchy Process (AHP). The findings of the study are: the characteristics of sand-dunes is the grain is dominated by medium – fine sand on the shoreline, and relatively fining towards the land; the sand deposit is well-sorted, loose; there are two sand-dune units, which are embryo dunes and fore dunes. The factors and mechanism of sand drift are as follow: the dominant wind-pattern is *southeasterly*, the wind speed range from 8.5 – 28 km/h, and the sand-drift phenomenon is highly influenced by the land-use. Meanwhile, the mechanism of sand-drift are as followed: 60% of sand-grains are transported by surface creep and rolling, 38% through saltation, and 2% through suspension. Based on the cumulative ranks, the zones can be divided into three, namely high hazardous zone, medium hazardous zone, and low hazardous zone.

Key words: sand-drift, sand-dunes, NYIA, sediment transport.