

**ANALISIS POSISI DAN ORIENTASI BANGUNAN UNTUK PENILAIAN
RISIKO LONGSOR MELALUI INTERPRETASI FOTO UDARA
FORMAT KECIL 2D
(STUDI KASUS DI DAS BOMPON KABUPATEN MAGELANG)**
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INTISARI

DAS Bompon merupakan salah satu daerah rawan longsor yang terletak di Kabupaten Magelang, Jawa Tengah. Penyebab utama longsor di DAS Bompon adalah sudut lereng yang curam dengan lapisan tanah yang sangat tebal. Bangunan merupakan elemen risiko utama terhadap longsor di DAS Bompon. Penelitian ini bertujuan untuk: (1) mengkaji kerawanan longsor, (2) menilai kerentanan fisik bangunan terhadap longsor, (3) menganalisis risiko longsor pada bangunan, dan (4) menentukan arahan alokasi bangunan untuk pemukiman.

Penelitian ini merupakan penelitian deskriptif. Penilaian kerawanan longsor dilakukan dengan metode *Frequency Ratio (FR)*. Validasi dilakukan melalui survei lapangan secara intensif. Data elemen fisik, posisi, dan orientasi bangunan didapatkan secara sensus melalui interpretasi Foto Udara Format Kecil 2D. Populasi penelitian adalah seluruh bangunan di DAS Bompon. Penilaian kerentanan bangunan dilakukan secara semi-kuantitatif dengan memberikan skor dan bobot pada parameter kerentanan bangunan. Penilaian risiko longsor pada bangunan dilakukan melalui analisis matriks risiko longsor.

Hasil analisis kerawanan longsor menunjukkan bahwa 20,44 % wilayah DAS Bompon termasuk dalam kelas kerawanan tinggi, 52,13 % termasuk dalam kelas kerawanan sedang, dan 27,43 % termasuk dalam kelas kerawanan rendah. Longsor aktif terjadi pada lereng terjal, dengan adanya temuan material hasil alterasi sebagai pemicunya. Hasil penilaian kerentanan fisik bangunan terhadap longsor menunjukkan bahwa 183 (25 %) unit bangunan termasuk dalam kelas kerentanan tinggi, 323 (44 %) unit bangunan termasuk dalam kelas kerentanan sedang, dan 227 (31 %) bangunan termasuk dalam kelas kerentanan rendah. Kerentanan bangunan terdistribusi secara berkelompok. Hasil analisis risiko longsor pada bangunan menunjukkan bahwa 209 (28 %) unit bangunan di DAS Bompon berisiko tinggi terhadap longsor, 313 (43 %) unit bangunan termasuk dalam kelas risiko sedang, dan 211 (29 %) unit bangunan termasuk dalam kelas risiko rendah. Hasil analisis arahan alokasi bangunan pemukiman yang diusulkan terletak pada puncak bukit dan lereng bawah perbukitan yang memiliki morfologi yang landai hingga datar. Arahan bangunan yang dianjurkan adalah bangunan bertipe kampung dengan material atap berupa seng/asbes dan material dinding berupa bata/bata ringan.

Kata Kunci: Foto Udara Format Kecil, kerentanan, bangunan, risiko, longsor

**ANALYSIS OF BUILDING POSITION AND ORIENTATION TO ASSESS
THE LANDSLIDE RISK THROUGH THE INTERPRETATION OF 2D
SMALL FORMAT AERIAL PHOTO
(CASE STUDY IN BOMPON CATCHMENT, MAGELANG REGENCY)**
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ABSTRACT

Bompon catchment is one of landslide prone area located in Magelang Regency, Central of Java. The main causes of landslide in Bompon catchment are the very thick layer of soil and steep slope angle. The objectives of this research are to analyze the landslides susceptibility, to assess the physical vulnerability of buildings toward the landslide, to analyze the landslide risk on buildings, and to determine the direction of development for settlement purposes.

This research was conducted by quantitative descriptive method. The population of this research is the buildings in Bompon catchment. The sample was taken by census method. The susceptibility analysis was conducted through the Frequency Ratio (FR). The physical elements, position, and orientation of the building data was obtained through the 2D small Format aerial photo interpretation. Building vulnerability assessment was conducted semi-quantitatively by scoring and weighting method. The landslide risk analysis on the buildings was conducted through the matrix of susceptibility and vulnerability analysis. All the data was validated through the intensive field survey.

The results of the landslide susceptibility analysis indicates that 20,44 % of Bompon catchment included in high susceptibility, 52,13 % included in moderate susceptibility, and 27,43 % included in low susceptibility. The results of the physical vulnerability assessment of buildings toward the landslide indicates that 183 (25%) of the building included in high vulnerability, 323 (44%) building included in moderate vulnerability, and 227 (31%) of the buildings included in low vulnerability. The vulnerability level of the buildings are distributed spatially as a cluster. The result of the landslide risk analysis to buildings indicates that 209 (28 %) of the building are included into high risk level, 313 (43 %) buildings are included into moderate risk level, and 211 (29 %) buildings are included into low risk level. The landslide risk to buildings analysis are distributed as a cluster. The result of the direction of development for settlement purposes was recommended to build in the hill top or lower slope as the stable area. The building type that can be recommended was *Kampung* type building with roof material such as zinc/asbestos and the wall material such as brick/lightweight brick.

Keyword: small format aerial photo, landslide, vulnerability, risk