

INTISARI

Pertumbuhan penduduk berbanding lurus dengan peningkatan kebutuhan lahan untuk permukiman. Kecamatan Genuk dengan pertumbuhan penduduknya yang positif seiring tahun dan memiliki ancaman terhadap banjir dan rob membuat kecamatan ini memerlukan analisis evaluasi lahan berbasis risiko bencana yang bertujuan untuk meningkatkan daya dukung lingkungan akibat masifnya pembangunan kota. Evaluasi lahan dilakukan melalui dua tahapan, yaitu analisis kesesuaian lahan permukiman dan analisis potensi ketersediaan lahan permukiman. Analisis yang dilakukan berbasis spasial dengan metode *Spatial Multi Criteria Evaluation* (SMCE) menggunakan teknik overlay *Weighted Linear Combination* (WLC). Kriteria yang digunakan dibedakan menjadi faktor pendukung (kelerengan, *proximity*, jenis tanah, rawan bencana, guna lahan, drainase, aksesibilitas, dan jarak industri) dan faktor pembatas (sempadan sungai dan pantai, serta fungsi kawasan). Pada penelitian ini, dilakukan standarisasi kriteria menggunakan pemodelan spasial *fuzzy logic* dan *boolean*. Sementara itu, pembobotan kriteria dilakukan menggunakan *Analytical Hierarchy Process* (AHP). Peta Risiko Bencana digunakan pada proses analisis untuk menentukan daerah yang aman dibangun permukiman. Hasil penelitian menunjukkan bahwa kesesuaian lahan permukiman paling besar berada pada kelas S2 (Cukup Sesuai) seluas 1.120 Ha atau 40% dari total luas Kecamatan Genuk. Sedangkan lahan yang berpotensi untuk dibangun permukiman dengan pertimbangan peta pola ruang pada Rencana Tata Ruang Wilayah (RTRW) Kota Semarang 2011-2031 serta risiko banjir dan rob sebesar 19,2% dari total luas Kecamatan Genuk. Upaya mitigasi perlu dilakukan pada lahan-lahan yang berpotensi untuk permukiman namun berisiko terhadap banjir dan rob. Hasil penelitian ini diharapkan dapat menjadi bahan pertimbangan dalam pengambilan keputusan dan pembuatan kebijakan tata ruang di Kota Semarang.

Kata kunci: Banjir Rob, Evaluasi Lahan, Risiko Bencana, Permukiman, *SMCE*

ABSTRACT

Population growth is directly proportional to the increase in land requirements for settlements. Genuk sub-district with its positive population growth over the years and the threat of flood and tidal flooding requires a disaster risk-based land evaluation analysis that aims to improve the carrying capacity of the environment due to massive urban development. Land evaluation is conducted through two stages, namely evaluation of settlement land suitability and evaluation of potential settlement land availability. The analysis was spatially based with the Spatial Multi Criteria Evaluation (SMCE) approach using the Weighted Linear Combination (WLC) overlay method. The criteria used are divided into supporting factors (slope, proximity, soil type, disaster prone, land use, drainage, accessibility, and industrial distance) and limiting factors (river and beach boundaries, and area functions). In this research, standardization of criteria was carried out using fuzzy logic and boolean spatial modelling. Meanwhile, the weighting of criteria was carried out using the Analytical Hierarchy Process (AHP). Disaster Risk Maps were used in the analysis process to determine areas that are safe to build settlements. The results showed that the largest settlement land suitability was in the S2 (Suitable) class covering 1,120 hectares or 40% of the total area of Genuk Sub-district. Meanwhile, the land that has the potential to be built settlements with the consideration of the spatial pattern map of Semarang City Spatial Plans 2011-2031 and the risk of flood and tidal flooding is 19.2% of the total area of Genuk Sub-district. Mitigation efforts need to be carried out on lands that have the potential for settlements but are at risk of flood and tidal flooding. The results of this study are expected to be taken into consideration in decision making and spatial policy making in Semarang City.

Keywords: Tidal Flood, Land Evaluation, Disaster Risk, Settlement, SMCE