

## SARI

### GEOLOGI DAN EVALUASI TATA GUNA LAHAN PERMUKIMAN BERDASARKAN TINGKAT KERAWANAN GERAKAN MASSA PADA DAERAH SOKAWERA DAN SEKITARNYA, KECAMATAN PATIKRAJA, KABUPATEN BANYUMAS, JAWA TENGAH

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Dalam perencanaan tata guna lahan harus memperhatikan beberapa aspek, salah satunya yaitu aspek geologi. Pada dasarnya ilmu geologi, pembangunan wilayah dan lingkungan mempunyai hubungan yang sangat erat, karena berkaitan dengan tuntutan dan pemanfaatan sumber daya alam dan lingkungan bumi terhadap kehidupan manusia, serta meminimalkan dampaknya. Proses perencanaan tata guna lahan baik pada tingkat nasional, provinsi atau kabupaten/kota pertimbangan tingkat kerawanan longsor seringkali diabaikan dan cenderung memberikan arahan pemanfaatan lahan sesuai normalnya perencanaan serta tidak didasarkan atas pertimbangan yang menyeluruh. Penelitian ini bertujuan untuk mengevaluasi tata guna lahan permukiman yang mengacu pada kondisi geologi serta dikaji dari segi kebencanaan yaitu kerawanan gerakan massa. Metode yang digunakan dalam penelitian ini yaitu pemetaan geologi, SMCE (*Spatial Multi Criteria Evaluation*), dan *overlay intersect*. Berdasarkan hasil penelitian, geomorfologi daerah penelitian dibagi menjadi empat (4) satuan yaitu Satuan Punggungan Aliran Lava Mandirancan, Satuan Punggungan Homoklin Papringan, Satuan Punggungan Cuesta Kedungrandu dan Satuan Dataran Aluvial Sokawera. Stratigrafi daerah penelitian terdiri dari empat (4) satuan batuan yang diurutkan dari tua ke muda meliputi Satuan Lava Andesit, Satuan Batupasir Tufan, Satuan Batupasir dan Endapan Aluvial. Hasil analisis kerawanan gerakan massa menggunakan metode SMCE (*Spatial Multi Criteria Evaluation*), daerah penelitian dibagi menjadi empat (4) yaitu kerawanan gerakan massa sangat rendah, kerawanan gerakan massa rendah, kerawanan gerakan massa menengah dan kerawanan gerakan massa tinggi. Dari hasil *overlay* antara peta kerawanan gerakan massa dengan peta eksisting, sebagian besar (59,48%) kawasan permukiman eksisting telah sesuai berdasarkan kriteria kesesuaian lahan permukiman, serta hasil *overlay* antara peta kerawanan gerakan massa dengan peta RTRW, sebagian besar (49,5%) kawasan permukiman RTRW telah sesuai berdasarkan kriteria kesesuaian lahan permukiman.

**Kata Kunci :** Geologi, SMCE, kerawanan gerakan massa, evaluasi tata guna lahan.

## **ABSTRACT**

### **GEOLOGY AND EVALUATION OF RESIDENTIAL LAND USE BASED ON THE LEVEL OF LANDMASS VULNERABILITY IN SOKAWERA AND SURROUNDING AREA, PATIKRAJA DISTRICT, BANYUMAS REGENCY, CENTRAL JAVA**

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*In land use planning, several aspects must be considered, one of which is the geological aspect. Basically the science of geology, regional development and the environment has a very close relationship, because it is related to the demands and utilization of natural resources and the earth's environment on human life, as well as minimizing their impact. Land use planning processes at the national, provincial or district/city levels are often ignored and tend to provide direction for land use according to normal planning and are not based on comprehensive considerations. This study aims to evaluate residential land use which refers to geological conditions and is studied from a disaster perspective, namely landmass vulnerability. The methods used in this research are geological mapping, SMCE (Spatial Multi Criteria Evaluation), and overlay intersect. Based on the research results, the geomorphology of the research area is divided into four (4) units, namely the Mandirancan Lava Ridge Unit, Papringan Homocline Ridge Unit, Cuesta Kedungrandu Ridge Unit and Sokawera Alluvial Plain Unit. The stratigraphy of the study area consists of four (4) rock units sorted from oldest to youngest including Andesite Lava Unit, Tufan Sandstone Unit, Sandstone Unit and Alluvial Deposit. The results of the landmass vulnerability analysis using the SMCE (Spatial Multi Criteria Evaluation) method, the research area is divided into four (4) namely very low landmass vulnerability, low landmass vulnerability, medium landmass vulnerability and high landmass vulnerability. From the results of the overlay between the landmass vulnerability map and the existing map, mostly (59,48%) of the existing residential areas are in accordance with the criteria for the suitability of residential land, as well as the results of the overlay between the landmass vulnerability map and the RTRW map, mostly (49,5% ) the RTRW settlement area is conditional with the criteria for the suitability of residential land.*

**Keywords:** *Geology, SMCE, landmass vulnerability, land use evaluation.*