

## **ARAHAN TATA RUANG BERBASIS RISIKO BENCANA TSUNAMI DI DESA TANGGUH BENCANA PONCOSARI KABUPATEN BANTUL DAERAH ISTIMEWA YOGYAKARTA**

**Rizka Dian Fatmawati<sup>1</sup>, Sudibyakto<sup>2</sup>, Dina Ruslanjari<sup>3</sup>**

<sup>1</sup>Mahasiswa Sekolah Pascasarjana Universitas Gadjah Mada Yogyakarta

<sup>2</sup>Fakultas Geografi Universitas Gadjah Mada Yogyakarta

<sup>3</sup>Sekolah Pascasarjana Universitas Gadjah Mada Yogyakarta

### **INTISARI**

Penelitian dilaksanakan di Desa Poncosari, Kecamatan Srandakan, Kabupaten Bantul, dan Daerah Istimewa Yogyakarta. Desa Poncosari termasuk dalam wilayah rawan bencana tsunami dan ditetapkan sebagai desa tangguh bencana. Penelitian ini bertujuan untuk membuat skenario genangan tsunami di Desa Poncosari, menganalisis tingkat kerentanan Desa Poncosari berdasarkan skenario genangan tsunami, mengevaluasi penggunaan lahan Desa Poncosari berdasarkan skenario genangan tsunami, dan merumuskan arahan tata ruang berbasis pengurangan risiko bencana tsunami.

Metode yang digunakan dalam penelitian ini adalah metode kuantitatif melalui analisis skoring, klasifikasi, dan analisis spasial. Analisis skoring dan klasifikasi dilakukan untuk mengkaji kerentanan wilayah, sedangkan analisis spasial digunakan untuk pemodelan *run up* tsunami dan evaluasi penggunaan lahan. Pemodelan *run up* tsunami dilakukan dengan menggunakan *software* ILWIS 3.3 *Academic*. Hasil pemodelan kemudian dioverlay dengan peta penggunaan lahan. Hasil pemodelan *run up* tsunami dan kajian kerentanan wilayah digunakan untuk merumuskan arahan tata ruang berbasis pengurangan risiko bencana.

Hasil penelitian yang diperoleh adalah (1) pada pemodelan *run up* tsunami, semakin tinggi *run up*, semakin jauh jangkauan gelombang tsunami dan semakin luas pula area yang berpotensi terdampak; (2) terdapat satu dusun yang termasuk dalam kategori kerentanan wilayah tinggi yaitu Dusun Ngentak, sedangkan 23 dusun lainnya termasuk dalam kategori kerentanan sedang; (3) pada skenario *run up* 5 meter terdapat 7 jenis penggunaan lahan yang berpotensi tergenang, pada skenario *run up* 10 meter dan 15 meter terdapat 9 jenis penggunaan lahan yang berpotensi tergenang; (4) Jenis penggunaan lahan yang diarahkan untuk dilakukan penataan kembali adalah permukiman, tambak udang, kompleks warung makan, dan Pembangkit Listrik Tenaga Hibrid (PLTH). Secara umum, seluruh dusun di Desa Poncosari sesuai dijadikan kawasan peruntukan pertanian dan kawasan peruntukan permukiman.

**Kata kunci:** desa tangguh bencana, run up tsunami, kerentanan, penggunaan lahan, ILWIS

## SPATIAL PLANNING GUIDELINES BASED ON TSUNAMI DISASTER RISK IN PONCOSARI DISASTER RESILIENT VILLAGE BANTUL REGENCY SPECIAL REGION OF YOGYAKARTA

**Rizka Dian Fatmawati<sup>1</sup>, Sudibyakto<sup>2</sup>, Dina Ruslanjari<sup>3</sup>**

<sup>1</sup>Graduate School Student of Universitas Gadjah Mada Yogyakarta

<sup>2</sup>Geography Faculty of Universitas Gadjah Mada Yogyakarta

<sup>3</sup>Graduate School of Universitas Gadjah Mada Yogyakarta

### ABSTRACT

This research was conducted in Poncosari Village, Srandakan District, Bantul Regency, Special Region of Yogyakarta. Poncosari Village is a tsunami prone area and was determined as disaster resilient village. This research aims to create a tsunami inundation scenarios in Poncosari Village, to analyze the vulnerability of Poncosari Village based on tsunami inundation scenarios, to evaluate the land use in Poncosari Village based on tsunami inundation scenarios, and to formulate spatial planning guidelines based on tsunami disaster risk reduction.

The method used in this research is quantitative method with scoring analysis, classification, and spatial analysis. Scoring analysis and classification were done for vulnerability assessment, as for spatial analysis, it used for tsunami run up modelling and land use evaluating. Tsunami run up modelling was done by using ILWIS 3.3 Academic software. The models then be overlaid with land use map. The result of modelling and vulnerability assessment processes were used to formulate spatial planning guidelines based on tsunami disaster risk reduction.

The results obtained are (1) based on the modeling of the tsunami run up, the higher the run up, the further the reach of the tsunami, and also the wider area potentially affected; (2) there is a hamlet that is included in the category of areas with high vulnerability namely Ngentak Hamlet, while 23 other hamlets in the Poncosari Village included in the category of medium vulnerability; (3) in the 5 meters run up scenario, there are seven types of land use that are potentially exposed to inundation, whereas in the 10 meters and 15 meters run up scenarios, there are 9 types of land use that are potentially exposed to inundation; (4) The types of land use that is proposed to be rearranged are the settlement, shrimp farming, food stalls, and Hybrid Power Plant.

**Key word:** Disaster resilient village, tsunami run up, vulnerability, land use, ILWIS