

Abstrak

UNIVERSITAS MUHAMMADIYAH JEMBER

PROGRAM STUDI ILMU KEPERAWATAN

FAKULTAS ILMU KESEHATAN

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EFEKTIVITAS KOMBINASI EWS (SEISMOGRAF DAN CCTV) TERHADAP

RESPON MASYARAKAT KELOMPOK RENTAN

DALAM SITUASI GAWAT DARURAT

DI GUNUNG SEMERU

xvi + 90 halaman + 11 tabel + 3 Gambar + 3 Bagan +19 lampiran

Latar Belakang: Gunung Semeru sebagai gunung api aktif di Indonesia memiliki potensi tinggi menyebabkan bencana, terutama bagi masyarakat yang tinggal di Kawasan Rawan Bencana (KRB). Kelompok rentan seperti lansia, ibu hamil, dan penyandang disabilitas memiliki risiko lebih tinggi ketika terjadi erupsi. Sistem peringatan dini (Early Warning System/EWS) menjadi kunci untuk menyelamatkan mereka. Kombinasi antara seismograf dan CCTV dapat meningkatkan kecepatan dan akurasi informasi untuk merespons bahaya. Penelitian ini bertujuan menganalisis efektivitas kombinasi seismograf dan CCTV terhadap respon masyarakat kelompok rentan terhadap EWS di situasi gawat darurat Gunung Semeru. **Metode:** Penelitian ini menggunakan desain kuantitatif analitik korelasional dengan pendekatan cross-sectional. Populasi penelitian adalah masyarakat kelompok rentan di dusun Summersari wilayah KRB 3 dengan jumlah responden sebanyak 30 orang yang dipilih melalui purposive sampling. Instrumen pengumpulan data menggunakan kuesioner CASPER Preparedness berbasis skala Guttman. Analisis data dilakukan menggunakan uji Spearman's Rho dengan tingkat signifikansi $\alpha \leq 0,05$. **Hasil:** Sebagian besar responden menilai kombinasi seismograf dan CCTV kurang efektif (53,3%). Sebanyak 33,3% menilai kombinasi tersebut efektif. Respon terhadap sistem EWS juga mayoritas cukup (60,0%), diikuti respon baik (33,3%). Hasil uji Spearman menunjukkan nilai $p = 0,000$ dan koefisien korelasi $r = 0,949$, menunjukkan hubungan yang sangat kuat dan signifikan antara efektivitas kombinasi seismograf dan CCTV terhadap respon masyarakat kelompok rentan dalam situasi gawat darurat. **Kesimpulan:** Terdapat hubungan yang efektivitas kombinasi EWS (seismograf dan CCTV) dengan respon masyarakat kelompok rentan dalam situasi gawat darurat di Gunung Semeru.

Kata Kunci: Seismograf, CCTV, Respon Kelompok Rentan, Early Warning System, Gunung Semeru

Daftar Pustaka: 38 (2013–2025)

Abstract

UNIVERSITY OF MUHAMMADIYAH JEMBER

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The Effectiveness of the Combination of EWS (Seismograph and CCTV) on the Response of Vulnerable Communities in Emergency Situations on Mount Semeru
xvi + 90 pages + 11 tables + 3 images + 3 chart + 19 appendices

Background: Mount Semeru, as one of Indonesia's active volcanoes, has a high potential to cause disasters, especially for residents living in the Disaster-Prone Areas (DPA). Vulnerable groups such as the elderly, pregnant women, and people with disabilities face greater risk during an eruption. The Early Warning System (EWS) plays a crucial role in saving lives. The combination of seismograph and CCTV is expected to improve the speed and accuracy of hazard information delivery. This study aims to analyze the effectiveness of combining seismograph and CCTV in influencing the response of vulnerable communities to EWS in emergency situations on Mount Semeru. **Methods:** This research employed a quantitative analytic correlational design with a cross-sectional approach. The study population consisted of vulnerable residents in Summersari Hamlet, located within DPA zone 3, with a total of 30 respondents selected through purposive sampling. Data collection instruments used the CASPER Preparedness questionnaire based on the Guttman scale. Data analysis was conducted using Spearman's Rho test with a significance level of $\alpha \leq 0.05$. **Results:** The majority of respondents perceived the combination of seismograph and CCTV as less effective (53.3%), while 33.3% considered it effective. Regarding the response to EWS, most respondents had a moderate response (60.0%), followed by a good response (33.3%). The Spearman's test result showed a p-value = 0.000 and a correlation coefficient $r = 0.949$, indicating a very strong and significant relationship between the effectiveness of the combined use of seismograph and CCTV and the response of vulnerable communities in emergency situations. **Conclusion:** There is a relationship between the effectiveness of the Early Warning System combination of (seismograph and CCTV) to the response of vulnerable communities in emergency situations on Mount Semeru.

Keywords: Seismograph, CCTV, Vulnerable Community Response, Early Warning System, Mount Semeru

References: 38 (2013–2025)