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[Abstract Title]

Assessment of Social Vulnerability in Evacuation Process from Mount Merapi: Focusing on People's Behavior and Mutual Assistance

[Abstract]

In Merapi volcano mitigation, the cooperation within/between the local communities is a key strategy for effective evacuation. In the “sister village” scenario, meeting area and shelter have been coordinated, but the people’s behavior has not been fully considered yet in vulnerability assessment and government’s contingency plan. The purpose of this study is to assess the people’s behavior, mutual assistance, and social vulnerability index of pedestrian evacuation in four affected regencies. First, we measured the pedestrian speed directly, conducted interviews with stakeholders, and focus group discussions with local communities. We used multicriteria method and focused on two factors, social and age structure (young, vulnerable, and mutual assistance between them), and risk perception (work, rain, night, alert, and destination). The index reflects the distribution of actual walking speed, mutual assistance, and the government’s plan. The result showed that mutual assistance groups have a higher pedestrian speed than vulnerable people but lower than young people. Mutual assistance coordination is crucial to support vulnerable to effective travel time. The social and age structure of the social vulnerability index has a stronger risk influence than perception factor in evacuation



process. However, these two factors have a minor impact on social vulnerability to total population.

[Keywords]

Pedestrian evacuation speed, people's behavior, mutual assistance, social vulnerability