INTISARI

Erupsi gunungapi menghasilkan bahaya primer berupa jatuhan piroklastik. Salah satu dampak dari jatuhan piroklastik adalah kerusakan atap dan bangunan akibat pembebanan tefra berlebih. Gunungapi Telaga Ngebel merupakan gunungapi dorman yang terletak di Ponorogo, Jawa Timur. Rendahnya aktivitas Gunungapi Telaga Ngebel menyebabkan masyarakat tidak menyadari potensi bahaya vulkanik, sehingga menghasilkan kerentanan tinggi. Penelitian ini dilakukan untuk meningkatkan kesadaran masyarakat melalui penentuan zona kerawanan atap runtuh akibat pembebanan tefra terhadap atap. Penelitian dilakukan dengan menganalisis distribusi endapan jatuhan dan estimasi eksplosivitas Telaga Ngebel, kuantifikasi nilai tekanan beban endapan jatuhan, serta menentukan zona kerawanan atap bangunan runtuh akibat tekanan beban endapan jatuhan. Penelitian berhasil megidentifikasi 2 produk jatuhan piroklastik Telaga Ngebel yaitu White Lapilli (WL) dan Cream Lapilli (CL) yang secara berurutan dihasilkan dari erupsi sub-plinian (VEI 4) dan freatomagmatik (VEI 2). Produk WL menghasilkan zona kerawanan atap bangunan runtuh pada radius 35 km dari pusat erupsi, sedangkan produk CL menghasilkan zona kerawanan atap bangunan runtuh pada radius 1,5 km dari pusat erupsi.

ABSTRACT

The volcanic eruption produces primary hazards in the form of pyroclastic fall. One of the impacts of pyroclastic fall is damage to roofs and buildings due to excessive tephra loading. Telaga Ngebel is a dormant volcano located in Ponorogo, East Java. The low activity of Telaga Ngebel Volcano has caused the local community to be unaware of potential volcanic hazards, resulting in high vulnerability. This study was conducted to raise public awareness by identifying zones prone to roof collapse due to tephra loading. The research involved analyzing the distribution of fall deposits and estimating the explosivity of Telaga Ngebel Volcano, quantifying the pressure load of fall deposits, and determining zones vulnerable to building roof collapse caused by the pressure load. The study successfully identified two pyroclastic fall products from Telaga Ngebel, namely White Lapilli (WL) and Cream Lapilli (CL), which were respectively produced by a sub-plinian eruption (VEI 4) and a phreatomagmatic eruption (VEI 2). The WL product results in a roof collapse hazard zone within a 35 km radius from the eruption center, while the CL product results in a hazard zone within a 1.5 km radius from the eruption center.