

## Issues of Japan's volcanic disaster prevention system as viewed from overseas alert systems

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Volcanic alert levels was introduced in Japan in 2007. Thereafter, the level was raised or lowered for several volcanoes, some volcanoes erupted and residents evacuated. Among them, the problem of exploiting volcanic alert levels for evacuation has become clear. In this research, by comparing Japan's warning system with overseas (the United States, Indonesia, New Zealand), we will examine the issues of Japanese volcanic disaster prevention system and future disaster prevention system.

In Japan, several institutions, such as universities and Japan Meteorological Agency (JMA), are conducting observations of volcanic activity. In the volcano where volcanic alert levels is introduced, JMA announces five levels of volcanic alert levels according to the activity of the volcano. Each municipality carries out basic disaster response such as issuance of evacuation information.

In the United States, the United States Geological Survey (USGS) will unite from the observation of a volcano to the announcement of an alarm (4 stages). Basic disaster response is handled by municipalities and counties. If requested, the state government responds, and if it is still difficult, FEMA is asked.

In Indonesia, the Center of Volcanology and Geological Hazard Mitigation (PVMBG) classify active volcanoes into three stages, ranging from A to C class, and is conducting observations. When the volcano becomes active, they present four levels of warning level. The basic disaster response such as the issuance of evacuation information is taken by the Regional Disaster Management Agency in Indonesia (BPBD), and the National Agency for Disaster Countermeasure (BNPB) supports this. If evacuation accompanied with level rise but the eruption does not occur, BNPB bears the expenses.

In New Zealand, GNS Science Corporation conducts observation of volcanic activity and issuance of alarm (6 stages).An evacuation information issuance is made by CDEM which is a collaboration body of local public bodies.

This presentation discusses issues of volcanic disaster prevention system in Japan and future disaster prevention system by comparing systems of each country.

Keywords: volcano, volcanic disaster prevention system , volcanic alert level