

How to Prevent Elderly People from Natural Disasters - An Example in Unzen Volcanic Area UNESCO Global Geopark -

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There are a lot of active faults in the areas recognized as Unzen Volcanic Area Geopark. These group of active faults are estimated to cause earthquakes with the possibilities of 0.5 - 1 % in 30 years and 0.8 - 2 % in 50 years (The Headquarters for Earthquake Research Promotion, 2006), and these numbers are relatively high in Japan, where earthquakes often happen. In addition, in the great Shimabara earthquake in 1992, 26 people were killed and 39 people are injured (Ota, 1984), and Tachibana bay area, which is located to the west of Shimabara peninsula, sometimes has series of volcanic earthquakes including ones with a seismic intensity of 5. These facts show that in Shimabara Peninsula, not only volcanic eruptions but also earthquakes which cause extensive damage can happen.

In this area, aging problem is also serious. The percentage of people who are over 65 years old is as much as 36.2 %, which is clearly high compared with the national average (28.1 %). Therefore, it is highly possible that a large number of elderly people will need to evacuate when a large earthquake occurs. Thus, we set our goal to establish a disaster prevention plan to protect the elderly.

In order to find out the difference of the awareness of disaster prevention among different generations, we conducted a research by sending out a questioner on their awareness of disaster prevention in daily lives to our school's students and their elderly family members: 409 people in total. We also examined the route from their residential areas to the evacuation center and compared it with the information put on the existing hazard map.

The result of the questioner showed that the elderly family members are more likely to be aware of disaster prevention than the students. This is equivalent to the result of a research conducted on university students and their family (Cabinet Office, 2016; Shimizu, 2011). Also, by examining the route to evacuate from their houses to the nearest evacuation center, we found out that the following three points are not put in the existing hazard map: (1) It has a long gentle slope, which is tough for the elderly to walk. (2) It has deep gutters at the side, which require extra caution if it is dark. (3) It has walls which can break down if an earthquake with a seismic intensity of 5 occurs.

These two results indicate that it is possible that the elderly people, who have greater awareness of disaster prevention, have difficulty in their evacuation. Therefore, we concluded that one way to prevent many elderly people from natural disasters is to make a detailed hazard map for each region, and raise young people's awareness of disaster prevention to make them "leading evacuees" when needed.

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