An Interview Survey in Kingdom of Tonga on the Response to the 2022 Eruption of Hunga Tonga-Hunga Haapai Volcano

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I will present the outline of the interview survey in Kingdom of Tonga on the response of the local community to the 2022 eruption and the subsequent tsunami caused by Hunga Tonga-Hunga Ha’apai Volcano. The volcano is located 65 km north of Tongatapu Island in Kingdom of Tonga and generated a large-scale eruption on 15th January 2022. Satellite observations revealed that the eruption column reached at a height of 57 km, which is the highest record among the historical eruptions among all volcanoes in the world. The eruption also generated abnormal tidal changes at wide areas in the Pacific Ocean, resulting in the issues of tsunami warnings in Japan. MEXT organized a research project including a team for studying the social impacts of the eruption and tsunami in Tonga. As a member of the research team, I visited the Kingdom of Tonga for thirty days from seventh to nineteenth January 2023 to conduct an interview survey in Nuku’alofa in Tongatapu Island and Neiafu in Vava’u Island. I interviewed a researcher of Tonga Geological Service, an officer of WHO, President of JICA Tonga Office, and three Japanese citizens living in Tonga. The survey revealed that the risk of a volcanic eruption is widely recognized in Tonga because the volcanic activities of Hunga Tonga-Hunga Ha’apai Volcano has increased about one month before the climax activities. However, they did not anticipate such a large eruption with a blast and subsequent tsunamis. As a result, they had to manage the disaster without any response plan. They faced additional difficulties because the rock down due to CoVID19 prevented foreign support team from visiting affected areas and also the cut down of underwater cables made the communication impossible. A researcher in Tonga Geological Service told me that several programs for World Tsunami Awareness Day conducted in Tonga in November 2021 were helpful for related organizations to conduct appropriate countermeasures against tsunami. Regarding to the understandings of eruptive sequences, extensive observations are required for submarine volcanoes because the fundamental processes on the interactions between magma and seawater is yet little known. From the viewpoint of the mitigation of volcanic disaster, the interview survey implies that the information on the measures to protect foods and water from being contaminated by volcanic ash could improve the health of affected people and relieve the anxiety.

Keywords: Hunga Tonga-Hunga Ha’apai Volcano , Tonga, Eruption, Tsunami, Ashfall

