Case study of Children’s Summer School on Earthquakes and Volcanoes in Tango area of San-’in Kaigan UNESCO Global Geopark

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Children’s summer school on Earthquakes and Volcanoes has been managed by the Seismological Society of Japan, the Volcanological Society of Japan, and the Geological Society of Japan since 1999. In 2019, this event was held in Kyotango City and Miyazu City in the northern part of Kyoto Prefecture for two days from August 10 to 11. The host organization was “Chikyu Design School”). The purpose of this event is to learn about a blessing of nature, the tourism, the natural disasters, the forming process of Tango Peninsula, and the past, present and future images of Tango area through field observations, experiments and research regarding the history from the expansion of the Sea of Japan to the present and its relationship with the local community.

The San’in Kaigan UNESCO Global Geopark, which was approved to join the Global Geopark Network in October 2010, spreads over 120km east to west, from Kyoto to Tottori Prefecture, and measures 2458.44 km^2. Tango area is located at the eastern end of the geopark. Based on geological view point, Tango area is mainly composed of basement rocks of Cretaceous-Paleogene Miyazu granite, Neogene Miocene Hokutan Group, intrusive rocks, and Ouaternary Middle Pleistocene. Furthermore, the Gomura and Yamada fault zones which caused the 1927 Kita-Tango earthquake are located in Tango area.

In 2019, twenty children were divided into four teams and toured Amanohashidate, Araizaki Shrine, Tango Umi-to-Hoshi Mieru-oka park, the Hi-net Amino station, the Gomura fault, and Kyotango City Folk Museum.

They study the fault shape from the topographical observation and experimental observations at Amanohashidate, Araizaki Shrine, Tango Umi-to-Hoshi Mieru-oka park. During the experiments using everyday things, they considered about the expansion of the Sea of Japan, the formation of hyaloclastite in Hokutan Group, the fault forming process, and the formation of Amanohashidate. In additions, they studied the damage and reconstruction related to the 1927 Kita-Tango earthquake at the the Gomura fault and Kyotango City Folk Museum.

At the end of the program, the participants summarized what they had learned for each team and made a presentation about "How was Tango Peninsula formed?" and "How to play and live in Tango Peninsula". They presented that the disasters by major earthquakes would trigger a development of a stronger and safer town. They also present their ideas that they want to prevent the erosion of Amanohashidate while maintaining the natural scenery and protect a good place in Tango area. Their presentations shows that children had deeply considered through the event.

After the event, we conducted a questionnaire for children who participated in the event. As a result of the questionnaire, more than 80% of the participants answered “good” for all of the four experiments. This indicates that children were highly interested in the experiment. In addition, nineteen participants out of 20 (95%) responded “good” for the observations of the Gomura fault, which indicates a high level of interest in various phenomena such as active faults and large earthquakes.

This event is a good opportunity for children to learn about the local environment and disasters by interacting with nature.

