

Interdisciplinary approaches on conservation of underground geoheritage for community development of Taya Cave and its adjacent area

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TAYA Cave is an underground geoheritage locating in a Buddhism temple of Shingon sect, Josen-ji, south Yokohama, Japan. The cave is supposed to have its origin in the Kamakura period about 800 years ago, and then been used for religious trainings for priests. After opened to public in Edo era, a certain number of general people visited there. It was registered as a cultural property of Yokohama City in 1990. The cave originates in Kamakura period over 800 years ago. It was made by digging with human hands to shape a tunnel-like three-layer structure. More than 300 beautiful bas-reliefs are existed on the walls. However, those artifacts have been damaged due to deterioration or weathering. We are facing to urgent problem to preserve it to inherit in the future.

The authors have been trying to preserve this cave for four years. *The Executive Committee for the Preservation of Taya Cave* was established to make 3D digital data of this underground cultural property. In order to outline the approaches, three practical trials were carried out. The first one is dissemination of basic conditions of the cave from the viewpoints of earth science such as geology, geography and geotechnics to local people. Throughout of this activity, environmental characteristics of Taya Cave will be understood quantitatively. The second one is to understand regional culture and environment by interpreting regional history appearing on fundamental survey of bas-relief. The third one is to consider the possibilities of city planning with considering various regulations existed in the real society and environmental regulations. By comprehensively advancing these activities, urban rural area will be able to develop and gain vitality. The present study reports the results of these multidisciplinary practical trials carried out so far.

Keywords: Preservation of cultural property, underground heritage, multi-field joint basic survey, regional cooperation, Elementary school - University collaboration, TAYA Cave

