

Re-discovering the Lake Towada area as a geological heritage: A key to the revitalization of the local community

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In Japan, there are many areas where unique geological features have nourished the areas' distinct ecosystems and cultures. In order for such areas to attract people, it is important to promote the touristic and educational value of geological heritage, as well as natural and cultural heritage. However, the significance of geological heritages can sometimes be "forgotten" by the local communities, leaving the intriguing geological processes behind the landscape be untold. Understanding these fundamental geological processes can help local communities to "re-discover" the true values of that area, gain a sense of pride, and utilize geotourism in boosting local economies.

As a part of the University of Tokyo' s program, we visited Lake Towada area in Aomori and Akita prefecture to find clues in revitalizing the local community. With its magnificent landscape created via volcanic activities (e.g. Lake Towada), distinct ecosystem (e.g. bryophyte community in Oirase Gorge), and unique style of living co-exist with nature (e.g. cultivation of Kokanee salmon in Lake Towada), Lake Towada area is an ideal place to learn and appreciate the dynamics of the Earth. However, we realized that the existing educational and touristic activities in the area mostly featured the cultural and natural aspects, and rarely focused on the geological aspects of the area.

Therefore, we organized a special class at a junior high school in the area to demonstrate the educational value of the geological heritages in the area. We explained the formation process of Lake Towada and Oirase Gorge through vivid illustration and simple, easy experiments (e.g. caldera formation experiment using cocoa powder). We also surveyed about the impression of the class. Based on the results of these activities, we discuss some scenarios to maximize the educational and touristic values of geological heritages in the Lake Towada area, to revitalize the local communities.

Keywords: Regional revitalization, Lake Towada, Geotourism