

## Issues among conservation on local level -Through the case of Hakusan-

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Conservation of local natural environment including geological or geographical features is essential to sustainable local development using local resources. In Japan, international programs such as biosphere reserves (for ecosystem conservation) or geoparks (for geoconservation) are carried out in the local (municipalities') level. It seems that promotion for conservation at local level is prepared, but in actual fact the efforts has not always succeeded. In this presentation, an attempt will be made to arrange the issues among conservation on local levels through the case of Hakusan from two points: the social situation and natural environment in Japan.

### 1. Social situation

Biosphere reserves focuses on the three functions; conservation, development, and logistic support, while geoparks focuses on conservation, education, and sustainable local development through geotourism. Conservation is a common element among these two.

But in Japan, even biosphere reserves or geoparks don't carry out so much conservation activities. In contrast with education or development activities, conservation activity tends to be passive which restricts someone to do something. To restrict someone, you need a legal framework. In Japan, most of the legal frameworks related to conservation are under the control of national or prefectural governments.

For example, there are some natural parks in Hakusan such as Hakusan National Park or Hakusan Ichirino Prefectural Natural Park. Moreover, there are some protected forests such as Hakusan Forest Ecosystem Reserve in the national forests. But these are managed by the national or prefectural governments, so municipalities' governments could not set up or manage them on their own.

In addition, some of the locals are not sure what to do as conservation activities. In many cases, conservation activity tends to be thought as an activity to spread the idea of conservation. But in these cases, it is hard to distinguish conservation activities from educational or public awareness activities.

### 2. Natural environment

Japan locates on a mobile belt, where four plates bump each other, volcanoes are active, and earthquakes occur frequently. Moreover, there is high risk of land disasters or snowslides because of the high precipitation, especially heavy snowfall on the Japan Sea side. For example, in Hakusan, a settlement was buried under the ground due to the land disaster which occurred in 1934.

Concerning on conservation at such a changing earth, a doubt comes up: what should be preserved? In Hakusan, because of the volcano and snowfall, sediment discharge is constantly occurring. Considering the huge land disasters occurred in the past, the construction of erosion control dams (*sabo*) has been carried out to protect the residents' lives. This construction should be against the concept of conservation, since human is stopping the sediment discharge. On the other hand, concerning on the safety of residents' lives, it is difficult to deny *sabo*. Besides, it may be said that *sabo* is keeping the stability of the earth in the point of erosion control.

There is a dilemma in ecosystem conservation too. In Hakusan, lowland plants are invading the alpine zone by their seeds carried by the climbers' shoes. They breed and encroach on the niche of alpine plants. In Hakusan, removal of these lowland plants is carried out currently. This removal is in accordance with the concept of conservation from the position of alpine plants. But from the position of lowland plants, it could be said that a newly acquired niche was taken away by human, resulting some residents to be negative with this removal.

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