

Sport Events And Tourism

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Volcanic Eruption And Winter Sports: Focusing On Risk Management For Skiers And Snowboarders

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Aim of abstract

Japan is a mountainous country where mountains occupy approximately 75% of the narrow country. There are about 400 ski resorts utilizing these mountain resources, and approximately 4.8 million skiers and 2.9 million snowboarders enjoy competitions.

Participation has declined to half of the peak, but the trend shows a moderate recovery. In addition, the promotion of sports tourism that Japan has developed in recent years attracts travelers from abroad, especially from neighboring Asian countries where winter sports resources are unavailable.

However, many of the steep mountains are volcanoes, and they are subsumed in the risk of eruption disasters. Therefore, in this study, focusing on preliminary crisis management behavior, we will make recommendations for disaster reduction during winter sports events by investigating the educational activities of competition groups against the risks of eruption disasters and the awareness of risks, targeting skiers and others.

Literature review

Since mountain climbing in winter has high risks, there are many studies about it including legal papers that verify the responsibilities of administrators after accidents. However, the studies related to safety management at the time of natural disasters are limited in number, such as Sakatani and Imura (2014). Peters and Pikkemaat (2005) described the importance of crisis management for sports tourism in the Alps in chronological order and pointed out that an avalanche accident arose from the lack of advance warning information. Bird and Gísladóttir (2014) thought that the education and training for disaster prevention provided by the Disaster Measures Bureau were important to the risk management of tourism in South Iceland and introduced a case study of a notification system for eruption disaster information on a mountain trail.

Methodology

In this study, we used a combination of qualitative and quantitative methods. Specifically, in order to clarify the efforts of sports organizations for disaster prevention and disaster reduction, we adopted the depth interview, targeting the members of the mountaineering federation, qualified leaders of ski and snowboard, and the staff of a disaster prevention-related department in a local public organization. At the same time, using the semi-structured interview with respect to the risks in mountainous areas in winter, we created 22 survey items consisting of six quadrants; which are composed of three dimensions in chronological order: time before the mountain climb, the day before entry, and at the time of entry; and two factors derived from environment and behavior with reference to the risks of mountains in winter on the basis of our findings and along with the literature from prior studies. After examining content validity again with the mountain-related staff, we conducted by direct distribution and collection a survey with a questionnaire targeting the ski resorts included in an eruption hazard map of the survey area. The collected questionnaires number 242 (valid response rate: 93%). Each surveys conducted from June to December in 2016.

Results

First, from the questionnaire survey, the submission rate of mountaineering notifications was extremely low at 6.2%. Next, as a result of the factor analysis of 22 risk items on mountains in winter by maximum likelihood method and pro max rotation, four factors were extracted and were termed as "recognition of disaster ($\alpha = .90$)", "preparation for disaster ($\alpha = .74$)", "correspondence to change ($\alpha = .92$)", and "grasp of locations ($\alpha = .79$)". As a result of comparing each subscale score at the level corresponding to ski sliding days, a significant difference between the groups was observed in all cases (recognition of disaster: $F(4,237) = 4.209$ $p < .01$, preparation for disaster: $F(4,237) = 4.506$ $p < .01$, correspondence to change: $F(4,237) = 3.449$ $p < .01$, grasp of locations: $F(4,237) = 5.698$, $p < .001$).

From the interview survey, the following items were clarified: there was no safety education, especially concerning the knowledge of disasters at the training session of the sports federation; there were delays in making foreign tourists aware of their manners, and providing assistance in foreign languages including course guidance; and people, especially in the accommodation industry, were concerned about harmful rumors.

Discussions

- It is important that local sports organizations including competition groups provide members and enthusiasts with information about the natural environment in the target area. This issue should be reconsidered including frequency.
- It is necessary that the organizations which promote tourism utilizing volcanoes should not be concerned about economic loss due to short-time rumors, and should keep their focus concerning crisis management on a daily basis. Specifically, they are required to provide information, especially in multiple languages, maintain the posting of notices, and to inform the behavior for crisis management.

References

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