Establishing an avalanche community and communication in Japan

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ABSTRACT: In any country, the process of establishing a community aimed at avalanche safety and the characteristics of the community are influenced a great deal by the social system, the culture, the business practice in the local recreation industry and the characteristic of the users. Since 2001, Japan Avalanche Network (JAN), cooperated with and following the example of Canadian Avalanche Association, has promoted information sharing and avalanche education in Japan and, in 2011/12 season, started to provide avalanche information on the basis of North American Public Avalanche Danger Scale. In that process, JAN launched its own information sharing system on the internet, “Snow BBS (snow condition bulletin board),” and have utilized the system as a tool for information sharing and avalanche education. This system plays an important part in establishing Japanese avalanche community and enhancing communication about avalanche danger.

KEYWORD: avalanche education, avalanche bulletin, avalanche community, communication

1. Introduction

Recreational avalanche safety measures are separated into three categories: (1) ones taken by individuals, (2) ones taken by cooperative people working in the same field and (3) ones taken by public agencies.

In Japan, when JAN was founded in 2000, recreational mountain organizations and groups of professionals have already provided avalanche education programs. Those programs, however, focused only on personal safety measures, not on information sharing and other cooperative measures.

And regarding safety measures taken by public agencies, Japan Meteorological Agency only issues/cancels avalanche alerts, i.e., provides no detailed information but an either/or choice, evaluating the danger only based on weather observation, partly because the priority for Meteorological Agency is to secure safety in residential areas but not in mountain areas. Other public agencies that own mountain lands, such as National Parks and Forestry Agency, provide neither avalanche information nor avalanche education. In other words, while public safety measures focus on protecting railways, roads and residents from avalanches, recreational avalanche safety in mountain areas has been ignored.

In these circumstances, JAN naturally chose to create a cooperative community of people engaged in mountain activities in order to provide avalanche information and develop avalanche education programs. Figure 1 is a conceptual diagram that summarizes a wide range of JAN's activities.

Figure 1. Conceptual diagram of JAN

JAN provides three types of avalanche education programs: (1) Avalanche Night, a 2-hour awareness event, (2) Safety Camp, a 2-day or 5-day recreational course that includes field sessions, and (3) Training School Level 1 & 2 professional courses.

All the programs are knowledge-based, designed to promote steady and effective learning progression. Safety Camps don't adopt rule-based approaches such as using cards, and the 2-day beginners course places emphasis on identifying avalanche terrain and using appropriate travel techniques in the terrain. Training School Level 1 is a week-long course to learn guidelines for data collection and avalanche
hazard evaluation. Level 2 is a 15-day training course composed of 3 modules for avalanche professionals who need to acquire advanced methods for condition assessment and decision making. As the Japanese partner of Canadian Avalanche Association, JAN designed the Training School programs based on CAA’s Industry Training Program.

The information sharing programs include Snow BBS on which people can post observation data of mountain snowpack conditions, SPIN, a snow profile database, and Study Plots. Snow BBS is equivalent to InfoEX in Canada. While InfoEX is not open to those outside the avalanche industry, JAN designed Snow BBS, its own system, taking into account the fact that there are many independent guides and small-scale operations in Japan but no large-scale heliskiing operations unlike in Canada. In addition, in 2011/12 season, JAN started to provide avalanche information in a standardized form with danger rating on a scale of 1 to 5, only in areas where a significant quantity of mountain snowpack data had been gathered and there are enough trained contributors.

As the conceptual diagram shows, JAN aims to create a community aware of recreational avalanche safety in Japanese mountains. The purpose of this report is to describe the role of Snow BBS in creating an avalanche community and facilitating avalanche communication.

2. Snow BBS
2.1 Overview
Snow BBS is an online bulletin board to which contributors post data observed and recorded according to standardized guidelines. Anyone who has access to the internet can browse Snow BBS. To post data, users are required to register in advance and they have to have received advanced avalanche training. At the moment, almost all the registered contributors have completed JAN Training School Level 1 or 2.

Information posted on Snow BBS includes weather conditions, snowpack conditions, avalanche activities, stability evaluation, comments, photos and also the altitudes of terrains where contributors traveled. The bulletin board started in 2006/07 and the number of postings increased after the system was fully developed in 2007/08.

Some data contributors to Snow BBS are individuals, and others are groups of people. For example, guide companies contribute information that they put together based on snow data recorded by more than one guide during tours organized by the companies. And individual contributors record data during their private tours and posts them as they are. Each piece of contributed information describes the contributor’s name, whether the contributor is an individual or a group and also the contributor’s background. JAN also runs a mailing list to which general users can register. The list is used to promote better understanding of data posted on Snow BBS.

2.2 Number of postings and contributors
Figure 2 shows the number of postings on Snow BBS and the number of contributors in the past five years. In 2009/10, the number of postings decreased much after March because record increase in temperature and rainfalls stabilized snow after the middle of February. In 2010/11, Great East Japan Earthquake also caused a significant decrease in the number of postings after March. Except those two periods, the number of postings has gradually increased.

![Figure 2. Number of data postings and contributors (2008/09-2012/13)](image)

The number of contributors here is the number of those who actually posted information. The number of registered contributors is larger by 20% than that of contributors. Registered contributors who have not posted data are those in training. The ratio of professional contributors to recreational contributors is 7:3 and the ratio of postings by professional contributors to postings by recreational contributors is 9:1. Professional contributors include mountain guides, ski patrol and avalanche researchers. Most recreational contributors have completed Level 1 training course and they are backcountry enthusiasts who ski 40 days or more in one season.

2.3 Number of postings separated by mountain areas
Figure 3 shows the number of data posted in the past five years separated by different mountain areas. Daisetsuzan / Furano and Niseko / Sapporo / other are in Hokkaido. Those two
areas show the most significant increase in the number of postings in these few years, though it is much smaller than the number of posting in more popular areas such as Hakuba, Nagano Prefecture. Hakkoda / Hachimantai and Zao / Fukushima are in Tohoku. In those areas, the numbers of both postings and contributors are very small. One of the reasons is that there are less steep mountains in Tohoku. And there are less mountain users in the area.

By contrast, in Tanigawa / Kagura, the area very accessible from the Greater Tokyo Area, there are many professional and recreational visitors, which resulted in a lot of data recorded and posted on Snow BBS. The same is the case in Hakuba, the area that attracts many visitors from Osaka, Nagoya and other big cities in western Japan and that has many guide companies and independent guides.

![Figure 3. Number of data postings separated by mountain areas (08/09-12/13, n=2412)](image)

2.4 Percentage of data postings per day of the week

Figure 4 shows the percentage of data postings per day of the week.

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On Saturdays and Sundays, there are twice as many postings as on a weekday because independent guides and guide companies have more clients in weekends and therefore organize more tours. The reason why there are slightly more postings on Wednesdays than on other weekdays is that many people in some service industries have a day off on Wednesday, which leads to a slight increase of guided tours.

2.5 Enhancing Communication

JAN head office reviews all the postings. In case that any ambiguity is found, JAN contacts the contributor and helps clarify the posted information while temporarily suspending the posting. JAN also has email and telephone support systems for newly registered users. All the contributors are registered to a mailing list which is solely used to ensure that the guidelines are followed and to inform the users of corrected descriptions in postings. The mailing list is also used for discussion, for example, when noteworthy instability of snowpack is reported on Snow BBS.

Through this communication, JAN makes sure that contributors post correct data, that they appropriately record data, that they evaluate conditions based on reliable data, and that they don’t make assumptions based on weak data. It is essential for guides not well-trained in scientific approaches to learn to be skeptical in such a healthy way and give importance to “Strength” and “Weight” of the basis for judgment. JAN also provides field training courses for registered contributors, “Update Courses.” And after the end of the season, that is in the end of May, JAN organizes “Avalanche Meeting,” a gathering only for avalanche professionals. In the gathering, JAN encourages and supports registered users to make presentations on noteworthy incidents and unstable snow conditions observed in the season.

In some mountain areas, groups of guides attached to different guide companies conduct workshops together. While those companies compete against each other in business, they share snow information and experiences in the mountain. JAN encourages such active cooperation within communities of local professionals, which is an essential step to increase public avalanche safety in the areas.

3. Avalanche Information

In 2011/12 season, JAN started to provide avalanche information in Hakuba area, where a significant quantity of data had been gathered and posted frequently enough on Snow BBS. What
enabled JAN to launch the service is wide-ranging cooperation from many independent guides with Level 2 certification and many guide companies, including but not limited to posting information on Snow BBS.

JAN provides avalanche information in a standardized form, rating the avalanche danger on a scale of 1 to 5 and describing the details according to North American Public Avalanche Danger Scale. In the past two seasons, JAN issued avalanche information only in weekends and also in the year-end to new-year holidays, because, there being not enough snowpack data available on weekdays, providing information based on insufficient data would never help enhance public avalanche safety.

Since JAN started to provide avalanche information, individuals who completed JAN's Safety Camp or Training School have sent avalanche activity data and other information through telephone or email, which has helped increase the quality of avalanche information provided by JAN. Though those individuals are not registered to Snow BBS, they had learned, through JAN's education programs, the way to collect the necessary information and also the purpose and significance of sharing it. This is one positive outcome of enhancing communication through the mailing list to which more than 2,000 general users are registered.

4. Issues to be resolved
In the professional avalanche community, establishing mentorship program is an important issue. It is one of JAN's important tasks to help independent guides to keep learning and growing, especially in case they don't have peers or seniors in the same area who have the same educational background. Besides organizing Update Courses and Avalanche Meetings, further efforts need to be made.

Regarding recreational avalanche safety, the top priority is to raise awareness among climbers. The number of climbers who participate in JAN's programs, avalanche courses and Snow BBS, accounts for only around 10% of all participants and the remaining 90% are backcountry skiers and snowboarders.

On the other hand, accidents data gathered in the past 23 years show that 47% of all recreational avalanche fatalities in mountains were climbers (Degawa, 2013) and 80% of those climbers were members of national mountain organizations or university mountaineering clubs or their alumni. To solve this problem, JAN is planning to provide avalanche courses for climbers in cooperation with the biggest national mountain organization in Japan starting this coming season. It is hoped that the program will prompt climbers not only to learn how to reduce avalanche risk but also to understand the purpose and significance of information sharing through utilizing Snow BBS.

Another issue that should be worked on is providing avalanche information in areas other than Hakuba. Even though it will take some time to start the service in those areas, it is essential, as preparation, to continuously enhance education and communication programs to facilitate recreational users' access to information posted on Snow BBS by professional guides.

5. Conclusion
While JAN has developed information sharing and avalanche education systems modeled after systems of Canadian Avalanche Association, it also has utilized Snow BBS, its own system designed to fit the unique circumstances in the country such as sizes of guide businesses. The efforts to foster human resources and at the same time to develop information services are slowly but steadily bearing fruit. It is hoped that JAN's approach will be used as a model in other countries that have similar circumstances.

6. References


7. Acknowledgment
All of those programs of JAN have been open to everyone. Information posted on Snow BBS is accessible to all users even if it includes clumsy descriptions. This is never easy for people who are not skillful in writing. JAN deeply appreciates that so many people are making such courageous and enormous contributions to public avalanche safety.