

Apprehension of avalanche risk and decision making process in a medium-high mountain range. The case of the Vosges (France)

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ABSTRACT: Mentioning avalanche risk in the Vosges generally causes a certain incredulity for this range of modest height and its irregular snowfalls. However, in January and February 2000, fifteen people were victims of avalanches and three of them died. These accidents suddenly drew people's attention to the fact that avalanche risks are underestimated. Indeed, this geo-historical research shows that more than two hundred and seventy events have occurred since the end of the eighteenth century. So, our choice was to study the risk factors associated with the apprehension of the avalanche risk in the Vosges. This apprehension participates to the process of decision-making that leads recreationists to expose themselves to avalanche risk.

KEYWORDS: avalanche, sluff, vulnerability, decision-making, medium-high mountain, representation.

1 CONTEXT

1.1 Representation of the Vosges range

Mentioning avalanche risk in the Vosges causes certain disbelief in the surrounding mountain area. Some Scientifics cannot imagine that avalanches, under an altitude of 1,500 meters, can be destructive or deadly. Indeed, as far as natural risks are concerned, and especially the avalanche risk, middle-high mountains are usually not much studied because the attention is focused on the spectacular and destructive phenomena of the Alps and Pyrenees, ranges where the hazards are globally more frequent and intense. Such is the Vosges range case.

So, we were directly confronted to an underassessment of the avalanche risk in the Vosges, while the risk is nevertheless real. Several factors contribute to this situation. This range culminates at 1,424 meters and, even though some places of the Vosges Mountains look like the alpine topography, most of the summits are rounded and covered in forests. That's why it is called "low hill". Now, people generally consider that a "low hill" is not dangerous. Besides, snowfall periodicity and snow height are annually and seasonally

irregular in this range. In the last past years, there was frequently not enough snow for skiing except in the winter of 2005-2006 and 2008-2009. Snow contributes to the representation of the mountain: therefore, for many people, little snow means low mountains and low mountains mean no risk of avalanche (e. g. Mottet). Moreover, the summits can be reached easily in winter thanks to the clearing of the snow from the roads and thanks to car parks on the summits nearby the areas which present a risk of avalanche. Thus, there is an important frequentation during winter and no need for mountain climbing, which induces an image of "easy mountain". Its rather modest height means frequent variations of temperature and alternation of frost/thaw and this can either consolidate the snow blanket or make it disappear fast. Finally, the local media plays an ambiguous role: sometimes it warns against the dangers of the medium-high mountain and sometimes it minimizes the risk by associating the terms "sluff" and "avalanche".

1.2 Consequences

The representation of the Vosges range as "low hills" results in a certain representation of the avalanche events. Indeed, the image of "easy mountain" makes us believe that avalanche events are either very small or even non-existent. The vocabulary used plays a role too. Indeed, many recreationists talk about "sluff" for the Vosges. This preferential use of the term sluff rather than avalanche shows a certain reserve to name and recognize the possibility of important or deadly avalanches. Indeed, there is a lack of knowledge, an ignorance or even a negation of the avalanches in the Vosges range.

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1.3 Actual avalanche events in the Vosges range

The results of this historical research exceeded all expectations. About 270 avalanche events have been reported since the end of the 18th century; they were located in about 90 avalanche paths (e. g. Giacona, 2002). 4 departments and 3 regions are affected by risks, even though most of the avalanche events took place on the upper Rhine side.

2 VARIOUS APPREHENSIONS OF THE AVALANCHE RISK

Several categories of people were questioned: professionals – ski resorts, ski schools, medium-high and high mountains guides – and amateurs of backcountry skiing and hiking.

1.1 Who is exposed to the risk?

Experienced winter sports adepts stigmatise novices and tourists, particularly snowshoers. They contrast their knowledge of the mountain with the ignorance of the new recreationists. Indeed, some of them even point to the fact that other adepts endanger themselves more than they do and that new recreationists constitute a danger because they don't care about the other winter sports adepts.

Risk is more or less accepted by winter sports adepts: some of them are aware of the risk but don't take it into account and others deny it. For example, some avalanche victims tend to shift responsibility onto others, they deny the possibility of having started the avalanche! This mechanism certainly contributes to a minimization of the risk for oneself and to a shifting of the risk (e. g. Peretti-Wattel, 2000). Finally, it seems unthinkable that the experienced winter sports adept may be a victim of an avalanche event in this range as he has acquired a certain experience, in particular in the Alps, and knows this range and its dangers.

1.2 Do people suffer the risk or do they choose it?

The risk exposure is especially linked to the range representation as "low hills". People think "low hills" are not worth enquiring about the risk. So, the lack of knowledge is linked to an unconscious risk underestimation. In this situation, it is not possible to talk about "suffered risk".

Besides, some skiers know about a potential risk of avalanche but do not imagine that the avalanche events can be dangerous. They are not really conscious of the risk, so they do not take it into account.

3 WHICH CONSCIOUSNESS OF THE DANGER?

1.3 Construction

The construction of the knowledge and of the consciousness of the risk is confused. It has been elaborated gradually in time and comes from various origins. Furthermore, it is difficult to disconnect Vosges consciousness from alpine consciousness: there is a geographical confusion. When these winter sports adepts have an alpine experience, it is sometimes impossible to determine if they are aware of the Vosges range specificity or if they reproduce an alpine mechanism.

1.4 Experience: a triggering factor

Oral statements concerning the sudden awareness of the risk point to experience as a triggering factor. Indeed, observation is not enough to induce awareness; the knowledge of the historical account of the avalanche accidents is relatively limited (e. g. Peretti-Wattel). Moreover, even if an important event can influence the apprehension of the risk, if there is no accident for a long time, the risk can be forgotten.

4 CONCLUSION

Risk-taking does not always mean consciousness and acceptance of the risk. Various elements make people minimize the risk. By calling the avalanches in the Vosges "sluff", people obviate the risk. This "disappearance of the risk" is, in this context, probably owed to the fact that the object mountain is differentiated from the object avalanche, while they are usually associated (e. g. Reyt, 1997). But, in some cases, experience may induce an association of these two objects again.

The decision-making partially depends on the consciousness of the risk. So, if there is no consciousness of the risk there, there is no, or very little, decision-making. In that case, people don't hesitate: "Shall I go there or not?" However, some experienced winter sports adepts are conscious of the risk and say they calculate the risk before leaving. In that case only does decision-making play a role.

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