Model of high-mountain hiking trails (*via ferrata* type) in Tatra National Park – A comparison between Poland and Slovakia in the context of the Alps

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The main concern of trail management in protected areas is to minimize its environmental impact (Marion & Leung 2004). Usually, four groups of indicators are mentioned as determinants for successful trail management: Apart from environmental indicators, there are political, economic and social variables (O'Connor Gotra & Boyle 2006). There are, however, relatively few studies on the management of high-mountain trails where the factor of safety and risk management is of crucial importance in planning and managing. Also, the extent of park managers' responsibility needs to be ascertained (Eagles, McCool, Haynes 2002).

Hiking trails in high-mountain environments often leading through steep slopes and cliffs as well as sharp ridges. Consequently, these routes are frequently equipped with different "facilitations", such as ladders, chains, fixed ropes, buckles and bridges. These "facilitations" are designed to aid movement in difficult rocky terrain as well as enhance the self-protection of visitors. The latter requires usage of special equipment, such as helmets, harnesses and lanyards with energy absorbers. The number of facilitations, level of difficulty, skill level required by visitors, as well as the regulations concerning risk management, accessibility and nature protection vary significantly between particular trails.

The first trails of this type, called *via ferrata* or kletter-steig, were constructed in the Italian Dolomites. Nowadays, there are many *via ferratas* throughout the Alps and in other European mountains. There are also a few sections of such trails in the Tatra Mountains, the only high-mountain range in Poland and Slovakia. These areas are protected as a national park (1949, 1954), biosphere reserve (1992) and Natura 2000 site (2004). *Via ferratas* comprise approximately 2% (20 km) of the total length of hiking trails in the Tatra Mountains. The only long-distance *via ferrata* is Orla Perć (Eagle Path), which was established in 1903-1906. This trail is part of Polish cultural heritage and attracts numerous tourists.

Visitor flows on the most frequently visited high-mountain trails in the Polish Tatra can exceed 500 people per day (monitoring carried out in 2010), which posies a real threat to visitor safety. The number of visitors on trails in the Slovakian Tatra is significantly lower. Due to the high number of deadly accidents on *via ferratas* (reaching 20 people in the last decade), there is on-going debate on how best to manage these trails. The national park managers, tourists' organizations, rescue service, mountain guides' associations and local authorities are involved in this decision-making process. Risk management in protected areas in Poland and Slovakia has not been an important issue so far, thus there is a strong need for scientific support for this process.

The aim of this study is to analyse key parameters of the management of high-mountain trails in both countries (fig. 1). The environmental factor is comparable; all *via ferratas* are located in the core zone of the national park with the highest level of nature protection. This restrains the possibilities of enhancements of existing trails and establishing new ones, although local authorities typically want such expansion because it can attract more visitors.

The legal regulations seem to be the crucial determinant. According to Polish law, national park managers are responsible for visitor safety, whereas in Slovakia the extent of responsibility is not formulated so strictly. This results in differences in the management model for high-mountain trails. Typical high-mountain trails in Poland are fully equipped with chains and buckles, while in Slovakia such facilitations are significantly sparser. However, both models do not allow proper visitor self-protection. The chains (as opposed to fixed ropes) are not designed to be used with lanyards and energy absorbers. The latter model is popular in the Italian Dolomites and on many *via ferratas* in France and Germany. In Slovakia the adequate safety level is ensured by the obligatory assistance of a mountain guide, however, this strategy is questionable. The required use of guides is also lobbied for by mountain guide associations in Poland and these groups seek to change the high-mountain trail model and replace chains with fixed ropes. While this change may improve visitor safety, it will also attract more customers for mountain guides. There are also different protocols for the rescue service in both countries. All rescue actions in Poland are financed by the national insurance. In Slovakia an additional insurance policy is necessary, thereby placing more responsibility directly on the visitor.

One of the main obstacles in changing the model of high-mountain trails is the lack of support from tourist organizations and individual visitors. In a simple poll conducted on the national park website, most respondents expected to maintain the existing model. The national value of such trails and an apprehension of limited accessibility of the high-mountain trails were frequently offered as an explanation.

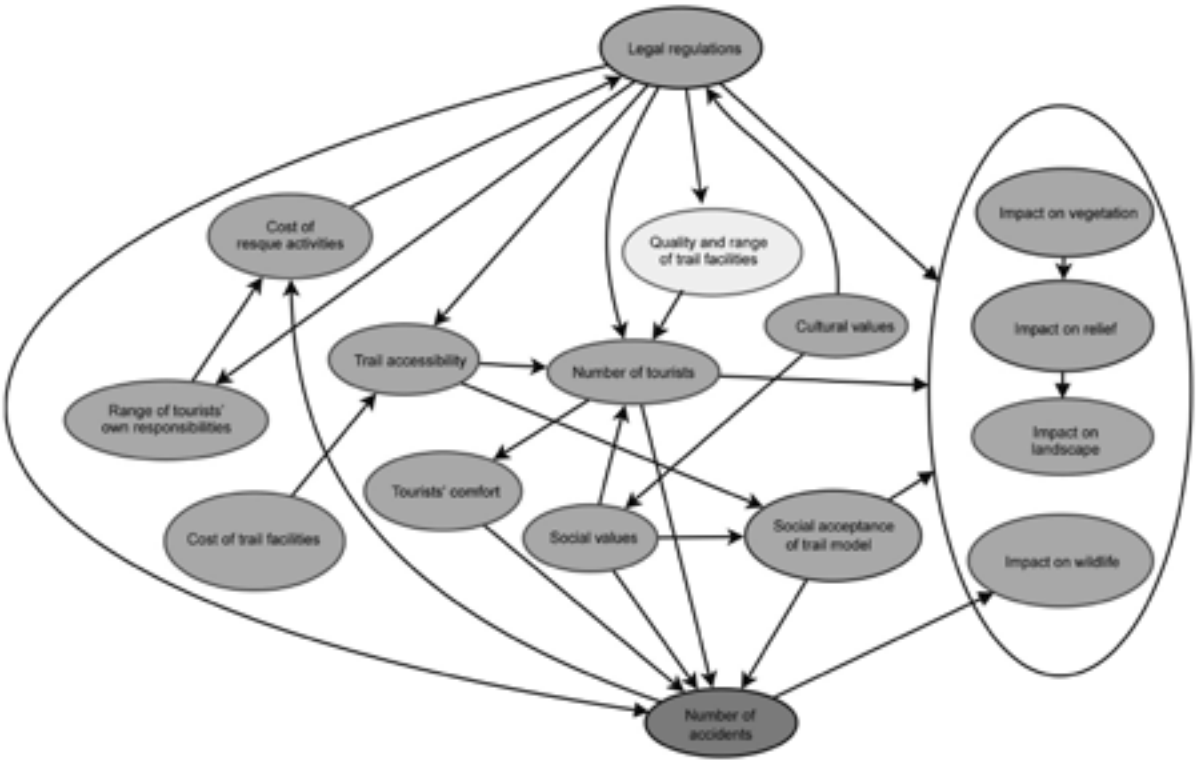

Figure 1. Determinants of the high-mountain trails management

Eagles, PF, McCool, SF & Haynes CD 2002, Sustainable Tourism in Protected Areas. Guidelines for Planning and Management, World Commission on Protected Areas, The World Conservation Union, Best Practice Protected Area Guidelines Series, 8.

Marion, JL & Leung, YF 2004, 'Environmentally Sustainable Trail Management', in Buckley, R (ed.) Environmental Impacts of Ecotourism, CABI Publishing, Wallingford, pp. 229–244.

O'Connor Gotra, SH & Boyle, KE 2006, 'Sustainable Trail Management, Definitions and a Management Model', in Siegrist, D, Clivaz, C, Hunziker, M & Iten, S (eds.), Exploring the Nature of Management. Proceedings of the Third International Conference on Monitoring and Management of Visitor Flows in Recreational and Protected Areas, University of Applied Sciences Rapperswil, Switzerland, 13–17 September 2006, pp. 173–178.