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The introduction to the issue of specialised hiking trails in relation to development of mountain biking in the world, in Slovakia and in Central Europe

Introduction

Mountain biking was established in Slovakia in the last decade of the 20th century. In terms of etymology, it is perceived either as the sports branch of biking, or as one of the latest and the most dynamically growing forms of hiking activities. The popularity of mountain biking in Slovakia is the result of very attractive natural features of Slovak highlands, which cover the major part of the country (i.e. 55.1% of the area, although according to older literary sources mountainous area covers about 59% of the area (e.g. Lukniš 1972) and according to vegetation zones, R. Midiriak (2005) claims, that the mountainous area covers only 13% of the land) and consistently improving social-economic conditions of most people. However, our experience and the original research show that even though there are several different techniques of mountain biking, only a very small and specialised group of mountain bikers is interested in biking in inter-mountain and mountain areas.

The aim of this study is to show the potential of Slovak highlands for mountain biking, its historical and geographical coherence of progress, the potential of hiking trails network, and the efficiency and ecological capacity of building singletracks for the use of mountain biking.

Not only huge experience, but also heuristic methods, methods of historical and geographical research, expertise methods, SWOT analyses and comparable methods are applied in the study.

The origin and development of mountain biking

The history of mountain biking started in the USA in 1973. Three biking fans, Gary Fisher, Charles Kelly and Joe Breeze, moved from a hippies' group in San Francisco to the mountainous rural surroundings of Fairfax. They began to enjoy riding the steep up-hills. Moreover, they began to use not only huge modified bikes on the slopes of Mount Tamalpais, but they also altered them later for cross-country riding (Muntág 1993).

After accepting Tom Richie into the business, the first two companies producing mountain bikes have been established – Ritchie and Specialized. Technical requirements of the bikes determined the first subgroups of biking techniques: mountain bike (MTB) and all terrain bike (ATB). These technical subgroups gradually expanded in a way to be able to provide appropriate sports, technical equipment for all areas accessible for hiking and their users. As a result, several biking styles exist nowadays among bikers (both tourists and trained bikers) including: cross country (XC – widely understood mountain terrain), enduro (bikers mainly riding short circles with fast rides and overall sprung frames), downhill (mainly focused on downhills), but also the combination of types mentioned above (e.g. fixed track with soft terrain involved preferred by the so-called cross hiking bikers, the ride on made-up built circle, the so-called BMX, or the so-called freestyle riders with acrobatic stunts).

The origin of mountain biking was influenced by these important factors:

1. The “back to the nature” movement. “Green thinking” became very popular in the USA, especially after the social mare of the Vietnam War and the first wave of the oil crisis.
2. Development of new technologies. New technologies allowed the construction of durable and lightweight bikes, made for riding in the harsh terrain. Furthermore, new technologies of sprung bikes and lightweight hi-tech frames, e.g. carbon ones, have been applied.
3. Mass motorization, which originally pushed road bikers and mountain bikers off the beaten track and off the most frequented and dangerous roads out to the wilderness.
4. The business success and management technology, mainly of

Japanese companies (Shimano), which have engrossed the production of biking accessories and globalized their sales.

Interconnection of particular networks became organized. Influential, public sports associations and organizations were established gradually. They focused mainly on marking the hiking trails, their building and maintenance (single-...), organization of events, popularization of mountain biking etc.

The first organizations, which focused on mountain biking in the world, include North American IMBA (International Mountain Bicycling Association) established in 1988. The membership can be obtained within particular divisions in the USA, Canada and abroad and through online registration at www.go.imba.com. IMBA's main goals include: building new specialised trails, trail supervision, public relations, organization of bike camps, training etc. Additionally, many others non-profit, public associations and organizations, which support the progress of mountain biking, developed in the USA. One of them is MTF (Mountain Trails Foundation), founded in 1994, whose main aim is building, maintaining and popularizing hiking trails and paths among all tourists.

A similar organization called ČEMBA was established in Czech Republic in 2007. In Slovakia there is SloMBA (Slovak Mountain Biking Association) founded in 2008 and located in Prešov. The historical predecessors of SloMBA include mainly the mountain biking clubs. They were established in 1989, when the first mountain bikes were imported to Czechoslovakia. For example, C.B.S. MTB club in Vrútky was founded in 1992 (Vojtanovská 1996). After the rebirth of democracy in the region, many new biking groups have been established in the first decade of this period, including BB bikers in Banská Bystrica (www.bbikers.sk). SCK (Slovenský cykloklub), located in the western Slovakia, was founded in 1994. It focused mainly on mountain biking activities. One year later, the first Dubnický MTB biking tour took place and was registered as an official MTB tournament.

Singletracks – specialised hiking trails

Tradition of marked hiking trails in Slovakia dates back to the Austro-Hungarian Empire. The first hiking club was established in 1863 in

Banská Štiavnica (Slimáková 1972). Nowadays, there are nearly 900 kilometres of marked hiking trails in Slovakia. A quarter of them is used very intensively by mountain bikers.

Biking singletracks started in the USA with the beginning of mountain biking. Their origin is similar to that of walking and horse paths. The hope for success made the woodsmen from Scotland and Wales build the biking trails ten years ago. ČEMBA summarized the five most important reasons for building singletracks:

- more nature,
- more fun,
- more ride,
- longer opening hours,
- more security.

The trail is 1.8 meters wide and is set on natural surface. It can never rise more than the half of the gradient of the down-line and the sector of the trail would never have the overall slope gradient of over 15%. The crown of the path is entirely gashed into the hill and it is slightly declined in a vertical way to take away the water. The path frequently changes its gradient and direction in a short sector on its way down. It protects the water flow not to take the speed, which causes the erosion. This type of trail also controls the speed, with which the bikers can move.

Singletrack is cheap to maintain, if properly made. It requires minimal maintenance. One kilometre of an asphalt biking trail can cost more than three million Slovak crowns. One kilometre of a singletrack may cost 100–300 thousand, depending on the type of surface. Singletrack harmonizes different various groups of users, bikers, and walkers alike. There are no restrictions, nor regulations needed. Bikers can ride only with such speed, which does not threaten other users of the trail. Singletrack represents the minimal impact on the natural processes. It grows with age and becomes part of nature, too. In Slovak and Czech conditions, singletracks are most similar to the old hunting trails. These follow relatively low slope gradients that are not very physically demanding for the hunters. On the other hand, high-tech singletracks are designed in a way to please body and soul of a mountain biker. They are more technically demanding and visually attractive.

Methodology of building, structure, maintenance and usage of single-

tracks is highlighted by IMBA members through national MTB associations and clubs. Pictures taken during the studies of H. Hermanová (2007, 2008a, b) and from ČEMBA and SloMBA websites illustrate the structure and advantages of singletrack usage in mountainous areas.

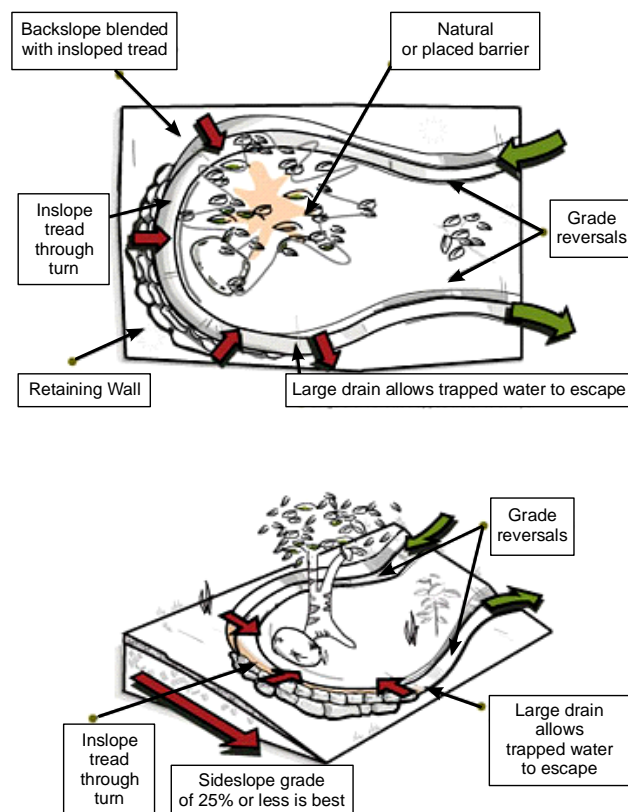


Fig. 1. Structure of a singletrack (Hermová 2008)

The best conditions for the development of international level mountain biking in Czech Republic and Poland can be found in the Krkonoše area. In the summer of 2009, the author personally presented the study documenting singletracks' status in Krkonoše. A particular problem for mountain biking was identified in Czech Republic – most hiking trails (including hiking to Sněžka) are closed for MTB.

However, in Slovak conditions it is also very important for the value of active mountain hiking so that the roads of industrial use provide mild

conditions for mountain biking or walking. Hiking trails would have to be maintained on natural surfaces, which is one of the basic features of singletracks (Hermová 2007, www.slomba.sk).

It may be stated that the word singletrack involves:

- specially built hiking mountain biking trail, which has to protect both natural environment and bikers alike;
- methodology of building, maintaining and usage rules of the trails.

The first singletracks in Slovakia include sectors of the Suchý vrch trail (738 m a.s.l.) situated in Kremnické vrchy, approximately 3 km north-west of Banská Bystrica.

Mountain biking regions – introduction

As it is seen from the historical perspective of MTB activities' development, the first regions attracting hiking bikers have been formed in the USA. Apart from California, mountain biking expanded to the huge area known as the Rocky Mountains (Rocky Mountain National Park, New Mexico, Utah, Colorado, Wyoming, Idaho, Montana and Canadian Rockies). Alaskan mountain regions are also very popular among the MTB enthusiasts. Moab, Park City Mountain Resort, Boulder, Nederland, North Star at Tahoe, Anchorage, Nome and others represent the most important biking resorts in the USA.

In Europe, the Alpine regions dominate. MTB is very common in Ötztal, Stubai Alps, but also in Hohe Tauern and the Dolomites.

Approximately 5 million visitors travel to Lago di Garda region in Italian Dolomites every year. 3 million of them are particularly interested in mountain biking activities. The rest focuses on windsurfing, hiking, agro-tourism and cultural tourism. The most popular MTB resorts in Europe include Riva di Garda, Torbole, Malcesine, Nago, Arco, Limone sul Garda and others. This region is particular because of the fact that most bikers come from Germany – approximately 60%.

The Germans, as foreign tourists, are characterized by heterogeneous scale of recreational behaviour. We have to perceive the German bikers from the point of view of final destination. The outdoor activities, including mountain biking, are performed only by about 11% of the Germans.



Fig. 2. Singletrack in a tourist trail Sněžka – Černí Důl – Pec Pod Sněžkou
(photo: P. Čuka)

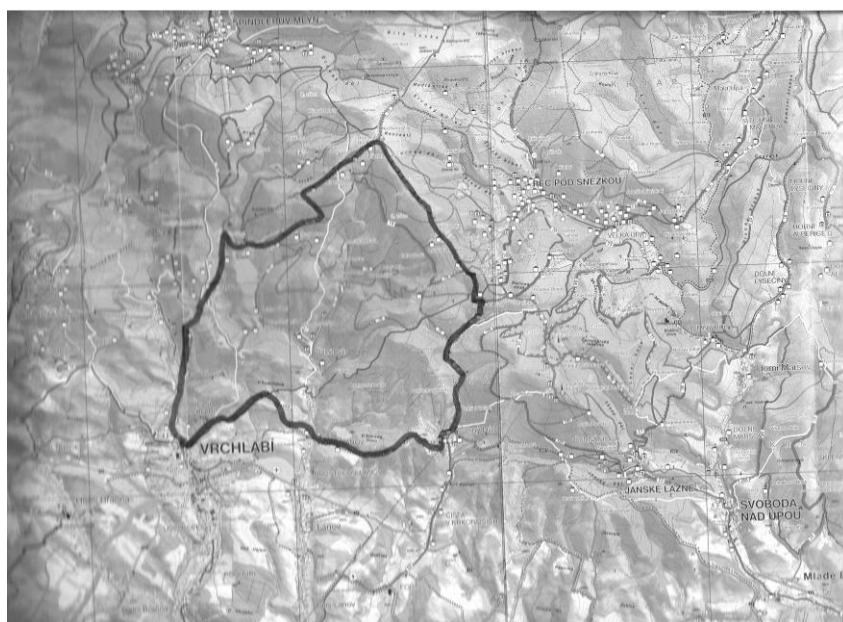


Fig. 3. Example of a singletrack in Krkonoše Mountains in the border area (Poland/Czech Republic) (based at *Tourist Map Krkonoše 1:75 000*, Praha Wander 2008)

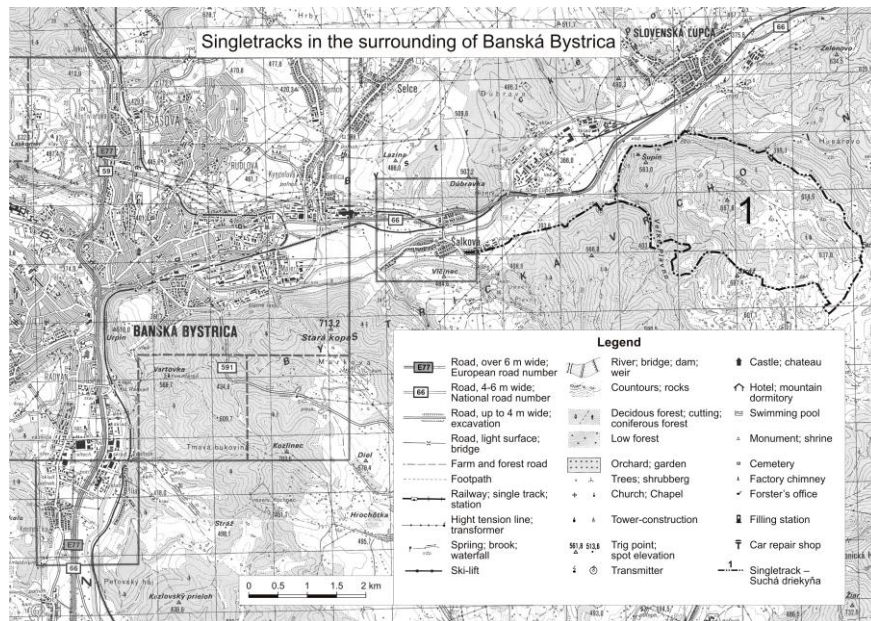


Fig. 4. Singletracks in the surroundings of Banská Bystrica (field study)

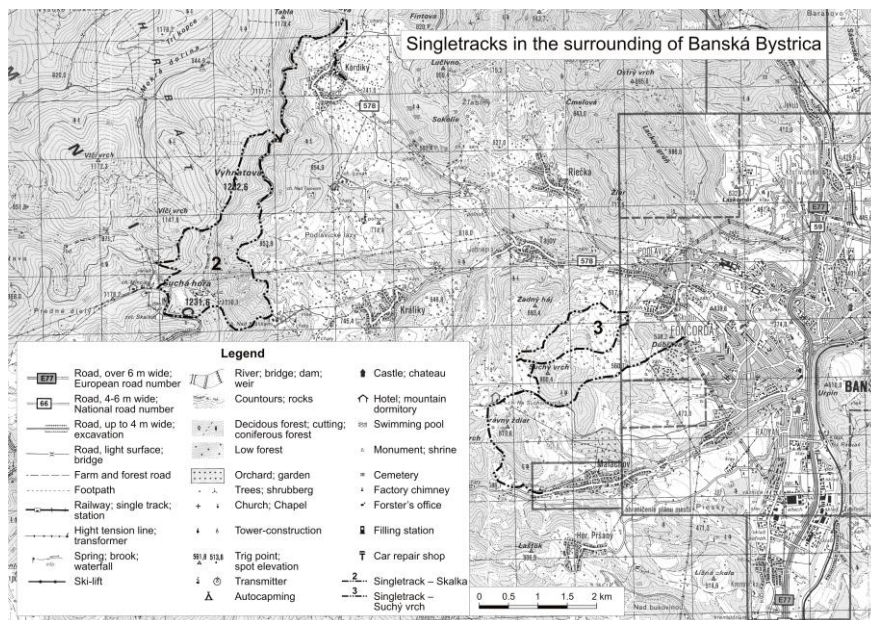


Fig. 5. Singletracks in the surroundings of Banská Bystrica (field study)

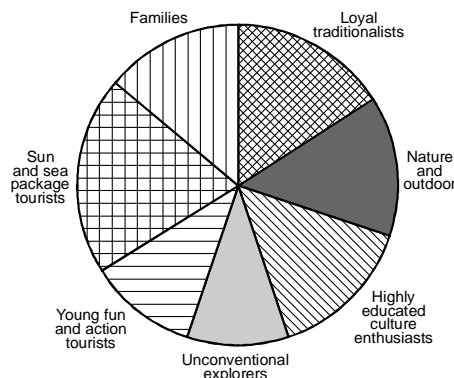


Fig. 6. Typology of German tourists' activities (*Environmentally friendly travelling* 2006)

The most promising regions for the development of MTB in Slovakia are the areas of big basin cities with mountainous surroundings. These are mainly: Banská Bystrica, Žilina, Prešov, Zvolen and Martin.

Slovakia is known for the fact, that the most attractive and the most visited mountain range, the Tatras, does not have a potential for MTB development. MTB is completely absent in the Eastern Tatras, especially in the Belianske Tatras, due to law restrictions of the NAPANT National Park. Other parts of Tatras are practically not accessible from the point of view of relief and the concept of hiking and MTB trails.

The surroundings of Banská Bystrica are very attractive for the MTB activities. Kremnické Mountains, Strarohorské Mountains, Veľká Fatra and Poľana are typical for their relief variety and relative heights of over 1200 meters (for example Ostredok – 1592 m above sea level). All the mentioned orographic forms have high density of marked hiking trails and MTB trails. MTB trails are concentrated mainly in Kremnické vrchy in the mountain range of Vyhnatová (1282 m), Suchá Hora (1231 m), Zlatá Studňa (1265 m) and Velestúr (1254 m a.s.l.). In the former mining towns and villages, there is a dense network of mining roads with solid surface – for example Polkanová – Piesky – Panský diel (1100 m a.s.l.). In the area of valley villages, such as Harmanec, Tajov, Králik or Riečky, there is a dense network of asphalt, forest roads. Some of them offer particularly interesting activities for mountain bikers, e.g. Moštenica – Kalište, Donovaly – Polianka, or Banská Bystrica – Kordíky. There are about 250 km of marked hiking trails that can be used for MTB activities in the Banská Bystrica surroundings.

Some suggestions for the MTB development in Slovakia

From the point of view of SWOT analysis, the present MTB development in Slovakia is influenced by some basic factors.

The advantages are mainly: natural conditions of Slovak highlands, dense network of hiking trails, network of marked hiking trails, development of biking trails and singletracks, organised business-service network for MTB enthusiasts.

One of the biggest disadvantages is the unfavourable legislation. The law 61/1977, especially paragraphs §52, §30, §31 of forest law from 2008, is very restrictive.

The opportunities for development of mountain biking in Slovakia mainly include the public involvement of groups interested in MTB and the possibility to gain financial aid from EU structural funds.

There are also threats for the MTB progress, especially in inadequate public relations. Some magazines published in Czech Republic popularise mountain biking and hiking as ecological forms of tourism (Velo, Peloton, MTB, etc.). On the other hand, such positive propaganda is missing in Slovakia.

The popularity of mountain biking has influenced the edition of mountain biking maps. Biking trails are marked on the maps. The trails are described with two features – total length and slope gradient.

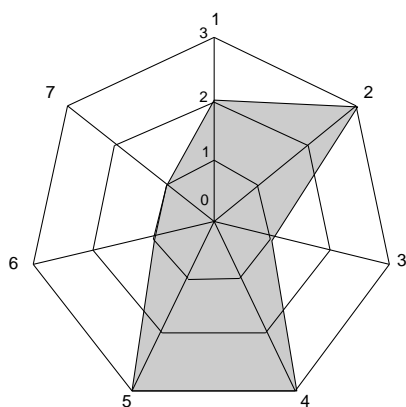


Fig. 7. Unbalanced typogram of a trail (6 features) (author's own elaboration)

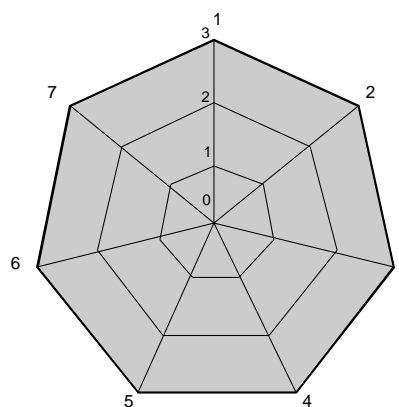


Fig. 8. Balanced typogram of a trail (6 features) (author's own elaboration)

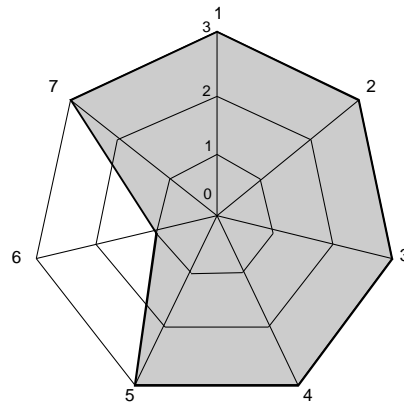


Fig. 9. Typogram of a trail with one weak element (6 features)
(author's own elaboration)

K. Vojtanovská (1996) approaches to the valorisation with the help of six evaluative features. These are: length, slope gradient, forestation level, view attractiveness, other hiking activities on the trail and frequency of bikers riding the trail. The more advanced valorisation results in more combinations of trail typologies, which enable more complex comparison of individual tracks fig. 7–9).

We have proposed complex typology of trails, based on empirical experience and observation study of specific values by bikers themselves. Typology contains twelve evaluative features, organized in two groups.

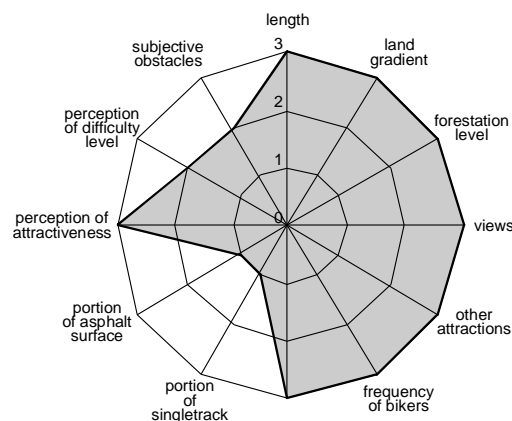


Fig. 10. Typogram of trail valorisation (12 features) (original research)

The proposal of complex typology of MTB:

group A – objective valorisation, group B – subjective valorisation.

A:

- trail length,
- trail distance from the start (length of formations),
- slope gradient,
- trail cover,
- amount of views on the trail,
- amount of singletracks on the trail,
- amount of asphalt, fixed road/terrain.

B:

- hiking activities on the trail,
- perception of the trail attractiveness,
- perception of the trail difficulty level,
- requery of bikers' and tourists' occurrence on the trail,
- subjective obstacles on the trail (conflict with other types of tourism, damaged or destroyed terrain, etc.).

Theoretical and practical tasks of geography of tourism in the study of mountain biking

Geography, mainly geography of tourism, will have to make full use of its essential scope. The main task is to produce open-space models with the help of holistic approach, which are mediated and generalized by cartography.

Theoretically, with the research aimed at the issue of MTB, we can set these following research tasks of the geography of tourism:

1. Verification of the spatial functions of MTB activities. It means mainly: regional specification of MTB, seasonality of MTB, setting the background for MTB activities (i.a. marketing factors), and quantitative parameters of MTB activities.

2. Setting appropriate geographical models of MTB activities.

3. Raising the MTB awareness of the sports and hiking community with appropriate publications.

Geography of tourism has to become a proper supporter of MTB activities and an equal partner in the study of all other, related disciplines

(sports theory, sports psychology, landscape ecology, landscape and trail architecture, economics and management of tourism, etc.).

4. Generalization of mountain biking forms (cross country, free ride, downhill, etc.) to determine their impacts on local ecosystems, but also to identify and eliminate the possible legal or less formal obstacles of MTB development. As a result, it is best to combine basic field study with special methods developed for these purposes (experimental method, methods of social-political lobbying, etc.).

Practically, with the research aimed at the issue of MTB, we can set these following research tasks of the geography of tourism:

1. To contribute to ecological knowledge in the field of land-ecological mapping through territorial measurements.

2. To increase satisfaction of sports-hiking MTB activities' users by applying human-geographical methods (mainly apprehensive, behavioural, and methodological, etc.).

3. By applying human-geographical methods (quantity, intensity measurement of density of marked MTB trails, etc.) to contribute to the selection of marked trails dedicated for MTB.

4. To help produce proper biking trails and software for GPS maps, using cartography and GIS.

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