

IMPACT OF THE “DANUBE CYCLING ROUTE” ON THE DEVELOPMENT OF CYCLING TOURISM IN SERBIA

ALEKSANDRA VUJKO¹, JOVAN PLAVŠA², NATALIJA OSTOJIĆ²

¹Higher School of Professional Studies, Novi Sad, Serbia

²University of Novi Sad, Faculty of Science, Department of Geography, Tourism and Hotel Management, Novi Sad, Serbia

Mailing address: Aleksandra Vujko, Higher School of Professional Studies, 4 Vladimira Perića Valtera Street, 21000 Novi Sad, tel.: +381 64 9142645, fax: +381 21 6350367, e-mail: aleksandravujko@yahoo.com

Abstract

Introduction. Based on the hypothesis H that the Danube Cycling Route is the basis for the development of cycling tourism in Serbia, the research goal was to adequately demonstrate the impact that the route may have on the development of cycling tourism, using LoNGPESTEL analysis. **Material and methods.** The research data were collected by direct investigation, applying the survey method. The sample included 264 DBR cyclists of both genders from nine countries. **Results.** The research resulted in the following conclusions: that Fruška Gora Mountain (FGM) has great potential for the development of cycling tourism, and the “Danube Cycling Route” can be its backbone. **Conclusions.** In relation to the “Danube Cycling Route” the research has shown that one of the main advantages of FGM are: ground mobility, availability and easy access from many points on the mountain. Also, due to favourable conditions, many natural and cultural values and numerous training activities can complement the stay there.

Key words: cycling tourism, Danube Cycling Route, LoNGPESTEL, Fruška Gora Mountain (Serbia)

Introduction

The Danube River Basin is Europe's second largest, with a total area of about 800,000 km² and a population of 83 million people, representing 19 countries of different cultures, languages and historical backgrounds. No other river basin in the world is shared by so many nations. The length of the river, from its spring in Germany to its mouth in the Black Sea, is 2850 km. The Danube River itself connects 10 European countries: Germany, Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria, Moldavia and Russia (via the Black Sea). Given the position of Europe as a continent and considering the direction the Danube flows, the river can be seen as the “Gate of Europe”, creating a water connection to the rest of the world. The Danube originates in the Black Forest in Germany at the confluence of the rivers Breg and Brigach, and it flows into the Black Sea in Romania. It is a part of the Rhine-Main-Danube Canal [1]. In Serbia it flows from the border with Croatia and Hungary to the border with Romania and Bulgaria, 588 kilometres total. The entire Serbian section of the Danube is navigable and it flows through two of the largest cities and tourist centres – Belgrade and Novi Sad. In Vojvodina, the Danube is a part of the Danube-Tisa-Danube Canal built to protect against floods and to serve as an irrigation system. This canal offers some beautiful boat rides, and it is an attractive destination for everyone who loves fishing and is eager for a good catch. From modern cities to ancient fortresses, the river also flows through two national parks – FGM and Đerdap, creating the largest gorge in Europe – the Đerdap Gorge [2].

Serbia joined the “Development of cycling tourism on the Danube” project together with the German Federal Ministry for Economic Cooperation and Development. All Danube countries have become part of the International “Danube Route”. As a result, an international signalling network was set up and cycling maps and web pages were designed. The main routes through Serbia are about 667 kilometres long; the Eurovelo 6 is one of the

main initiators of the construction of cycle paths in Vojvodina (Serbia). The parts that can achieve cross-border cooperation are of particular importance.

The potential of FGM is not sufficiently appreciated, because tourism has not been a serious issue in the development policy of the Government of Vojvodina (Serbia). Only recently have they come to recognize the mountain's comparative advantages as a tourist attraction, because it offers tourists a variety of activities, is close to traditional and emerging tourism markets, has a long history, is widely recognized, has preserved its natural resources, has a good communication infrastructure and has great potential for human use. However, the process whereby FGM's comparative advantages for tourism transform into competitive ones is part of the reform process, and the political relationship to tourism is an important factor in creating national prosperity. Due to the benefits that mountain air has for people's health, there is a need to promote and develop tourism in each mountain offering such conditions.

Bicycle touring is an increasingly important mode of vacation or holiday transport [3]. Tourism related cycle route construction projects are currently being planned and implemented throughout Europe. Simonsen and Jorgenson [4] define a cycle tourist as a person of any nationality who uses a bicycle as a mode of transportation during a holiday. The authors present different types of cycle tourists. First there are the 'hard core' cyclists to whom the bicycle is the only true mode of transportation and the only way to spend the holiday. The purpose of this tourist's holiday is to cycle. Second are those who occasionally ride a bicycle during their holiday and consider the bicycle as an alternative and enjoyable mode of transportation [3]. The paper is based on the opinions of the first group based on their exploration of the Danube Cycling Routes.

In order to test hypothesis H, that the Danube Cycling Route is the basis for the development of cycling tourism in Serbia, this paper has two goals: 1) to evaluate the potential for the devel-

opment of cycling tourism in FGM and 2) to evaluate the area by pointing out the negative aspects of the current situation by LoNGPESTEL analyses.

The conclusions from the research are: 1. FGM represents the basis for the expansion of the Danube Cycling Route; 2. advantages for the development of cycling in the mountains include mobility in the mountains, accessibility of the mountains and a good connection to the route; 3. the development of cycling tourism on the destination directly affected regional economic development (employment and self-employment); 4. the current state of cycling infrastructure and suprastructure on FGM is credited by the human factor in the broadest sense.

The "Danube Cycling Route" in Serbia

At the international workshop held in Belgrade in March 2003, the international project GTZ, "Donauradweg" (Danube Bicycle Route) was presented to the local public. The project's aims were to trace the cycling route along the Danube downstream from Austria and Slovakia, and to design the cycling maps. The project was conducted in Hungary, Croatia, Serbia, Romania and Bulgaria. The Serbian section was done in several phases, including data classification, processing and producing the map, and was carried out from November 2004 to November 2005. In November 2006 the preparations commenced for the first phase of signalling for the "Danube Cycling Route" (Bački Breg – Novi Banovci). Production and installation of signalling were carried out during May and June 2007. Thanks to the financial support of the GTZ, the Ministry of Economy and Regional Development, and the Executive Council, this huge project was successfully completed and the total network DBR in Serbia (about 1,040 km) was marked by signposts, which have been praised by both cycling tourists and European cycling authorities.

GTZ has promoted the Serbian part of the DBR at many relevant international meetings since 2004 – including the largest tourism fairs, international cycling conferences and also the EXIT festival. The "Danube Cycling Route" (DBR) through Serbia is labelled Eurovelo 6, which means it is on the route of the Atlantic – the Black Sea European Cyclists Federation (ECF). Today, the DBR through Serbia is divided into 7 sections (Tab. 1) and represents a backbone for developing sports and recreational cycling tourism in Serbia.

Table 1. "Danube Cycling Route" in Serbia

Stages		km
1.	Bački Breg (Hungarian border) – Sombor – Apatin	60
2.	Apatin – Bačka Palanka	124
3.	Bačka Palanka – Novi Sad	48
4.	Novi Sad – Belgrade	96
5.	Belgrade – Pančevo – Kovin – Stara Palanka – Ram	105
6.	Ram – Veliko Gradište – Golubac – Donji Milanovac	95
7.	Donji Milanovac – Kladovo – Negotin – Bregovo (Bulgarian border)	139
Total (main route)		667

Material and methods

Study area

Vojvodina is an autonomous province of Serbia located in the northern part of the country, in the Pannonian Plain of Central Europe. The region is divided by the Danube and Tisa rivers into Bačka in the northwest, Banat in the east and Srem in the southwest. FGM (GPS 45°00'-45°15' N, 16°37'-18°01' E) is located in the northern part of Srem (South-western Vojvodina) with a small part being situated in Croatia [5]. It has a total area

of 21,500 km², or 24.3% of the whole territory of the Republic of Serbia [6]. In its East-West direction it has a length of about 80 km.

Data sources

The first part of the study consisted of a field survey and collection of data through direct examination that was conducted in the area. Interviewees included 264 cyclists from Croatia, Slovenia, Romania, Germany, Hungary, France, Netherlands, Austria and Poland, representing both sexes. The survey was conducted between May and August 2010, and the questionnaire consisted of questions grouped into independent and dependent variables.

Methodology

The independent variable was a group of questions related to sex and country of origin. The dependent variables were related to respondents' opinions. The starting point of the paper was the main hypothesis H, that the Danube Cycling Route is the base for the development of cycling tourism in Serbia. On this basis a sub-hypothesis was formulated: h1 – FGM represents the basis for the expansion of the Danube Cycling Route, and is therefore a representative destination for the implementation of positive experiences for participants. In addition, several other sub-hypotheses were included: h2 – the advantage for the development of cycling in the mountains is reflected in mobility in the mountains and the accessibility of the mountains and a good connection to the route; h3 – an advantage for the development of cycling in the mountains consists in the area's rich cultural and historical heritage; h4 – development of bicycle tourism in the area directly affects economic prosperity; assessments of the role of such tourism offerings in terms of sustainable development are in the preliminary stage. As the paper reveals, whilst such impacts may be small, in absolute terms, within the regional tourism economy, they can be relatively strong in rural economies [7], such as FGM; h5 – negative aspects of cycling tourism are reflected in human factors.

The application of appropriate research tools included variables that were primarily concerned with opinions about the cycling tourism facilities on FGM. The starting point of the research was the assumption that DBR participants rarely have the initiative to leave the main routes. The idea was that during the summer period (June-September) organized groups of participants are welcomed and guided to cycle the most attractive parts of the mountain. The data were analyzed using descriptive and comparative statistical methods, which enabled research results to be explained and certain conclusions to be drawn. Given that the data confirmed the initial assumption that Fruška Gora Mountain is a suitable area for cycling tourism, it was necessary to move to the next step in implementation, the LoNGPESTEL analysis. Also, the interviews were conducted with everyone directly or indirectly involved in tourism issues in the national park and its surroundings, and everyone who could contribute to its development. PESTEL analysis is often used as an indicator of objective justification for the development of a tourist destination (in this case, initiation of cycling tourism on Fruška Gora Mountain). It is used for strategic analysis of the environment, based on the analysis of environmental problems, including political, economic, social, technological, environmental and legal factors. One variant of the method which conducts special assessment of local, national and global impact is called LoNGPESTEL analysis [8, 9, 10, 11].

Results and discussion

Cycling in the area of FGM, in accordance with the basic characteristics of the terrain, climate, hydrographical network

and biodiversity may be developed in different forms. First, tourism and recreational cycling (all the paths within the FGM cycling route), second, event based cycling (any section of the cycling routes within FGM), and finally extreme cycling, since certain sections of FGM cycling routes are physically demanding (almost every track in the FGM cycling route has more difficult sections, depending on the direction taken). On the other hand, interesting cultural values would increase the diversity of cyclo-tourists and encourage them to stay longer [12, 13]. With regard to all the advantages of the mountain, the paper attempted to explore the opinion of direct participants on the Danube Cycling Route – cyclists who turned off the main route and rode through FGM accompanied by a guide. The total number of cyclists who dared to cycle through FGM was 264; they came from nine countries. Of the total number of participants, 205 (77.7%) were male and 49 (18.6%) female, whereas 10 participants did not answer this question. In order to detect differences in the responses measured on the basis of statistically significant differences in the distribution of the dependent variable in relation to the independent, the results were presented with regard to the country of the participants' origin and with regard to the participants' gender. For statistically significant differences the value had to be $p < 0.05$. A brief glance at Table 2 provides information on the country of origin and the number of cyclists from certain countries. Interestingly enough, the majority of cyclists arrived from Slovenia and France, whereas cyclists from all other countries were equally represented.

Table 2. Cyclists' country of origin, the number and percentage of cyclists

Country	Frequency	Percent
Croatia	20	7.6
Slovenia	53	20.1
Romania	21	8.0
Germany	31	11.7
Hungary	35	13.3
France	48	18.2
Netherlands	22	8.3
Austria	22	8.3
Poland	12	4.5
Total	264	100.0

Table 3 shows that the total number of participants who answered the question about the possibility of cycling on FGM prior to the organized cycling was 259. All the participants claimed it was their first time on FGM, and that organized cycling has everything to recommend it.

After they had tried cycling through the mountain, the participants were asked about the preconditions for the development of mountain cyclo-tourism (Tab. 4). This question was one of the most important because it indirectly showed what opinion the cyclists had of FGM as a potential cycling destination. The overall attitude was positive, since as many as 73.8% of participants answered that FGM was an interesting destination for cycling.

A value of $p = 0.008$ (Tab. 5) was obtained, indicating a statistically significant difference in the answers of male participants compared to those of female participants. The next issue highlighted the importance of cycling trails on FGM (Tab. 6). The majority of participants (84.8%) expressed a positive attitude regarding their desire to return to FGM. Based on these values ($p = 0.269$) no statistically significant differences were observed in responses from different categories (Tab. 7). Cycling tourism

can be developed on FGM, in various forms, based on the position, basic characteristics of the terrain, climate characteristics, hydrographic network and biodiversity. Moreover, all types of cycling tourism can be developed – recreational (all routes within Fruška Gora), event based, and extreme cycling tourism – since the physical characteristics of the paths on FGM make for very demanding terrain. The most interesting and economically advantageous period for cycling tourism is from March to October. Tourism on FGM is also supported by the absolute altitude and terrain mobility. Mountains up to 600 m above sea level are suitable for diabetics, stenocardia, nervous tension, respiratory, and recovery after a heart attack. These mountains are also called “air spas” [14]. The analysis of the data confirmed sub-hypothesis h1 – FGM represents the basis for the expansion of the Danube Cycling Route, and is therefore a representative destination for the implementation of positive experiences for participants.

Table 3. Cycling on Fruška Gora Mountain depending on the cyclists' country of origin

Country		Have you ever cycled on the Fruška Gora Mountain?		Total
		Yes, organized cycling		
Croatia	Count	19		19
	% Of Total	7.3%		7.3
Slovenia	Count	49		49
	% Of Total	18.9%		18.9
Romania	Count	21		21
	% Of Total	8.1%		8.1
Germany	Count	31		31
	% Of Total	12%		12
Hungary	Count	35		35
	% Of Total	13.5%		13.5
France	Count	48		48
	% Of Total	18.5%		18.5
Netherlands	Count	22		22
	% Of Total	8.5%		8.5
Austria	Count	22		22
	% Of Total	8.5%		8.5
Poland	Count	12		12
	% Of Total	4.6%		4.6
Total	Count	259		259
	% Of Total	100%		100

Table 4. Benefits of Fruška Gora Mountain for cycling tourism, participants' opinion

			Is Fruška Gora Mountain an interesting area for cycling?			Total
			Yes	No	I do not know	
Pole	Male	Count	158	36	9	203
		% Of Total	62.7%	14.3%	3.6%	80.6%
	Female	Count	28	15	6	49
		% Of Total	11.1%	6%	2.4%	19.4%
Total	Count	186	51	15	152	
	% Of Total	73.8%	20.2%	6%	100%	

Table 5. Pearson Chi-Square Test

Attachment 1.	Value	df	Statistical significance (p)
Chi Square test	9.570	2	0.008

Table 6. Cycling on the mountain in the future

		Is Fruška Gora Mountain an interesting area for cycling?			Total
		Yes	No		
Cyclists' country of origin	Croatia	Count	14	6	20
		% Of Total	5.3%	2.3%	7.6%
	Slovenia	Count	49	4	53
		% Of Total	18.6%	1.5%	20.2%
	Romania	Count	19	2	21
		% Of Total	7.2%	0.8%	8.0%
	Germany	Count	27	3	30
		% Of Total	10.3%	1.1%	11.4%
	Hungary	Count	30	5	35
		% Of Total	11.4%	1.9%	13.3%
	France	Count	37	11	48
		% Of Total	14.1%	4.2%	18.3%
	Netherlands	Count	18	4	22
		% Of Total	6.8%	1.5%	8.4%
	Austria	Count	18	4	22
		% Of Total	6.8%	1.5%	8.4%
	Poland	Count	11	1	12
		% Of Total	4.2%	0.4%	4.6%
Total		Count	223	40	263
		% Of Total	84.8%	15.2%	100.0%

Table 7. Pearson Chi-Square Test

Attachment 1.	Value	df	Statistical significance (p)
Chi Square test	9.939	8	0.269

On the question "What are the qualities of FGM with regard to cycling?" (Tab. 8), the largest number of participants responded that it is a Foot traffic (39.0%), and the availability and the possibility of connecting to the main route (28.4%). This low island type mountain, with the peaks Crveni čot (539 m), Orlovac (512 m), and Iriški venac (490 m), presents special advantages for the development of sport and recreational tourism [12, 15, 16]. It is a low mountain, the highest peak being Crveni čot (539 m). However, because of its dominant appearance in relation to the surrounding flat terrain, it seems much more massive than it actually is. The chain of FGM is broken and the Mountain is basically composed of three parts: the area of Telek in the west, which is barely noticeable, Slankamen in the east and the central part of the mountain, which extends from Đipša in the west to Banstol in the east, forming a ridge about 40 km long, and 440-460 m high. This is the part that is asymmetrical and dissected or broken with numerous valleys, and has a developed source crest. The central part of the Mountain has the shape of a long anticline [17], east-west, with fragmented wings and partial phishing. The anticline is symmetrically preserved, except in the far eastern part where it sank beneath the northern flank of the Danube fault [17]. The mountain base is surrounded by two loess plateau areas, 130-150 m and 110-120 m high. The mountain is partly covered with thick or thin layers of loess and loess deposits that ease severity and sudden transitions that are characteristics of older and more compact rocks, which certainly favours sport and recreational tourism as a viable and accessible mountain in almost all its parts [12, 17, 18, 19]. All this confirms lower-level hypothesis h2 – the advantage for the development of cycling in the mountains lies in terrain mobility, accessibility and easy connection to Ruth.

Table 8. Predisposition of Fruška Gora Mountain for cycling tourism, participants' opinion

		What are the qualities of Fruška Gora Mountain with regard to cycling?					Total
		Foot traffic	The availability and the possibility of connecting the main route	Natural and cultural values	Gastronomy and hospitality		
Cyclists' country of origin	Croatia	Count	13	2	5	0	20
		%	4.9%	0.8%	1.9%	0%	7.6%
	Slovenia	Count	23	11	12	7	53
		%	8.7%	4.2%	4.5%	2.7%	20.1%
	Romania	Count	12	4	2	3	21
		%	4.5%	1.5%	0, 8%	1.1%	8.0%
	Germany	Count	11	9	6	5	31
		%	4.2%	3.4%	2.3%	1.9%	11.7%
	Hungary	Count	8	12	12	3	35
		%	3.0%	4.5%	4.5%	1.1%	13.3%
	France	Count	17	16	9	6	48
		%	6.4%	6.1%	3.4%	2.3%	18.2%
	Netherlands	Count	6	6	8	2	22
		%	2.3%	2.3%	3.0%	0, 8%	8.3%
	Austria	Count	9	9	2	2	22
		%	3.4%	3.4%	0.8%	0.8%	8.3%
	Poland	Count	4	6	2	0	12
		%	1.5%	2.3%	0.8%	0%	4.5%
Total		Count	103	75	58	28	264
		%	39.0%	28.4%	22.0%	10.6%	100.0%

Table 9. Pearson Chi-Square Test

Attachment 1.	Value	df	Statistical significance (p)
Chi Square test	30.633	24	0.165

A large number of respondents (Tab. 8) replied that cultural and historical values were the FGM's most important advantages (22.0%). Anthropogenic features on FGM are numerous. It is certain that the landscaping and trail markings largely contributed to the popularization of the area and certainly can lead more visitors to holy sites in Fruška Gora. As for the so-called "Saint" Fruška Gora Mountain, there is no doubt that it is faith and tourism which makes the Balkan region highly attractive for tourists from all over the world. Similarly, this mountain, with over 200 sacral buildings of various religions, attracts profane tourists and religious people, i.e. pilgrims [20]. All this confirms sub-hypothesis h3 – one advantage for the development of cycling in the mountains is reflected in the FGM's rich cultural and historical heritage.

In Table 8 it can be seen that a number of respondents answered that the greatest advantage of FGM as regards cycling tourism is gastronomy and hospitality (10.6%). This fact has spurred thinking about cycle tourism as a generator of economic development throughout the region. Cycling tourism is good at generating local trade and offers particular opportunities for rural businesses and services. Expenditures by cycling tourists can help support rural pubs, village shops, small-scale rural attractions, and rurally-based accommodation providers. As cycle tourists use local businesses, there is a greater likelihood that the money they spend will stay in the local economy. According to Simonsen and Jorgensen [4], the economic advantages of tourism include: primary and direct advantages – increased business, income, jobs, public income; secondary advantages: increased investment and spin-offs from the primary

advantage, induced benefits generated as a result of the consumption of primary income. All this confirms lower-level hypothesis h4 – development of cycling tourism in a given tourist destination directly affects economic prosperity. The value $p=0.165$ (Tab. 9) shows that no statistically significant differences in participants' answers with regard to the country of origin were observed.

Table 10. The negative aspect of Fruška Gora Mountain as a cycling destination

		What is missing for the mountain to become an excellent cycling destination?							Total	
		Signalling	Cycling maps	Offer in agencies	Marketing	Accommodation suited to cyclists	Services for bicycles	Biking and hiking trails		
Gender	M	Count	57	40	25	19	22	19	18	200
		%	22.9%	16.1%	10.0%	7.6%	8.8%	7.6%	7.2%	80.3%
	F	Count	16	19	5	3	2	3	1	49
		%	6.4%	7.6%	2.0%	1.2%	0.8%	1.2%	0.4%	19.7%
Total		Count	73	59	30	22	24	22	19	249
		%	29.3%	23.7%	12.0%	8.8%	9.6%	8.8%	7.6%	100.0%

Table 11. Pearson Chi-Square Test

Attachment 1.	Value	df	Statistical significance (p)
Chi Square test	11.728	6	0.068

The negative attitudes of the participants can be seen in Table 10. According to the participants' opinion, the drawbacks of the mountain are: inadequate bicycle signalling (29.3%), lack of cycling maps of FGM (23.7%), lack of offer of cyclo-tourism in travel agencies (12%), unsuitable accommodation for cyclists (9.6%), etc. The value $p=0.068$ (Tab. 11) shows that no statistically significant differences in participants' answers with regard to the country of origin were observed.

The results of the research have shown that the main advantages of FGM in relation to the “Danube Cycling Route” are terrain mobility, availability and easy access to the official route from various points on the mountain and the numerous natural and cultural values that can complement and extend the stay of cyclists by allowing them to do some of the activities for which there are favourable conditions on FGM. With regard to the fact that there is huge potential for the development of sports and recreational tourism on FGM and that there is a need for this type of tourism, it was necessary to show the benefits that the route may have on the development of sports and recreational tourism on FGM and also drawbacks of certain environmental factors using LoNGPESTEL analysis (Tab. 12).

By analyzing the negative aspects of various factors in LoNGPESTEL analysis, it can be concluded that the main problems of the lack of cycling tourism in FGM lie in the local government's lack of interest in developing the necessary network infrastructure, lack of interest in tourism economy for the creation of adequate tourism, lack of access to marketing (maps, sites, addresses, phone numbers, contact persons, etc.), and lack of training, education and promoting awareness among the local population and all the stakeholders in tourism development on the mountain. The tourism industry, local inhabitants and politicians should debate which tourists they want to attract, how many tourists they want and which tourist groups they should aim at in terms of marketing and product development. This debate is important because it qualifies (and modifies) cycling tourism efforts. Only when the debate has been settled can it be determined whether cycling tourism is desirable

for Serbia. All this confirms lower-level hypothesis h5 – the current state of cycling tourism in the mountains is credited by the human factor in its broadest sense.

Conclusions

Cycling tourism is like an iceberg – it is much easier to describe the part which stands out from the water than to be precise about exactly what lies beneath. In contrast to driving, cycling is one of the most sustainable forms of transport [21]. Cycling offers benefits to both individual and environmental health, and is one way to help address several major societal issues: climate change, increasing obesity levels, and depleted oil reserves [22, 23, 24]. Cycling offers many opportunities to improve both personal and public health and it is an excellent form of aerobic exercise. According to Unwin [25]: “only a society so modern that it can organise itself around the bicycle can evolve a habitat which is both humanised and habitable”. Bearing in mind that only physical activity affects the entire bio-psycho-social status of a human being and that sport and recreational tourism is one of the best means of neutralizing the negative effects of modern life [26, 27, 28, 29, 30], the importance of cycling is clear.

In general, the current level of development of cycling infrastructure networks, sports and recreational facilities on FGM is not in accordance with the possibilities this recreational area offers and might offer. The current programmes and facilities do not offer cycling, whereas other recreational facilities are quite scarce. Unfortunately, this leads to the conclusion that the promotion of current recreation facilities on FGM is under-represented and that cycling tourism does not exist [12, 13]. One thing is certain though: cyclists yearn for new destinations, and this tendency on the part of tourists favours regional development of an area adapted to cyclo-tourism needs [4, 12, 13, 27, 28, 29, 31, 32, 33, 34].

The “Danube Cycling Route”, a trail that is part of a broader concept of regional development GTZ projects in four countries, Croatia, Romania, Bulgaria and Serbia, is especially important for the overall development of tourism and tourist offers, and the closer connections of the Danube regions in these countries, whose travel facilities, especially those related to one of the major European rivers, are still underused. In reality, the route is an amalgam of existing national and regional cycle trails developed in each respective country in recent years [35]. The fact is that each year the Danube Cycling Route currently brings thousands of tourists, who are unfortunately just passing through Serbia. The benefit of such tourism could be much greater for the country's economy, but in order to make this information available it is necessary to connect people with institutions interested in cycling tourism. Mutual cooperation among all stakeholders in the tourism industry is the best way to frame a tourist offer, which includes lodging and home-cooked food in an environment that provides opportunities for an active holiday in nature. This means the ski slopes for a variety of complementary activities (walking in nature, hiking, horseback riding, etc.).

Successful cycling tourism does not simply happen – it must be planned for and managed in the long term. The “Danube Cycling Route” provides outstanding opportunities for cycling tourism and recreation in Serbia, and can encourage outdoor activities and exercise due to the relatively gentle nature of the gradients and the attractive places many pass through (FGM). It also provides economic opportunities for local host communities as well as increased pride created by 'showing their home' to visitors. However, it requires not only that funds be developed, but also that significant maintenance support be provided.

Table 12. Disadvantages of cycling tourism on Fruška Gora Mountain using LoNGPESTEL analysis

Disadvantages of political factors		
Local	National	Global
<ul style="list-style-type: none"> - Lack of cooperation between the public and private sectors in the territory of the National Park; - Undefined property rights; - Lack of a uniform billing system (land use, parking, etc.) to all tourist sites in the National Park etc. 	<ul style="list-style-type: none"> - Centralization of political will at national level; - Lack of adequate development strategies of sports and recreational tourism; - Not understanding the significance that the "Danube Cycling Route" may have for the development of sport and recreational tourism on Fruška Gora Mountain, etc.; - Cycling as an activity stimulated by the Ministry of Youth and Sports. 	<ul style="list-style-type: none"> - Lack of joint strategy for sports and recreational tourism with bordering countries (Croatia).
Disadvantages of economic factors		
<ul style="list-style-type: none"> - Insufficiently stimulating business environment; - Economic inefficiency of economic subjects in relation to sport and recreation tourism; - Lack of a strong company involved in sports and recreational tourism that would promote cycling on Fruška Gora Mountain. 	<ul style="list-style-type: none"> - High unemployment rate in the Serbian Danube region; - Significant share of underground economy in the economy; - Lack of understanding of the economic benefits obtained by providing sports and recreational tourism services; - Lack of promotional activities by the domestic stakeholders in cycling tourism development (maps, websites, etc.). 	<ul style="list-style-type: none"> - Promotion of bicycle paths of Danube Cycling Route by European countries is in its early stages in Serbia; - Lack of cycling tourism offer in Fruška Gora Mountain in foreign travel agencies.
Disadvantages of social factors		
<ul style="list-style-type: none"> - Negative demographic trend (migration of younger population from villages and small towns in Fruška Gora Mountain); - Passive role of the local population concerning bicycle repair services. 	<ul style="list-style-type: none"> - The importance of sports and recreational tourism (cycling tourism) has not been accepted by all segments of society yet; - Cycling as an activity still in the background. 	<ul style="list-style-type: none"> - Language and cultural barriers; - Domestic and foreign tourists uninformed about possible cycling tourism offer on Fruška Gora Mountain.
Disadvantages of technical-technological factors		
<ul style="list-style-type: none"> - Poor material base for cycling tourism on Fruška Gora Mountain; - Lack of tourist signalling. 	<ul style="list-style-type: none"> - Lack of modern cycling facilities for accommodation and services in the mountain region; - Lack of sufficient information boards and other facilities to provide the necessary information. 	<ul style="list-style-type: none"> - Absence of formal international superstructure and infrastructure networks; - Cost of signalling and transport networks.
Disadvantages of environmental factors		
<ul style="list-style-type: none"> - Lack of official trails affects the movement of cyclists within prohibited areas in the park. 	<ul style="list-style-type: none"> - Lack of methods for monitoring natural and cultural sites in the National Park; - Lack of systems to track cyclists on the mountain. 	<ul style="list-style-type: none"> - Insufficient investment in tourism infrastructure in the entire region.
Disadvantages of legal factors		
<ul style="list-style-type: none"> - Complicated procedure for work and building permits. 	<ul style="list-style-type: none"> - Lack of uniform application of regulatory requirements. 	<ul style="list-style-type: none"> - Serbia is not an EU member.

Literature

1. Brilly M. (2010). *Hydrological processes of the Danube River Basin perspectives from the Danubian Countries*. Dordrecht: Springer.
2. Medaković D. (2002). *The Danube – river of unity in Europe*. Novi Sad: Prometej. [in Serbian]
3. Ritchie W.B. (1998). Bicycle tourism in the South Island of New Zealand: planning and management issues. *Tourism Management* 19(6), 567-582.
4. Simonsen P., Jorgenson B. (1998). *Cycle tourism: an economic and environmental sustainable form of tourism*. Unit of Tourism Research, Bornholm, Denmark: Research Centre of Bornholm.
5. Bukurov B. (1978). *Bačka, Banat and Srem*. Novi Sad: The Serbian Matica, Department of Natural Sciences. [in Serbian]
6. Đurđev S.B., Arsenović D., Dragin A. (2010). Contemporary problems in studying population of Vojvodina Province. *Acta Geographica Slovenica* 50(1), 115-129. DOI: 10.3986/AGS50105.
7. Cope A.M., Doxford D., Hill A.I. (1998). Monitoring tourism on the UK's first long-distance cycle route. *Journal of Sustainable Tourism* 6(3), 210-223.
8. Robinson S., Hichens R., Wade D. (1978). The directional policy matrix-tool for strategic planning. *Long Range Planning Journal* 11, 8-15.
9. Kotter J., Schlesinger L. (1991). Choosing strategies for change. *Harvard Business Review* 5, 24-29.
10. Cooper L. (2000). Strategic marketing planning for radically new products. *Journal of Marketing* 64(1), 1-15.
11. Jan Y. (2002). A three-step matrix method for strategic marketing management. *Marketing Intelligence and Planning* 20(5), 269-272.

12. Vujko A., Plavša J. (2010). Networking of Fruška Gora lakes tourist offer through system of cyclepaths – case study Sot, Bruje and Moharač. *International Scientific Journal – Turizam* 15(1), 1-10.
13. Vujko A. (2011). *Fruška Gora Mountain and the mountains of Vršac – current and future destination for sport and recreational tourism*. Doctoral thesis, Faculty of Science, Department of Geography, Tourism and Hotel Management, Novi Sad. [in Serbian]
14. Stanković M.S. (1994). *Tourist geography*. Beograd: A.M.I.R. [in Serbian]
15. Jovičić Ž. (1962). *Geographical basis for the development of tourism on the Fruška Gora Mountain*. Novi Sad: Matica Srpska. [in Serbian]
16. Milić Č. (1973). *The Fruška Gora Mountain – geomorphological studies*. Novi Sad: The Serbian Matica, Department of Natural Sciences. [in Serbian]
17. Petković K., Čučulić-Trifunović M., Pašić M., Rakić M. (1976). *Fruška Gora Mountain monographic review of the structure and tectonic assembly*. Novi Sad: The Serbian Matica, Department of Natural Sciences.
18. Dragutinović Z. (2000). *Tourist presentation of Fruška Gora Mountain geological heritage*. Novi Sad: Faculty of Science, Department of Geography, Tourism and Hotel Management. [in Serbian]
19. Obradović S. (2006). *Evaluation of Fruška Gora Mountain and sustainable development*. Novi Sad: The Serbian Matica, Department of Natural Sciences. [in Serbian]
20. Stamenković I., Plavša J., Vujičić M. (2009). The New Age of faith tourism and Fruška Gora Mountain (Serbia). *Scientific Journal Tourism* 13(2), 102-112.
21. Gatersleben B., Appleton K.M. (2007). Contemplating cycling to work: attitudes and perceptions in different stages of change. *Transportation Research Part A: Policy and Practice* 41, 302-312.
22. Wen L., Rissel C. (2008). Inverse associations between cycling to work, public transport, and overweight and obesity: findings from a population based study in Australia. *Preventive Medicine* 46, 29-32.
23. Maibach E., Steg L., Anable J. (2009). Promoting physical activity and reducing climate change: opportunities to replace short car trips with active transportation. *Preventive Medicine* 49, 326-327.
24. Su G.J., Winters M., Nunes M., Brauer M. (2010). Designing a route planner to facilitate and promote cycling in Metro Vancouver, Canada. *Transportation Research Part A* 44, 495-505.
25. Unwin C.N. (1995). Promoting the public health benefits of cycling. *Public Health* 109, 41-46.
26. Standeven J., Knop P. (1999). *Sport tourism*. USA: Human Kinetics.
27. Hayward P. (2001). *Leisure and tourism*. Heineman, Oxford: Heinemann GNVQ Intermediate.
28. Hudson S. (2003). *Sport and adventure tourism*. Binghamton: The Haworth Press, Inc.
29. Torkildsen G. (2005). *Leisure and recreation management* (5th edition). Abingdon: Routledge.
30. Plavša J. (2007). *Sport and recreational tourism*. Novi Sad: Faculty of Science, Department of Geography, Tourism and Hotel Management. [in Serbian]
31. Ritchie B.W., Hall C.M. (1999). Bicycle tourism and regional development: A New Zealand case study. *Anatolia: An International Journal of Tourism and Hospitality Research* 10(2), 89-112.
32. Weed M., Bull C. (2004). *Sports tourism: participants, policy and providers*. Oxford: Elsevier Butterworth-Heinemann.
33. Weed M. (2008). Sport tourism experience. *Journal of Sport and Tourism* 13, 1-4.
34. Lamont M. (2009). Reinventing the wheel: a definitional discussion of bicycle tourism. *Journal of Sport & Tourism* 14(1), 5-23.
35. Lumsdon L., Downward P., Cope A. (2004). Monitoring of cycle tourism on long distance trails: the North Sea Cycle Route. *Journal of Transport Geography* 12, 13-22.

Submitted: June 21, 2013

Accepted: July 22, 2013