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THE FUTURE OF ECOTOURISM: THE CASE OF THE TARA NATIONAL PARK (WESTERN SERBIA)

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Abstract

The study aimed to determine and evaluate the factors for sustainable ecotourism development in the Tara National Park, considering potential advantages for improving the area's rural economy. A literature review and field survey were conducted to assemble data on the area's geographical position, diversity of ecosystems and species, historic heritage, and infrastructural aspects, as well as the demographic changes and employment situation of the local people. SWOT and PESTEL techniques were employed to assess the restrictions and prospects for ecotourism development in the area. The results show that the touristic potential of this area includes convenient geographical position and climate, rare wildlife, preserved ecosystems, large forest land, clean water, unique geological elements, and numerous archeological sites and historic monuments. It was concluded that sustainable ecotourism development could provide the circumstances for rural development, as a desirable accompaniment of ecotourism in the future.

Key Words: *national parks, Tara National Park, sustainable ecotourism, rural development, Western Serbia*
JEL classification: *O18, Q57, Z32*

Introduction

In today's fast-paced world, new trends arise and advance regularly. New tourism trends are influenced by a range of factors, including population changes, technology advancements, and changes in social traditions

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(Schauble, 2022). Tourism must consider not only current but also future socio-economic and environmental circumstances to meet the demands of tourists, the environment, the industry and the area where it is being developed. The future of tourism has to be sustainable and respectful to the environment (Avant, 2022). Thus, the global trend in the development of tourism is progressively oriented toward ecotourism (Trumbulović & Stefanović, 2016), which is becoming one of the most popular types of holiday (Bekčić & Trumbulović, 2014). This kind of tourism is described as "environmentally responsible travel to natural areas, in order to enjoy and appreciate nature (and cultural features) that promote conservation, have a low visitor impact and provide for beneficially active socio-economic involvement of local peoples" (IUCN, 2022). Among the most important prospects of ecotourism are rural development and increase in employment of local people. Although tourism in rural areas is still a minority industry, it has the capacity to create an important contribution to the rural economy in terms of employment, funding sustainability, implementation of innovative work methods, and introducing new vigor into struggling economies (Nikolic & Sîrbu, 2021).

Due to a lack of well-integrated ecotourism centers and real efforts to raise public awareness about ecotourism, the level of expansion of ecotourism in Serbia is not satisfactory. National parks, as well as other natural and protected areas, might be a basis for ecotourism development in the country (Lutovac & Đuričić, 2014). The Tara National Park is one of five national parks in the Republic of Serbia, and its area is regarded to be among Europe's most important and richest ecosystems (Trumbulović & Stefanović, 2016). As a protected area, the Park serves as an example of sustainable development, focusing on the conservation of flora and fauna while also improving the living standards of the people in the area (Manojlović & Bojić, 2014). The major task is to tread a fine line between the environmental protection and economic development of the area. Ecotourism should give possibilities for locals to find work and for the local economy to thrive, while also allowing tourists to fully enjoy the area's natural beauty (Trumbulović & Stefanović, 2016). Several studies on the potential of the Tara National Park for ecotourism development have been published (Bekčić & Trumbulović, 2014; Manojlović & Bojić, 2014; Trumbulović & Stefanović, 2016; Lutovac et al., 2016; Đorđević et al., 2018); however, with no particular reference to rural development of the area. Therefore, in order to establish ecotourism as a major possibility for rural development and environmental protection, primary research is required to determine the touristic potential and solutions to the rural

economic challenges of the area.

To optimize the management of a protected area, the data on its state, diversity of species and habitats, environmental protection regime, tourism opportunities, development programs, connected difficulties, and general situation of the area must be gathered. The primary goal of the research is to determine the factors for ecotourism development in the Tara National Park and to forecast potential advantages for the area's rural development. This paper presents all important aspects of the Park, as well as the genuine opportunity for local ecotourism development. Furthermore, the tangible and intangible ecotourism advantages in terms of enhancing rural development will be determined by analyzing the area's possible ecotourism products, and the socio-economic and demographic situation of the local population.

Materials and methods

Study area

The Tara National Park is situated in the western part of the Republic of Serbia, along the border with Bosnia and Herzegovina. It is established in the year 1981. The Park is positioned between 43°03'53" and 44°00'30" north latitude and between 19°36'48" and 19°14'25" east longitude, with a total area of 24,991.82 ha, spreading across the Bajina Bašta municipality and 10 cadastral municipalities. The Tara National Park resides on Mt. Tara, Zvezda, Crni Vrh, Drina Canyon, Stolac, Perućac Lake, and the surroundings of Bajina Bašta town. The area's northwestern unit, Zvezda, rises to 1,445 m (Smiljevac peak); the Tara plateau, which is the largest unit, reaches 1,426 m at its peak (Carevića Vis), and the area's south-eastern unit, Zaovine, has the highest point in the Serbian part at Kozji Rid (1,591 m). In the geological structure, Triassic rocks dominate in about two-thirds of the area (eastern and northern parts), while ophiolites and Cretaceous deposits are located in the southern part of the area. The area has a continental climate, with high humidity. In terms of relief, Mt. Tara is mildly dissected, and Zvezda has a high surface dissection and a developed surface water network, whereas Zaovine is fluvially the most dissected unit (Telbisz et al., 2021). The National Park is mostly covered by woodland (79.74%), and it possesses rich flora and fauna, with many rare, endemic and relic species. Also, it has a diverse historic legacy. Consequently, in the area, three degrees of protection have been officially constituted [1st degree of protection – 3,323.92 ha (13.35%), 2nd degree of protection –

8,514.39 ha (34.07%), 3rd degree of protection – 13,153.10 ha (52.58%)] (Figure 1).

Methodology

This study presents the results of a comprehensive review of the potential for ecotourism development in the Tara National Park. Its objective was to evaluate and propose ecotourism development as means of promoting the area's sustainable development. The research was done to detect and publicize environmental and historic values that may be used as a basis of ecotourism, including villages around the Park's buffer zone.

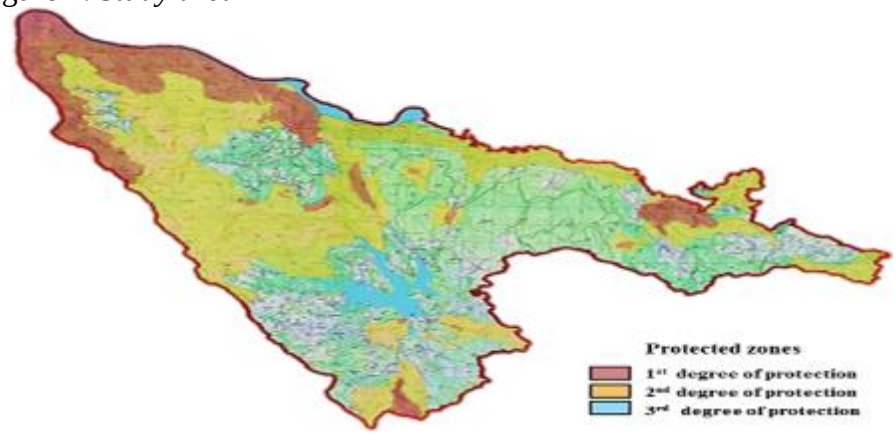
Following a thorough review of literature, the potential for ecotourism development of the National Park was assessed through field research and data collected during interviews with visitors and authorities. The study also considered written material published online. Methods of synthesis and theoretical analysis, environmental and geographical analysis, as well as the method of direct observing, were employed. Because potentials for ecotourism are determined by the area's geographical, natural, and historic heritage, information on tourism prospects used in the research comprised physical potential (connectivity, infrastructure, supporting installations), biological potential, and manpower. There was no specific method of biodiversity analysis employed, but the biodiversity of the protected area was examined using published data, personal observations, and informal conversations with authorities, locals, and visitors. Based on the available literature sources (i.e., JUGINUS, 2019; PE Tara National Park, 2020), an investigation of the size, number and type of sites under protection, as well as land use in this area, was carried out.

In addition, PESTEL and SWOT techniques were employed for the case of the Tara National Park to identify realistic opportunities for achieving sustainable development of ecotourism in the area. The SWOT research method was employed to describe existing restrictions and opportunities for developing sustainable ecotourism in the Park, whereas the PESTEL technique delves further into the issue of ecotourism development in this protected area.

Because there are villages in the protected area whose inhabitants rely on the area, as well as neighboring land, for their subsistence, this research included a demographic assessment using published data by the Statistical Office of the Republic of Serbia. We examined the population changes, household numbers, as well as average life expectancy using census data

published for the 1991–2011 period. In addition, using relevant literature (JUGINUS, 2019), the agricultural population share was also considered to determine the reliance of the local people on the area's resources. All these data were assembled and processed for 10 cadastral municipalities.

Figure 1: *Study area*



Source: *Environment Protection Institute of Serbia, 2022*

Results and discussion

The Tara National Park is located 180 km from Belgrade and is accessible to potential tourists via the Ibar Highway (State Road 22). It is a famous tourist attraction due to its numerous geological and hydrological sites, favorable climatic conditions, abundance of flora and fauna, and cultural legacy, as well as its developed network of forest and local roads (Table 1). The most notable geomorphological sites of the National Park include Rača Gorge, Beli Rzav, Matića Potok, Derventa, Zvezda, Rača Canyon, and Selski Potok, with many caves, waterfalls, and viewpoints (Telbisz et al., 2021). It has a well-developed surface water network, and it is rich in clean water, springs, and wells. Favorable climatic conditions in summer and winter – pleasant air temperature and relative humidity, a significant number of sunny days and days of snowfall, and the mean altitude of c. 1,000 m – provide all the conditions for a pleasant stay or recreation (PE Tara National Park, 2012). Numerous species of plants and animals are protected and rare, including 210 plants, 29 mammals, 9 amphibians and reptiles, 5 insects, 44 birds, and 2 fishes (PE Tara National Park, 2020; PE Tara National Park, 2022). Habitats of some of these species are also under a certain degree of protection. There are 17 sites in the zone of the 1st degree of protection (Brusnica Canyon, Crveni Potok, Rača Gorge, Derventa

Gorge, Ljuti Breg, Zvezda, Račanska Šljivovica, Pod Gorušicom, Vranjak, Sklopovi Canyon, Crvene Stene, Bilo, Kremići, Zmajevački Potok, Studenac, Mt. Aluška, Pušine), and 19 sites in the zone of the 2nd degree of protection (Jagoštica, Zvezda II, Zvezda–Božurna, Račanska Šljivovica II, Borovo Brdo–Nastijenje, Crveni Potok II, Gorušice II, Crni Vrh, Glog, Rača, Derventa and Drina Gorges, Janjač, Popovića Potok /Trenice/, Vranjak, Džanići, Beli Rzav–Zaovine, Solotuša, Mt. Aluška II, and Sokolina) (JUGINUS, 2019). The Tara National Park is an Important Bird Area (IBA), Important Plant Area (IPA), and a Prime Butterfly Area (PBA). It is also a member of EUROPARC – the European federation of national parks (Bekčić & Trumbulović, 2014), and EMERALD – an ecological network comprised of conservation areas of special interest, implemented by the Council of Europe (PE Tara National Park, 2020). There are also a number of notable cultural heritage monuments in the area, including Rača monastery (built in the 13th century), medieval castle Solotuša, and Stećci tombstone graveyards (14th and 15th centuries) (PE Tara National Park, 2012). All of the aforementioned features of the Tara National Park indicate its potential for ecotourism development, and it is no wonder that this protected area is already a visited tourist attraction all over the year by domestic (93.0%) and foreign visitors (7.0%) (Statistical Office of the Republic of Serbia, 2014-2022). Following its designation as a national park, and the construction of accommodations, the importance of the area for tourism development has grown (Manojlović & Bojić, 2014). For instance, the number of visitors in 2019 was 69,847, in 2020 it declined (31,965) due to the COVID-19 pandemic, but it is slowly rising again (41,543 in 2021) (Statistical Office of the Republic of Serbia, 2014-2022). Specifically, recreational, adventure and congress tourism are prevalent forms of tourism in this area (Đorđević et al., 2018). The National Park offers great opportunities for many activities, including walking, biking, hiking, bear watching, skiing, water-related activities (kayaking, rafting, and rowing). This area is already known for health, hunting, and fishing tourism (Bekčić & Trumbulović, 2014), but is also suited for religious, ecological, cultural, 'over-sixty', agro- and incentive tourism (Lutovac et al., 2016). Such activities, which should be carried out in a sustainable manner, preserve biodiversity and aid the existence of natural areas and raise the environmental consciousness of people, particularly the locals (Boz, 2014). According to the fieldwork, the number of tourist arrivals in the Park is on the rise. Still, tourism in the Park has not been well-developed yet, supposably as a consequence of the lack of understanding of the relevance of ecotourism to the future rural development of the area (Manojlović & Bojić, 2014).

Table 1: *Features of the Tara National Park significant for ecotourism development*

No.	Feature	Description
1.	Position and connections	Near Belgrade–Bar motorway; between Novi Sad–Šabac–Loznica–Bajina Baštu–Užice and Užice–Kremna–Kotroman–Sarajevo (B&H) roads. Distance from Belgrade 180 km by the State Road 22. In the vicinity of Bajina Bašta town and Drina River
2.	Geological sites	Karst phenomena (sinkholes and depressions with small sinkholes)[1], c. 90 caves[1]. Gorges (Rača, Beli Rzav, Matića Potok, Derventa, etc.)[1]; canyons (Zvezda, Rača, Selski Potok, etc)[1]; c. 50 waterfalls[1,2]
3.	Hydrology	Rača River, Derventa, Brusnički Potok, Karaklijski Rzav, Baturski Rzav, Beli Rzav, Jarevac River, Vrelo River, etc.; 5 hydroaccumulations; springs (e.g., Ladjevac, Bele Vode)[2]
4.	Climate	Continental–mountain [average temperature 15.3˚C in summer, and -3.7˚C in winter, relative humidity 83.4%; 62 sunny days a year; 106 days of snowfall (October–May, avg. 100 cm), annual precipitation 977.3 mm][2]
5.	Biodiversity of species	c. 1,156 plants[2], c. 600 fungi[3], 96 lichens[3], 171 mosses[3], 58 mammals[3], 23 amphibians and reptiles[2], c. 4000 insects[4], 170 birds, 19 fishes[2]
6.	Biodiversity of habitats	1st degree of protection: 17 sites, 2nd degree of protection: 19 sites[2]; 5 natural monuments[2]
7.	Cultural heritage	5 cultural monuments (e.g., Rača monastery, Solotuša medieval castle); 5 necropolis sites (e.g., Stećci medieval tombstone graveyards); 5 monuments from World War I and II; osaćanka houses[2]
8.	Road network	Main roads (36.44 km), forest roads (134.34 km), and hiking trails (290 km)[2]; 5 educational trails (15.85 km), 2 bicycle routs (70.8 km)[3]

Source: [1]*Telbisz et al., 2021;* [2]*PE Tara National Park, 2012;* [3]*PE Tara National Park, 2022;* [4]*Bogosavljević & Zrnić, 2022*

Tourists may also be drawn to protected areas because they contain rare fauna and flora, ecosystems and unique habitats (Boz, 2014). There are 76 plant species that are listed as endemic to the area of the National Park [e.g., *Centaurea derventana* Vis. et Pančić, *Aquilegia nikolicii* Niketić et Cikovak, *Pimpinella serbica* (Vis.) Drude] (PE Tara National Park, 2012), along with many rare and attractive species (PE Tara National Park, 2012; Jovanović et al., 2018). This prospect piques the interest of particular tourists. Tourist activities are arranged in a territory with unique habitats (Boz, 2014). For instance, *Picea omorika* (Pančić) Purk, also known as Serbian spruce, is the most significant endemic plant species of the Park. It is both a part of the national legacy and a research subject for scientists throughout the world. To conserve these natural rarities, nine natural sites with Serbian spruce have been selected and protected as special reserves (Trumbulović & Stefanović, 2016). These populations are a potential for the development of botanical tourism. It is anticipated that, if managed sustainably, this form of tourism will preserve the ecosystem and the welfare of the local population, as well as strengthen the area's socio-economy.

Table 2: *Forested plant associations found in the Tara National Park*

No.	Plant association	Area	
		ha	%
1.	*Fraxineto-Carpinetum*	2582.24	21.97
2.	*Carpino orientalis-Polyquercetum*	19.60	0.17
3.	*Quercetum petreaea-cerris pauperum*	108.30	0.92
4.	*Querco-Fagetum moesiacae montanum serpentinicum*	129.03	1.10
5.	*Fagetum moesiacae montanum typicum*	10.47	0.09
6.	*Fagetum moesiacae montanum drymetosum*	90.44	0.77
7.	*Fagetum moesiacae montanum drymetosum* on limestone	798.77	6.80
8.	*Fagetum moesiacae montanum dentarietosum bulbiferae*	68.44	0.58
9.	*Fagetum moesiacae montanum*	173.63	1.48
10.	*Piceo-Abieti-Fagetum serpentinicum*	43.71	0.37
11.	*Piceo-Abieti-Fagetum typicum*	5638.39	47.96
12.	*Piceo-Abieti-Fagetum drymetosum*	951.37	8.09
13.	*Piceo-Abieti-Fagetum*	321.49	2.74
14.	*Pinetum nigrae*	499.95	4.25
15.	*Erico-Pinetum sylvestrae serpentinicum*	8.64	0.07
16.	*Piceo-Abieti-Pinetosum sylvestrae*	2.96	0.03
17.	*Pinetum nigrae*	93.75	0.80
18.	*Pinetum sylvestris nigrae serpentinicum*	212.98	1.81
Total:		11754.16	100.0

Source: *PE Tara National Park, 2020*

Mt. Tara is known for its dense natural evergreen woodlands, mostly consisting of mixed beech-silver fir-spruce forests, occupying above 75% of the area, making it one of Europe' most wooded mountains (Bekčić & Trumbulović, 2014). Since the study area is mostly woodland, it might be claimed that the most significant feature of the Park is forest vegetation belonging to 18 forested plant associations. The most abundant forested plant association in the National Park is a Norway spruce–silver fir–beech forest (ass. *Piceo-Abieti-Fagetum typicum*), with an area of 5,638.39 ha (i.e., 47.97% of the Park), whereas the least abundant plant association, covering 2.96 ha (i.e., 0.03% of the Park), is a Norway spruce–silver fir–Scots pine forest (ass. *Piceo-Abieti-Pinetosum sylvestrae*) (Table 2).

The cadastral municipality of Rastište has the largest area in the zone of the 1st degree of protection (2,043.75 ha), and also the greatest number of protected sites (8). In contrast, the cadastral municipality of Solotuša has

the smallest area in the same zone (1.64 ha), and only one site under protection (Table 3).

Table 3: *The zone of the 1st degree of protection in the National Park*

No.	Site		Municipality	Cadastral municipality		
	Name	Area (ha)		Name	Area (ha)	Subtotal:
1.	Crveni Potok	20.09	Bajina Bašta	Konjska Reka	20.09	20.09
2.	Brusnica Canyon	407.87		Jagoštica	407.87	818.82
3.	Zvezda	2025.72			410.95	
				Rastište	1614.77	2043.75
4.	Derventa Gorge	235.67			235.67	
5.	Pod Gorušicom	11.26			11.26	
6.	Crvene Stene	45.72			45.72	
7.	Bilo	14.72			14.72	
8.	Ljuti Breg	15.22			15.22	
9.	Aluška Mts.	98.32			98.32	
10.	Kremići	8.07			8.07	
11.	Račanska Šljivovica	17.81		Rača	17.81	217.62
12.	Rača Gorge	301.8			199.81	
				Mala Reka	101.19	101.19
13.	Pušine	1.64		Solotuša	1.64	1.64
14.	Zmajevački Potok	6.79		Zaovine	6.79	127.42
15.	Vranjak	6.10			6.10	
16.	Studenac	2.74			2.74	
17.	Sklopovi Canyon	111.79			111.79	
Total:			1	**7**		3323.92

Source: *Authors' research based on literature data (JUGINUS, 2019)*

Table 4: *Land use in the Tara National Park*

Municipality Bajina Bašta		
Land use	Area	
	(ha)	%
Forest land	19927.93	79.74
Pastures	2192.30	8.77
Meadows	1012.03	4.05
Orchards	47.59	0.19
Agriculture	959.51	3.84
Water	445.84	1.78
Barren	330.12	1.32
Built-up land	76.50	0.31
Total	24991.82	100.00

Source: *PE Tara National Park, 2020*

As for land use in the area, forests occupy 79.74% of the Park, covering an area of 19,927.93 ha, while 8.77% is occupied by pastures, 4.05% by meadows, 3.84% by agricultural land, and 0.31% by built-up land. The predominant categories in the municipality of Bajina Bašta (Table 4), especially in the largest cadastral municipality with the greatest number of protected sites (Rastište), suggest a high potential for ecotourism and rural development.

The dynamics of socio-demographic parameters of rural development are identified for the 10 cadastral municipalities of the area. The data reveal that the population increased in the 1991–2002 period but then decreased in the 2002–2011 period in all cadastral municipalities, except in Perućac. The population under age 15 has been steadily decreasing, whereas the population over age 65 has increased in all cadastral municipalities except in Konjska Reka and Mala Reka. In the area, the average household size is diminishing. According to the most recent census data, the average household size is 2.5 people. Similar negative socio-demographic trends (depopulation, migration, and age structure changes) were found in the studies for the eastern (Braunović & Perović, 2017) and southern parts of Serbia (Braunović & Ratknić, 2017), and the Fruška Gora National Park (Braunović & Jovanović, 2020). The most prominent obstacles limiting rural development are these trends, as well as weak economic situation and unsatisfactory investments by the State. However, in most cadastral municipalities (excluding Rača, Solotuša, Konjska Reka, and Mala Reka), the share of the working-age population has only marginally decreased. The population of active working-age accounts for 61.0%, but the average lifespan is around 50.5 years (Table 5). Furthermore, the findings of the study emphasize park-people relationships, and the reliance of the local people on the area's resources, since only two cadastral municipalities are primarily agricultural (Jagoštica and Konjska Reka), and two are non-agricultural (Perućac and Zaugline), whereas the rest of them are mixed with only one that has a relatively high share of agricultural population (Zaovine) (JUGINUS, 2019). Besides the rich cultural-historic heritage and biodiversity of flora and fauna of the area, these factors are conditions for rural development by means of ecotourism development, considering that ecotourism's main role is not only the environmental protection, but also the generation of profit, education, and involvement of local population (Lutovac & Đuričić, 2014). The influence of ecotourism is manifested in the betterment of the area's socio-demographic status, the reduction of local underemployment, the strengthening and development of the rural economy, and thus the reduction of inequities in the area's development

(Rokvić et al., 2017). Despite the fact that a national park is an effective tool for environmental protection, neglecting the reliance of local population on natural resources leads to tensions between local population and park authorities (Nath & Alauddin, 2006). Protected areas may only be justified as a way of national development and nature conservation if they benefit local people (Robinson & Ginsberg, 2004). The people of the Tara villages, as landowners and existentially reliant on the judicious use of natural resources in the National Park, are natural stakeholders in the conservation and long-term development of this area (Trumbulović & Stefanović, 2016). Some activities should be introduced to lessen the reliance of local people on the area's natural resources (Nath & Alauddin, 2006). In many protected areas, ecotourism is one of the few feasible economic sectors. It works particularly well for women and young people by providing them with employment opportunities. Local people, for instance, may profit financially by supplying travelers with accommodation and catering services. In the same way, if educated people are engaged, they may serve as tour guides. They are also possible hosts and a valuable part of the entire ecotourism package (Trumbulović & Stefanović, 2016). The Tara National Park is now in the early stages of the development of ecotourism, and it is hoped that it would involve the engagement of the local population for greater environmental protection and the population's well-being. According to the published statistics, agriculture is the main economic sector for two of the 10 cadastral municipalities in the area, whereas the majority of them are mixed (JUGINUS, 2019). This is an important aspect since only simultaneous growth of the non-agricultural sector can enhance career opportunities and better the life quality of a rural community, supply additional sources of income, and maintain the communities in rural areas (Erokhin, 2011). In fact, local communities, particularly those that do not thrive through industrial means, could profit immensely from tourists who respect their property and deliver additional income.

From the previous discussion, it is evident that ecotourism development makes an indisputable contribution to the reorganization of rural and sometimes weak economies. The most noteworthy benefits anticipated after the development of ecotourism are increased participation of the local community in new career opportunities and improved life quality, development of the rural area, and expansion of the economy of the area (Ivolga & Molchanenko, 2014).

Table 5: *Demographic parameters of rural development in the Tara National Park in 1991-2011*

Parameters	Year	Cadastral Municipality										Total
		Jagoštica	Rastište	Zaovine	Konjska Reka	Perućac	Beserovina	Zaugline	Rača	Mala Reka	Solotuša	
Average size of a settlement (person)	1991	188	517	649	134	687	275	415	765	527	1273	5430
	2002	152	473	442	112	845	213	348	672	489	1066	4812
	2011	77	308	263	78	530	187	279	591	427	890	3630
Population under 15 years of age (%)	1991	17.0	15.5	6.5	10.4	19.8	13.5	15.7	17.8	15.4	15.7	14.7
	2002	7.2	12.5	5.9	10.7	14.3	12.2	11.5	15.0	16.6	12.0	11.8
	2011	1.3	6.5	1.5	10.3	10.9	11.2	9.0	10.0	13.3	12.0	8.6
Population over 65 years of age (%)	1991	13.3	13.5	26.5	17.2	10.2	17.8	18.1	13.6	12.7	13.4	15.6
	2002	27.6	28.5	44.8	31.3	15.1	21.1	22.1	18.9	22.5	24.9	25.7
	2011	46.8	38.3	56.5	28.2	19.8	24.6	24.7	20.8	19.9	24.6	30.4
Population in working age (%)	1991	69.7	71.0	69.7	72.4	70.0	68.7	66.3	68.6	71.9	70.9	69.9
	2002	65.1	59.0	49.3	58.0	70.0	66.7	66.4	66.1	60.9	63.1	62.5
	2011	51.9	55.2	41.8	61.5	69.6	64.2	66.3	69.2	66.7	63.4	61.0
Average size of a house-hold (person)	1991	3.2	3.1	2.8	3.8	2.8	3.1	3.3	3.6	3.5	3.6	3.2
	2002	2.9	2.5	2.3	3.3	2.7	2.6	2.9	3.1	3.2	3.1	2.9
	2011	2.5	2.2	1.9	2.6	2.7	2.6	2.7	2.7	3.0	2.8	2.5
Average duration of life (years)	1991	-	-	-	-	-	-	-	-	-	-	-
	2002	47.3	46.9	56.5	47.6	41.4	44.3	45.1	41.1	41.8	44.6	45.7
	2011	58.8	54.2	62.6	51.9	45.7	46.7	48.7	45.4	43.7	47.3	50.5

Source: *Statistical Office of the Republic of Serbia (2014a, 2014b, 2022)*

According to the findings of the SWOT (Table 6) and PESTEL matrices (Table 7), the significant advantages, strengths, and opportunities for ecotourism development in the area are the unspoiled nature, numerous sites in the zones under protection, a large number of touristic facilities (eco-camps, viewpoints), high commitment to nature conservation, well-connected road networks, large number of tourist arrivals, the high share of the working population, the concern of the local people for ecotourism development, and potential ecotourism benefits for the local population. In contrast, the major disadvantages, weaknesses and threats to rural and ecotourism development of the Park are low funding by the State, low awareness about the relevance of tourism for the area's development, lack of a database (cadasters of springs and watercourses, mapped trails and sites, etc.), insufficient institutional collaboration, a lack of a common strategy on Park management and tourism development, youth migration, inadequate destination promotion, poor economy, unemployment, poor relationship between the local community and Park administration, and unsatisfactory engagement of the locals in the development of ecotourism in the area.

Table 6: *SWOT matrix of the ecotourism in the Tara National Park*

Strengths	Weaknesses
- Unspoiled landscape; - Good quality of water, air, and soil; - Road networks that are well-connected; - Numerous protected sites in the zones under protection, and rare species; - 5 educational eco-camps for the young; - 9 viewpoints; - Forest and non-timber forest products; - Traditional way of life; - Environmental protection; - High share of the population in working-age - Hunting area; - Diverse touristic activities: walking, cycling, hiking, bear-watching, etc.; - Medieval necropolis in good condition; - Authentic architecture (osaćanka houses); - A large number of visitors.	- Insufficient road network in the rural area; - No administration system in the villages; - Decrease of arable land; - Slow information flow from the country; - Hard life during winter; - Irresponsible behavior of visitors; - Lack of common strategy for park management and tourism development; - A lack of coordination among stakeholders of development; - No market for products; - Poor relationship between the National Park administration and the local community and unsatisfactory engagement of the local community; - Insufficient budget for archaeological excavation and conservation of protected cultural monuments.
Opportunities	**Threats**
- Organic agricultural production; - Hunting tourism; - Alternative energies; - The development of rural tourism, which can be linked to ecotourism; - The concern of the locals in the development of ecotourism (as a potential rural development driver); - Improvement of the Tara National Park website; - Community workshops to increase awareness about natural resources; - Execution of the management plan on the National Park visiting, and improved ranger service; - Advanced local education, communication, and involvement; - An organized market for all products; - Good marketing; - Standardization and quality improvement of infrastructure in the Park.	- Poor economic conditions; - Insufficient collaboration between institutions, local self-governments, the non-governmental sector, and the local community in the execution of strategy and planning documents; - Climate change (drought, snowbreaks, windbreaks, floods, fire, torrents, erosion, etc.); - Endangerment by unlawful building, transportation, gathering of fungi and plants, grazing, and hunting; - Lack of education; - Depopulation of rural areas where there are the greatest ecotourism potentials; - The risk of disrupting plant and animal ecosystems; - The conflict between agriculture and protected areas; - The conflict between tourism and protected areas may occur as a result of the construction of infrastructure required for tourism development.

Source: *Authors' research*

Table 7: *PESTEL matrix of the ecotourism in the Tara National Park*

Factors	Advantages	Disadvantages
Political	- Relevance of tourism to the national economy; - Relevance of tourism to the locals; - Nature conservation funds by the EU.	- Inadequate budget planning on the State and local levels; - Insufficient cooperation among the state and local institutions.
Economic	- Potential for ecotourism development; - Experts in the economic, tourism, and hotel sector; - Participation of foreign companies in the financing of ecotourism.	- Low investments by the State; - Undeveloped economy and unemployment; - Inadequate market for organic produce.
Social	- The incentive of the local community to be involved in tourism; - The interest of the young in tourism; - The high percentage of the population in working-age.	- Youth migration from rural areas; - Lack of awareness about the importance of ecotourism; - Public and local involvement.
Technical and technological	- Solid coverage of internet signals; - Application of modern technologies in the communication with the visitors of the Park.	- Lack of database (e.g., cadasters of springs, trails and sites); - Poor regional and local roads; - Poor destination promotion.
Environmental protection	- Numerous protected areas, and rich fauna and flora; - The interest of the young in nature conservation and their participation in actions; - Camps and actions on environmental protection.	- Inadequate protection of natural resources and historic heritage; - Unethical degradation of the local environment; - Low monitoring of wildlife; - Lack of data on introduced flora and fauna.
Legal aspects	- The Action plan for protected areas; - Law on Ratification of the Convention on Biological Diversity; - Environmental Law and Nature Conservation Law; - Law on Local Self-Government.	- Inadequate nature conservation regulations; - Insufficient supervision of the enforcement of the Environmental Law and the convention execution.

Source: *Authors' research*

Conclusions

The convenient location and climate, diverse fauna and flora, richness in geological elements and water, and the substantial historical legacy of the

Tara Nation Park are a foundation for the implementation of adequate ecotourism activities in the Park and financial potential for the local population. The Tara National Park is mostly constituted of forestland, as the area's most valuable natural asset, indicating a great potential for rural development as a desirable accompaniment of tourism in the future.

The most prominent obstacles limiting the area's rural development are negative socio-demographic trends. In contrast, the area's opportunity for rural development by means of ecotourism development is related to the fact that the working-age population accounts for 61.0%, and agriculture is not the most significant economic sector for the majority of the local cadastral municipalities. The most notable advantages and opportunities for ecotourism development are the numerous sites under protection and tourist attractions, nature conservation, well-connected roads, a large number of tourist arrivals, and the interest of the local population in ecotourism development. The major disadvantages and threats to rural and ecotourism development in the Park are inadequate State funding, ignoring the significance of ecotourism development, weak collaboration among institutions, lack of a common strategy for Park administration and development of tourism, poor economy, unemployment, and the poor relationship between the local community and Park administration.

Creating economic opportunities in this area needs optimal connectivity, investments, assisting the promotion and conservation of its natural and cultural resources, adopting new technologies, acquiring proper abilities and products, and good institutional collaboration.

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References

1. Avant (2022). *The future of tourism – Sustainable and respectful with the environment*, https://www.avantgrup.com/en/the-future-of-tourism-sustainable-and-respectful-with-the-environment/, (11 March 2022).

2. Bekčić, A., Trumbulović, L. (2014). Ecotourism of Green Mountains. *1st International Conference "Higher Education in Function of Sustainable Development of Tourism in Serbia and Western Balkans"*, Užice, 87-92.

3. Bogosavljević, Đ., Zrnić, S., *Tara – Elegantna i nepredvidiva*, https://www.vreme.com/mozaik/tara-elegantna-i-nepredvidiva/, (5 March 2022).

4. Boz, D. (2014). Diversification of Botanic Tourism by Benefiting from the Plant-Bioinformatics System. *Global Review of Research in Tourism, Hospitality and Leisure Management*, Vol. 1, No. 2, 102-116.

5. Braunović, S., Jovanović, F. (2020). Assessing Ecotourism Potential of the Fruška Gora N.P. and its Impacts on the Rural Development. *TISC - Tourism International Scientific Conference*, Vrnjačka Banja, Vol. 5, No. 2, 41-58.

6. Braunović, S., Perović, V. (2017). Soil Erosion, Changes of Land Use and Migration Trends – Impact on Tourism Development. *TISC - Tourism International Scientific Conference*, Vrnjačka Banja, Vol. 2, No. 2, 306-323.

7. Braunović, S., Ratknić, M. (2018). Migration Trends and the Concept of Ecotourism. *TISC - Tourism International Scientific Conference*, Vrnjačka Banja, Vol. 3, No. 2, 750-767.

8. Đorđević N., Lakićević M., Milićević S. (2018). Benčmarking analiza turizma u nacionalnim parkovima Tara i Kopaonik. *Ekonomija teorija i praksa*, Vol. 11, No. 3, 52-70.

9. Environment Protection Institute of Serbia, *Zaštićena dobra Srbije,* https://cloud.gdi.net/visios/zzps, (15 February 2022).

10. Erokhin, V. L. (2011). Specifics of Agricultural Entrepreneurship in the Conditions of Trade and Economic Integration. *Agricultural Bulletin of Stavropol Region*, Vol. 1, No. 1, 69-72.

11. International Union for Conservation of Nature (IUCN), https://www.iucn.org/, (8 March 2022).

12. Ivolga, A. G., Molchanenko, S. A. (2014). Increase of Employment and Income of Rural Population as a Factor of Sustainable Development of Regional Recreational Sector. *International Scientific Conference*

"Sustainable agriculture and rural development in terms of the Republic of Serbia strategic goals realization within the Danube region: Rural development and (un)limited resources", Belgrade, 18-33.

13. Jovanović, F., Obratov-Petković, D., Bjedov, I., Živanović, I., Braunović, S., Ćirković-Mitrović, T., Tomović, G. (2018). Morphological Variability of Snowdrops in the Central Part of the Balkan Peninsula. *Hortscience,* Vol. 53, No. 8, 1119-1124.

14. Lutovac, M., Đuričić, M. M. (2014). Ecotourism – An Important Development Opportunity for the Western Balcans and Serbia. *1st International Conference "Higher Education in Function of Sustainable Development of Tourism in Serbia and Western Balkans"*, Užice, 271-282.

15. Lutovac, M., Đuričić, M. M., Đuričić, M. R. (2016). Total Quality Management – Necessity of Tourist Destination "National Park of Tara". *3rd International Conference "Higher Education in Function of Sustainable Development of Tourism in Serbia and Western Balkans"*, Užice, 77-90.

16. Manojlović, M., Bojić, M. (2014). Comparison of Sustainable Tourism Development Between Mountain Tourist Destinations Zlatibor and Tara. *1st International Conference "Higher education in function of development of tourism in Serbia and Western Balkans"*, Užice, 367-378.

17. Nath, T. K., Alauddin, M. (2006). Sitakunda Botanical Garden and Eco-park, Chittagong, Bangladesh – Its Impacts on a Rural Community. *The International Journal of Biodiversity Science and Management*, Vol. 2, 1-11.

18. Nikolic, M., Sîrbu, C. C. (2021). Aspects Regarding Ecotourism and Rural Tourism in Serbia. *Lucrări ştiinţifice*, Seria I, Vol. 23, No. 1, 193-199.

19. PE Tara N.P. (2012). *Plan razvoja šuma Nacionalnog parka Tara za period 2012-2021. godina.* Bajina Bašta.

20. PE Tara N.P. (2020). *Plan upravljanja Nacionalnim parkom Tara za period 2020–2029. godina*. Bajina Bašta.

21. PE Tara N.P., *Tara Nacionalni park*, https://www.nptara.rs, (11 February 2022).

22. Robinson, J. G., Ginsberg, J. R. (2004). Issues in International Conservation: Parks, People, and Pipelines. *Cons. Biology*, Vol. 18, 607-608.

23. Roković, G., Galić, M., Vasko, Ž. (2017). Rural Tourism as a Means for Strengthening Rural Economy. *International scientific conference ITEMA 2017*, Budapest, 158-166.

24. Schauble, T. (2022). *Top ecotourism trends in 2020 and the future of tourism,* https://tashi.travel/blog/2020/top-ecotourism-trends-in-2019-and-the-future-of-tourism, (11 March 2022).

25. Statistical Office of the Republic of Serbia (2014a). *Book 20: Comparative Overview of the Number of Population by 1948, 1953, 1961, 1971, 1981, 1991, 2002 and 2011 Censuses data by settlements*. Belgrade.

26. Statistical Office of the Republic of Serbia (2014b). *Book 21: Comparative Overview of the Number of Households by 1948–2011, Censuses and Dwellings by 1971–2011 Censuses*. Belgrade.

27. Statistical Office of the Republic of Serbia (2014–2022). *Statistical Release: Catering and Tourism Statistics, Tourist Turnover – December 2013–2021*. Belgrade.

28. Statistical Office of the Republic of Serbia, *Population by age and sex, by settlements*, https://www.stat.gov.rs/sr-latn/oblasti/popis/prethodni-popisi/popisni-podaci-eksel-tabele/, https://www.stat.gov.rs/en-US/oblasti/popis/popis-2011/popisni-podaci-eksel-tabele/, (3 February 2022).

29. Telbisz, T., Ćalić, J., Kovačević-Majkić, J., Milanović, R., Brankov, J., Micić, J. (2021). Karst Geoheritage of Tara National Park (Serbia) and its Geotouristic Potential. *Geoheritage,* Vol. 13, No. 4, 88.

30. Trumbulović, L., Stefanović, J. (2016). Eco-rural Tourism on the Mountain Tara. *3rd International Conference "Higher Education in Function of Sustainable Development of Tourism in Serbia and Western Balkans"*, Užice, 479-486.

31. Yugoslav Institute for Town Planning and Housing (JUGINUS) (2019). *Prostorni plan područja posebne namene Nacionalnog parka "Tara" – Nacrt plana*. Belgrade.