

## RESIDENTS' PERCEPTIONS OF TOURISM IMPACT ON COMMUNITY IN NATIONAL PARKS IN SERBIA

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**Abstract:** The research involved a comparison of two case studies dealing with the perceptions of the local population to tourism. The effects and the control of tourism development were analyzed, as well as the availability of information on sustainable tourism and impact on the community in two national parks (NPs) in Serbia. The survey method was applied on a sample of 227 (NP Đerdap) and 210 (NP Tara) respondents. The survey results identified the strong positive perception of the presence of tourists among the two categories of respondents and also certain differences regarding economic benefits of tourism. Research also recognized a poor impact of tourism on the local community in terms of their knowledge and personal involvement. Education and employment in tourism industry were found to be strong factors affecting the residents' perceptions. Some independent variables significantly predicted the level of local population's support for tourism in both national parks (tourism impact on job creation, tourism impact on fostering a local culture, etc.). This comparative analysis provides inputs for directing future tourism programmes and devising a development policies adjusted to the needs of the local community.

**Key words:** residents' perceptions, comparative analysis, tourism impacts, NP Đerdap, NP Tara, Serbia

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**Apstrakt:** Istraživanje je podrazumevalo komparaciju dve studije slučaja u vezi sa stavovima i reakcijama lokalnog stanovništva na turizam. Analizirani su efekti i kontrola turističkog razvoja, kao i dostupnost informacija o održivom turizmu i uticaj na lokalnu zajednicu u okviru 2 nacionalna parka u Srbiji. Primenjena je metoda anketnog istraživanja na uzorku od ukupno 227 (NP Đerdap) i 210 (NP Tara) ispitanika. Registrovana je snažna pozitivna percepcija u odnosu na prisustvo turista u lokalnoj zajednici, ali i utvrđene izvesne razlike između dve kategorije ispitanika u sferi uticaja turizma na ekonomske varijable. Istraživanje je, takođe, prepoznalo da turizam ostvaruje slab uticaj na lokalnu zajednicu, u smislu informisanja i lične uključenosti u turističku privredu. Obrazovanje i zaposlenje u turizmu primarno determinišu stavove lokalne zajednice. Utvrđeno je da određene nezavisne varijable značajno predviđaju nivo podrške lokalnog stanovništva turizmu u oba nacionalna parka (uticaj turizma na otvaranje novih radnih mesta, uticaj turizma na stimulisanje lokalne kulture, itd). Ovakva komparativna analiza pruža inpute za usmeravanje budućih turističkih programa i kreiranje razvojnih politika prilagođenih potrebama lokalne zajednice.

**Ključne reči:** stavovi lokalnog stanovništva, komparativna analiza, uticaj turizma, NP Đerdap, NP Tara, Srbija

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## 1. Introduction

Over the past decades, academic attention has largely been focused on the social impact of tourism and understanding the local community's perception of this industry. Local communities can traditionally experience tourism in a positive context, due to its potential impact on job creation, income generation and investment attraction, infrastructure and services improvement, and the overall improvement of welfare (Haralambopoulos & Pizam 1996; Mitchell & Reid 2001). On the other hand, the local population can also experience tourism in a negative context, due to socio-cultural impacts and environmental degradation (King et al., 1993; Chen, 2000). In most cases, people will be aware of the positive and negative implications of tourism and will base their assessment on the relative weightings they consider to be benefits and costs. In this regard, the authors highlight the so-called "tourism development dilemma" (Telfer & Sharpley, 2008) faced by the local population – the acceptance of the community's benefits from tourism, but also of its negative social and environmental effects.

A specific dimension of impact in the relationship between tourism and the local community is present in protected areas due to the distinct ecological component and the status of these areas (Eagles & McCool, 2002). The authors agree that the improvement and strengthening of the relationship between the local population and the protected area is of key importance for the long-term preservation of the area's biodiversity and for maximizing the benefit for the community (Kideghesho et al., 2007; Mombeshora & Le Bel, 2009; Holmes, 2011). If protected areas seek to achieve long-term continuity as institutions, and if they are to be efficient in implementing protection actions, the local population must support them. Dissatisfied local people will oppose regulations related to protected areas, protest against them, refuse to cooperate with authorities and participate in their plans, directly undermining the institution of the protected area and the health of biodiversity (Holmes, 2011). In order to prevent this, it is necessary to understand the attitudes and needs of the community, thereby providing adequate policy guidelines and management decisions and mitigating negative social impacts (Pérez & Nadal, 2005). A positive public attitude is one of the key indicators of the successful functioning of the protected area in all spheres and it can significantly facilitate actions aimed at conservation and sustainable management (Struhsaker et al., 2005).

National parks provide a variety of benefits such as recreational opportunities, preservation of species biodiversity, wilderness, wildlife habitat, etc. These areas permit scientists, the community members and other participants to meet various needs (Ezebilo & Mattsson, 2010). There is a growing literature reporting increased request for recreational experiences in national parks (Arnberger and Brandenburg, 2007; Sessions et al., 2016; Schägner et al., 2016). That is partially a consequence of the fast urbanization followed by a reduction in green space in different areas worldwide (Goddard et al., 2010; Rossi et al., 2015). In such cases, inhabitants have begun to look for alternative places for their recreational needs. Increased demands in national parks globally, and other protected areas, have generated a spectrum of various impacts with numerous consequences for local community members.

At the local level, the economic benefits from national parks can be indirectly obtained from investments by government or non-governmental actors in different types of infrastructure (schools, health centers, etc.), in the provision of services (facilitation of small enterprises), or direct subsidies (payments) (Ezebilo & Mattsson, 2010). Economic benefits can also be obtained from employment in tourism sector. By contrast, the designation of a national park may result in reduction in the land area for the agriculture. This can reduce the income for local communities, whose survival is largely dependent on this activity. Communities affected by reduction of income must earn extra revenue to achieve their starting level of utility. In such cases, the economic prosperity of the community becomes the main basis for the increased interest of the local population in tourism development.

The residents' community perception of tourism impacts has been an important topic among authors dealing with development of tourism industry (Chen, 2000; Gursoy & Rutherford, 2004; Pérez & Nadal, 2005; Lepp, 2007; Sharma & Dyer, 2009; Nunkoo & Gursoy, 2012; Brankov et al., 2015; Petrović et al., 2017; Lemmi et al., 2018; Milanović Pešić et al., 2018; Jojić Glavonjić et al., 2019). Most of the studies on tourism's impact perceptions have been conducted on a specific destination, while studies exploring and comparing tourism's impact perceptions between two different destinations (especially protected natural areas) are not widely represented. Our aim is to be able to extend the validity of our conclusions by doing such comparison.

A centralized approach to the planning and management of protected areas in Serbia in the past has minimized the role and significance of the local population living in the territory that belongs to the protected area or is located along its boundaries (Tomićević et al., 2005). The collaboration between NPs and local communities is currently primarily associated with the regulation of communal problems and the implementation of infrastructure projects, and it is implemented through consultations with local communities and local self-governments (Brankov et al., 2017). Although the need to involve local residents in tourism planning and management in their communities has been recognized in the past several decades, there is no objective and systematically processed information on how local communities in the territory of national parks respond to tourism. In order to improve aforementioned scenario, this study observes

the differences in the groups of residents, according to their perception of tourism impacts in two national parks in Serbia – NP Tara and NP Đerdap.

## **2. Theoretical Background and Research Questions**

Many authors have emphasized the importance of tourist-resident interaction and admitted that successful and sustainable tourism development is inextricably linked to the support provided by the local population (Ap & Crompton, 1998, Gursoy & Rutherford, 2004). This is especially true on national parks with fragile environments and specific ecological status because the tourism concentration encourages more interactions between tourists and residents and may offer more confirmation on environmental harm caused by this industry.

Sustainable tourism development consider environmental interests, the socio-cultural and economic needs of both the tourist and the communities involved, creating various economic opportunities for future generations (UNWTO, 1993). In order to maintain a stability between the positive and negative influence of above-mentioned factors, one must pay attention to the local community – the most important stakeholder and the central element within the tourism development process (Muresan et al., 2016). Authors claim that in balancing the competing social, economic, and environmental needs of current and future generations, solutions that value the input of the local community are more likely to be successful (Roy, 2009). Given the sustainable tourism development at the local level requires much more collaboration than practiced today, different studies used stakeholder theory to emphasize the importance of perceptions of one primary stakeholder segment (community residents) (Nicholas et al., 2009, Jaafar et al., 2015). Academic literature has also been focused on the idea of residents' place image, in relation to its effect on perceptions of tourism impacts and support for its sustainable development (Ramkissoon & Nunkoo, 2011; Styliadis et al., 2014). Latest research have assessed sustainable tourism development by examining residents' perceptions of the sustainability of community-based tourism founded on tourism area life cycle theory (Lee & Jan, 2019).

Over the last few decades, a growing number of studies on the residents' perceptions of tourism impact have been conducted under the framework of specified theories. According to social representations theory, analysis of these representations can explain individual perceptions of tourism impacts. Concept of "collective representations" has been criticized because of its static and ambiguous character and also because it was appropriate only to a previous era and type of society (Rose et al., 1995). According to community attachment theory, community attachment of the population affects the resident's perception of impact (McCool & Martin, 1994). Fried (2000) argues that attachment to a community can be understood in terms of the deeper meaning of experiencing close, local relationships with people (which consequently influences resident's perception). This theory has often been criticized for simplifying the resident's perception.

The conceptual framework for this study is based on the most relevant theory related to the resident's perception of tourism impacts – social exchange theory (SET) (Ap, 1992; Jurowski et al., 1997; Andereck et al., 2005; Abdollahzadeh & Sharifzadeh, 2014; Garau-Vadell, Díaz-Armas, & Gutierrez-Taño, 2014). The SET theory assumes that there is an exchange of resources between individuals and groups in each interaction situation (Turner, 1974). As a consequence, the SET explains resident's support for tourism in different occasions, where interactions are treated as a process in which "actors" supply one another with valued resources (Ap, 1992). When applied to attitudes, the SET determines that residents search for what they estimate as equal benefits in return for what they themselves offer (resources and participation in planning, development, and operation of tourist attractions) (Pérez & Nadal, 2005). According to this theory, residents who found this exchange beneficial for their prosperity will have positive reactions to tourism development and those who interpret this exchange as questionable will not support tourism development.

Keeping in mind the widely recognized importance of the local community's reactions and support, scholars have investigated in detail the various categories of exchange process – socio-economic (Nunkoo & Gursoy, 2012; Lee, 2013), socio-cultural (Zamani-Farahani & Musa,

2012), political (Bryant, 2002), environmental (Udaya Sekhar, 2003; Kideghesho et al., 2007; Maříková & Herová, 2010; Holmes, 2011) or the joint impact of all mentioned segments (Teye et al., 2002; Pérez & Nadal, 2005; Sharma & Dyer 2009; Gupta & Prakash, 2014). Taking economic point of view into account, the majority of studies have shown that residents with personal benefits from tourism and those who perceive a greater level of economic gain (increased employment opportunities), tend to be stronger supporters for tourism development (King et al., 1993; Lankford & Howard, 1994; Haralambopoulos & Pizam, 1996). Similarly, residents who are somehow involved in tourism decision making or residents who feel they are educated about tourism, tend to have a more positive perception of tourism than others (Andereck et al. 2005).

Taking into account the SET framework, we have applied a methodology in our study relying on surveys with the aim to investigate residents' perceptions on the impact of tourism on the economic, socio-cultural and environmental status of two national parks in Serbia – NP Đerdap and NP Tara. To meet the above goal, two specific research questions are discussed:

1. Will the similarity of destinations status as protected areas result in similar outcomes on the residents' support to the tourism industry?
2. Are there any differences in observed tourism impacts among residents with different socio-demographic characteristics and whether these differences are similar for both national parks?

Bivariate and multivariate statistical analysis is used for identifying and testing the relationship between socio-economic characteristics and the perception of tourism impacts. Different regressions models for predicting the level of community support were also created.

### **3. Study Area**

Five national parks have been declared in Serbia and they represent the most complex category of protected areas. National parks are managed by specialized public companies, and the National Parks Act stipulates permitted actions within this type of protected areas which do not threaten the survival of species and natural ecosystems. Their status is meant to ensure the overall sustainable development; accordingly, its attainment has been set as a priority in managing these facilities.

For the purpose of this study, two national parks in Serbia have been selected, located in the border regions of the country, one of which is a typical mountainous area – NP Tara, while the other is defined by a hydrographic factor – the composite valley of the Danube River and the Đerdap Gorge – NP Đerdap (Map 1). The Đerdap National Park is located in northeastern Serbia, on the border with Romania. It covers the narrow corridor of the Đerdap Gorge, i.e. its right lowland side and the sector along the bank of the Danube, reaching almost 100 km in length. It was declared in 1974 and it belongs to the administrative territory of the municipalities of Golubac, Majdanpek and Kladovo. The most popular tourist activities conducted by tourists are the following: visits to the cultural sites (83% visitors has done this activity), hiking (54.7%), swimming (35%), cruising (33%), event participation (26%) and visits to the authentic rural households (20.3%) (Brankov, 2015).

The Tara National Park covers the largest part of the mountainous region of Tara, in Serbia's far west, on the border with Bosnia and Herzegovina. The NP Tara was declared in 1981, and it includes a set of mountain elevations and plateaus, intersected with deep river valleys. It extends over the territory of the municipality of Bajina Bašta, and its especially valued feature is the canyon of the Drina River, composed of limestone rocks reaching up to 1000 m in height. The most popular activities for tourists are: hiking (83.5%), mountaineering (60.2%), visits to the cultural sites (51.5%), visits to the railway tourist attraction "Šargan Eight" (44.2%) and swimming (39.3%) (Brankov, 2015).

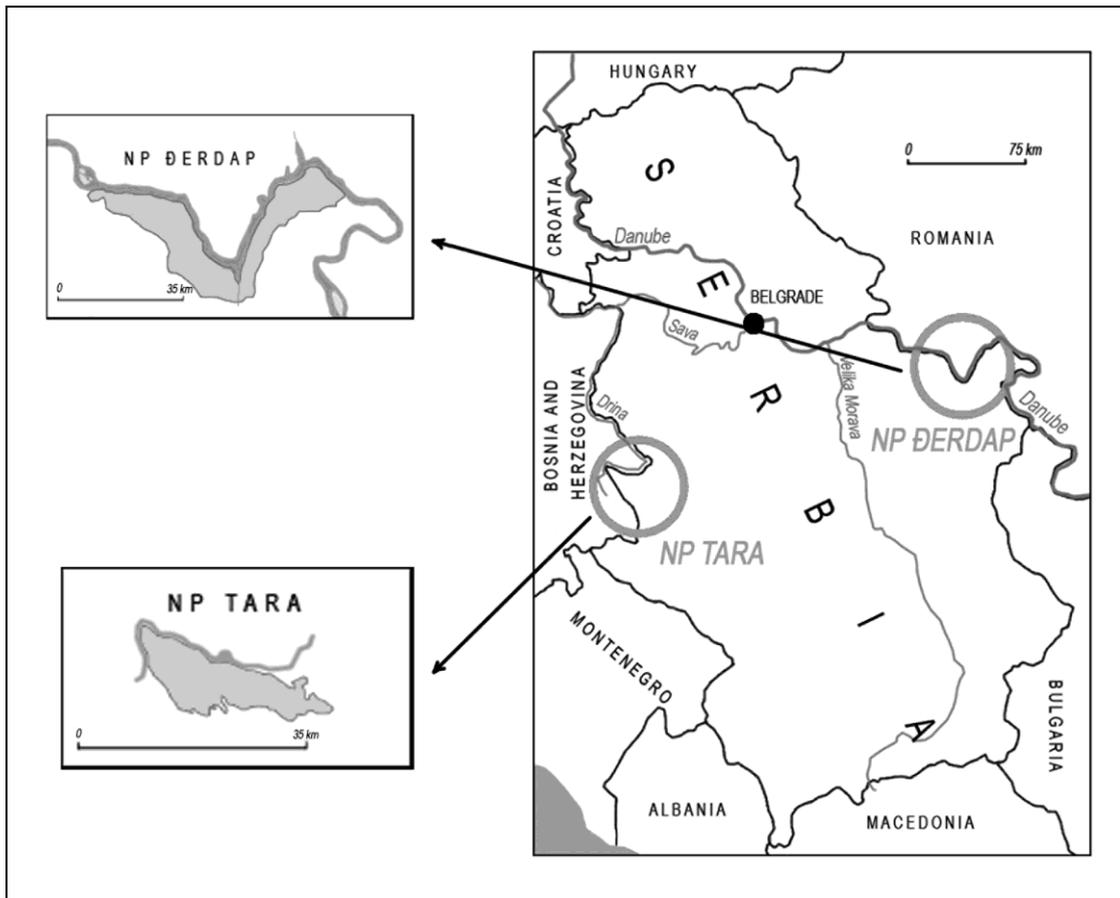


Fig 1. Location of the study area. Source: own elaboration

Tourism was present in the territory of today's national parks well before their establishment. This has led to a changed state and increased vulnerability of natural ecosystems in some areas of the parks, and has caused the zoning of their territory. A detailed investigation of sustainable tourism indicators in the national parks of Serbia (Brankov, 2015, Brankov et al., 2017) has revealed that tourism development is currently only partially planned and that it is, to a certain degree, spontaneous. Tourism development planning, as compared to the primary sector activities, has a secondary importance and the national parks' economic benefits derived from tourist activities are symbolic. For example, the managing body of the NP Tara receives 80% of all revenues from planned forest management. On the mountain of Tara, forestry has a tradition longer than a century and it has been the target of most investments (about 50% of total investments) and the main activity of the managing body (Brankov, 2015).

The shared feature of the municipalities in the territory of which the analysed national parks are located is the decline of economic activities in the previous period, due to which they were assigned the status of devastated/underdeveloped areas in Serbia (Regulation on the establishment of a uniform list of the development of regions and local self-government units for 2014, 2014). The area of national parks is also marked by an underdeveloped private sector. Under the circumstances, business entities that provide services (primarily trade) prevail, whereas tourism is a secondary activity that does not receive large-scale funding. The exceptions are settlements with a developed tourist function, which caused them to obtain the status of a town, although those settlements are closer to the rural areas according to their characteristics (Donji Milanovac within NP Đerdap) (Stojanović et al., 2017).

Unlike municipalities in the territory of the NP Đerdap, marked by poor natural potential for intensive agricultural production, in the municipality of Bajina Bašta, agriculture is one of the most important and leading industries, according to the achieved gross domestic product. For both NPs, strategic and planning documents have been developed that aim to make tourism an active segment of the economic development policy. However, postulates defined in such

documents have been implemented on a modest scale. Although tourism development is often considered a quick way to make a profit without major capital investment in facilities and factories, compared to other activities, tourism is still not a dominant industry in the municipalities on the territory of which the NP Tara and the NP Đerdap are located. This is evidenced by the percentage of the local population employed in tourism, ranging from 6–8% of the economically active population.

As far as visitors are concerned, local tourists prevail in both national parks. Although there are no official statistics to measure visits to national parks only, public companies record visits to visitor centres and info-points for visitors (24% of foreign tourists in the NP Đerdap and 11% in the NP Tara in 2016). As these data are not complete (e.g., excursion visitors are not registered), it should be highlighted that they must be interpreted with a reservation.

#### 4. Methodology

The research involved a comparison of two case studies dealing with the attitudes of the local population towards tourism. Survey was used as a data collecting method. When designing the survey, the authors used the methodology recommended by the UN World Tourism Organization (UNWTO, 2004) for the analysis of sustainable development indicators, which was adjusted to the analyzed region.

The survey was conducted during field visits to national parks. Face-to-face interviews were used during visits to families on randomly selected samples, involving 227 (NP Đerdap) and 210 (NP Tara) respondents. The data were collected by using a structured self-administered questionnaire that authors delivered personally to the households. The interviewer briefly explained the subject and the purpose of the research to the person opening the door and invited them to participate in the study (persons under the age of 18 did not participate in the survey). If they were willing to participate, the interviewer read the questions slowly and filled in the questionnaire after receiving the oral answers from the respondents. The community members were told that their participation was anonymous and they were encouraged to give the truthful opinion. From every household, only one person partook in the research, because it is known that people from the same household often have similar attitudes (Andriotis, 2005).

The questionnaire comprised two main sections. The first section aimed to measure residents' perception on the four spheres of tourism impacts and this part of the questionnaire consisted of 13 statements. This categorization of impacts is in line with past studies that suggest the existence of three (e.g., Jurowski & Gursoy, 2004; Nunkoo & Ramkissoon, 2012; Stylidis et al., 2014) major elements involved in the exchange process of tourism development – economic, socio-cultural and environmental impacts. Some authors also include legal and moral impacts in the analysis (Tosun, 2002). This is also in line with the triple bottom line approach to impacts, commonly used in literature on sustainable development of tourism (Andersson & Lundberg, 2013; Prayag et al., 2013), with the addition of the fourth sphere of influence.

Perceived economic impacts were measured by four items (*creating new jobs for the local population; employing the young local population; increasing property value; infrastructure*), while perceived legal and moral issues were investigated by two variables (*crime; decline in moral standards*). Three measurement items were used to capture perceived socio-cultural impacts (*establishing new services; development of the local culture without compromising the integrity and authenticity of the community; activities of the local population*). Perceived environmental impacts were evaluated using four items (*environment; noise and crowd; access to sightseeing spots, utilization of natural resources needed by the local population*). The measurement items of the identified impacts were formulated so that respondents had the freedom to determine the extent to which they perceived those impacts as being positive or negative (with a bipolar scale ranging from 1 = *Significantly worsening* to 5 = *Significantly improving (stimulating)*, with 3 indicating *makes no difference*) (Table 1).

The second section of the questionnaire captured *residents' perception on tourism development control and the overall attitude towards tourism*. For answering within this section, Likert-type scale (with a scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*, with 3 indicating

*neutral opinion*) has been used. This section consists of 4 variables reflecting the attitudes towards the tourism development control and 4 other variables on the overall attitude towards tourism (Table 3).

The initial idea regarding the survey sample was to cover the settlements with the largest population within the NPs or along their boundaries (with the most developed tourist offer and the most intensive contact between the local population and tourists), marked by different socio-demographic structures. For this reason, in the NP Đerdap, the local population was surveyed in the three largest tourist centres – Golubac, Donji Milanovac and Kladovo, which are at the same time municipal centres. According to the latest Population Census, which was conducted in Serbia in 2011, there were 9729 inhabitants in Kladovo, 2410 in Donji Milanovac and 8331 in Golubac (Statistical Office of the Republic of Serbia, 2013).

In the territory of the NP Tara, the survey covered the town of Bajina Bašta, the centre and the largest settlement in the municipality where the NP is located. According to the latest Population Census, there were 9148 inhabitants in Bajina Bašta, (Statistical Office of the Republic of Serbia, 2013). Five villages within the NP or its closest protection zone were also included in the research – Rastište (308 inhabitants), Solotuša (890 inhabitants), Rača (591 inhabitants), Beserovina (187 inhabitants) and Perućac (530 inhabitants) (Statistical Office of the Republic of Serbia, 2013).

In both case studies, identical groups of research techniques were used for data analysis. This involved the use of descriptive statistics (frequency, central tendency), as well as bivariate (t-tests, ANOVA) and multivariate (multiple regression) analysis. As the applied research and sampling methods, data collection tools, the analyzed variables and data analysis techniques were identical; a realistic basis for meaningful comparisons was created. The aim of the comparative analysis was to identify elements that influenced the formation of attitudes towards tourism and predict a specific outcome (community support) in order to enable the practical application of the results in directing future tourism programmes and devising a development policy adjusted to the needs of the local community.

## **5. Results**

In examining the scale reliability, the Cronbach's alpha coefficient was calculated (.849) and the good internal consistency was confirmed. In order to analyze the attitudes of the local population regarding the impact of tourism in various spheres of life, 13 tourism impact variables were defined and classified as economic, legal and moral, social and cultural, and environmental (Table 1). The analysis also included variables associated with the local community's control of tourism development, as well as the overall attitude towards tourism and the right understanding of the impact of tourism on the community (Table 3).

The impact of tourism on various social and economic activities, as well as on environmental protection, was the first to be examined. Thirteen variables were taken into consideration in relative terms, with regard to their impact, where the mean value of the variable ranging between 1 and 2.4 revealed a negative perception, 2.5–3.4 neutral, and a value of 3.5 and higher showed a positive attitude. The socio-demographic profile of the respondents is shown in Table 2.

Tab 1. Perceived tourism impacts.

Variables	NP Đerdap Mean	NP Đerdap SD	NP Tara Mean	NP Tara SD
<b>Economic Issues</b>	<b>3.5</b>		<b>2.6</b>	
Creating new jobs for the local population	3.6	1.2	2.5	1.1
Employing the young local population	3.4	1.3	2.3	1.1
Increasing property value	3.4	1.2	3.3	.9
Infrastructure (roads, water supply system, sewage, waste management)	3.5	1.3	2.3	1.1
<b>Legal and Moral Issues</b>	<b>1.95</b>		<b>2.1</b>	
Crime	2	1	2	.8
Decline in moral standards	1.9	.9	2.2	.9
<b>Social and Cultural Issues</b>	<b>3.6</b>		<b>3.0</b>	
Establishing new services (healthcare, communal, etc.)	3.1	1.4	2.2	1
Development of the local culture without compromising the integrity and authenticity of the community	3.5	1.2	3.3	.8
Activities of the local population	4.1	1.1	3.6	.9
<b>Environmental Issues</b>	<b>3.4</b>		<b>3.2</b>	
Environment	3.9	1.1	3.4	1.1
Noise and crowd	2.3	1.2	2.3	.8
Access to sightseeing spots in NPs	4.1	1	3.5	.9
Utilization of natural resources needed by the local population (fish, water, etc.)	3.1	1.3	3.4	.9
<b>13 Impact Variables</b>	<b>3.1</b>		<b>2.7</b>	
<i>"What is the impact of tourism in your municipality/community on the following activities? Scale: 1 – Significantly worsening; 2 – Worsening; 3 – None (makes no difference); 4 – Improving (stimulating); 5 – Significantly improving (stimulating)"</i>				

Tab 2. Socio-demographic profile of the respondents.

Variables		NP Đerdap (%)	NP Tara (%)
Gender	M	46.7	47.1
	F	53.3	52.9
Age	18–29	23.0	27.6
	30–39	27.8	33.8
	40–49	21.9	20.5
	50+	27.3	18.1
Education	Elementary education	18.1	16.2
	Secondary education	59	61.4
	University degree	22.9	22.4
Employment in tourism industry	Yes	20.3	20.5
	No	79.7	79.5

According to the respondents from both samples, tourism positively influenced the access to sightseeing spots in the NP and fostered the activities of the local community. The local population from both national parks believed that tourism had no impact (either positive or negative) on the increase of property prices and the utilization of natural resources needed by the local community. Respondents from both samples believed that tourism did not encourage (a negative impact) the rise in crime, decline in moral standards, increased noise and the creation of crowds. Apart from the listed ones, the values of all other variables (negative, neutral, positive) turned out to be different when the answers of the respondents from the two national parks were compared. For example, respondents from the NP Đerdap believed that tourism had a positive impact on the creation of new jobs, the improvement of infrastructure, environment and development of local culture. In the NP Tara, respondents had a neutral or even negative opinion (e.g., infrastructure) in case of these variables. A significant difference in the opinions of the two groups of respondents was observed regarding the employment of the young local population. Generally speaking, the central tendency of the respondents from the NP Đerdap revealed that they had a more positive attitude than their counterparts from the other national park.

Tab 3. Attitudes towards tourism development control and the overall attitude towards tourism.

Variables	NP Đerdap Mean	NP Đerdap SD	NP Tara Mean	NP Tara SD
Local community controls tourism development (V1)	3.3	1.2	2.8	.9
Money spent by tourists remains within the community (V2)	3.3	1.3	2.8	.9
Access to places used by tourists (V3)	3.7	1.2	3.7	.9
Availability of information on sustainable tourism (V4)	3.2	1.3	2.9	.9
Support to sustainable tourism development (V5)	4.4	.8	4.4	.6
Correct understanding of tourism impact on the community (V6)	4.2	.8	4.1	.6
Attitude towards the presence of tourists in the community (V7)	4.4	.9	4.2	.7
Overall opinion on tourism in the future (V8)	4.4	.7	4.4	.6

According to the variable analysis related to the control of tourism development, in the NP Đerdap, the share of the respondents who believed that the local community controlled the development of this activity (50.7%) was considerably larger than the share of their counterparts in the other national park (25.2%). Similar results were obtained in the analysis of attitudes related to the distribution of profit from tourism within the community. The opinion of the population regarding the presence of tourists was also examined in a relative sense. The mean values of the examined variables (4.4 in the NP Đerdap and 4.4 in the NP Tara) suggested that the central tendency of the respondents fell in the sphere of a strong positive perception, revealing support to tourism. Accordingly, the local population in both national parks strongly supported the development of sustainable tourism (91.2% in the NP Đerdap and as many as 95.7% in the NP Tara), which indicated that possible positive effects of tourism on the local population's quality of life were recognized (Table 3).

### 5.1 Influence of socio-demographic variables on the local support to tourism

The samples from both national parks were subject to t-tests and one-way analysis of variance (ANOVA) in order to examine the relationship between socio-demographic variables and the residents' support to tourism. The analysis included the variables related to the control of tourism development (Table 3).

A series of t-tests applied on independent samples was carried out with the idea of comparing the results obtained on two different, independent groups of people regarding the observed features (variables related to tourism development control and the overall attitude and support to this industry). Statistically significant differences were mostly identified in the NP Tara. It was found that women more strongly supported the claim that the local community controlled tourism development (V1), as well as the claim that information on sustainable tourism was easily available when needed (V4) (Table 4).

Tab 4. T-test of perceptions by gender.

Residents' perceptions (NP Tara)	Mean		t - value	p
	Male (n=99)	Female (n=111)		
Local community controls tourism development (V1)	2.63	3.03	-3.06	.003
Availability of information on sustainable tourism (V4)	2.75	3.09	-2.53	.01

(\* p<0.05)

It was also observed that tourism employees in the NP Tara (or those with at least one member of the close family employed in this industry) had a more positive attitude to the claim the local community had an easy access to places used by tourists (V2) than the respondents not employed in this industry. A significantly more positive attitude in this group of respondents was also observed regarding the easy availability of information on sustainable tourism (V4). As far as the NP Đerdap is concerned, t-tests applied to independent samples revealed that tourism employees in this NP believed

more strongly that the money spent by tourists remained in their community than the respondents not employed in this industry (Table 5).

Tab 5. T-test of perceptions by employment in tourism industry.

NP TARA				
Residents' perceptions	Mean		t - value	p
	Tourism employee (n=43)	Unemployed in tourism (n=167)		
Access to places used by tourists (V3)	3.86	3.56	2.13	.04
Availability of information on sustainable tourism (V4)	3.42	2.80	3.74	.0001
NP ĐERDAP				
Residents' perceptions	M		t - value	p
	Tourism employee (n=46)	Unemployed in tourism (n=181)		
Money spent by tourists remains within the community (V2)	3.76	3.24	2.53	.01

(\*p<0.05)

One-way analysis of variance (ANOVA) was used to compare the average results of the observed features in several independent groups of respondents. In the NP Đerdap, it was established that local residents with a higher education level more supported the development of sustainable tourism in their own community – both the population with a secondary education and residents with a university degree. The respondents with a higher education level (secondary education and university degree) were more convinced that their understanding of the impact of tourism on the community was correct than the respondents who had completed only elementary school. The respondents from the former education category were also more convinced that their community needed much more tourism activities than the inhabitants with an elementary education. In the NP Tara, surveyed residents with a secondary education were more convinced that information on sustainable tourism was easily accessible than the respondents with a lower education (elementary school) (Table 6).

Tab 6. Differences in perceptions among different education level of respondents.

NP ĐERDAP					
Residents' perceptions	Education level			F - value	p
	Elementary school	Secondary education	University degree		
Support to sustainable tourism development (V5)	4.05	4.49	4.46	5.4	.005
Correct understanding of tourism impact on the community (V6)	3.90	4.25	4.31	3.5	.03
Overall opinion on tourism in the future (V8)	4.20	4.53	4.46	3.4	.03
NP TARA					
Availability of information on sustainable tourism (V4)	2.53	3.05	2.85	3.79	.02

(\*p < 0.05)

The younger population in NP Tara (aged 30–39) had a more positive opinion regarding an easy access for local community members to the places used by tourists than the elderly population (age category 50–59) (Table 7).

Tab 7. Differences in perceptions among different age categories of respondents.

NP ĐERDAP						
Residents' perceptions (NP Tara)	Age				F - value	p
	Up to 29	30–39	40–49	50+		
Access to places used by tourists (V3)	3.76	3.77	3.60	3.29	2.9	.03

(\*p < 0.05)

The results obtained are consistent with some past studies (Hernández et al., 1996; Teye et al. 2002; Andriotis & Vaughan, 2003, Almeida-Garcia et al., 2016) that emphasized education as an important predictor of populations' perceptions on tourism's effects. According to these researchers, compared to residents with high education levels, people with lower education levels might consider themselves less likely to get a job and, in turn, to directly benefit from tourism sector. In addition, community members with lower education levels might be more interested in preserving their traditional way of life given the socio-cultural changes happening in their settlement. In accordance with some previous research (Almeida-Garcia et al., 2016), the employment in tourism industry was found to be a significant predictor of the respondents' perceptions. Compared to those working in jobs not related to tourism, residents working in tourism sector potentially believe that their jobs provide more in-depth knowledge on tourism impacts and hence more favorable attitudes. In general, all of these findings are consistent with the principles of the social exchange theory – those who benefit from tourism identify larger preferences than others (King et al., 1993).

## 5.2 Predicting the level of community support

In order to assess the model as a whole and determine to what degree the analyzed variables could predict a specific outcome, a standard multiple regression analysis was applied. The analysis of the overall attitude towards tourism included three dependent variables: Y1 ("Attitude towards the presence of tourists in the community") Y2 ("Support to sustainable tourism") and Y3 ("Overall opinion on tourism in the future"), as well as 22 independent variables (12 tourism impact variables, 5 variables related to the control of tourism development and understanding of its impact on the community, 4 socio-demographic variables). When analyzing each regression model, the values of the tolerance and the variance inflation factor were taken into account, in order to test multicollinearity.

The results obtained in the NP Đerdap suggest that several independent variables significantly predict the degree of the local populations' support towards tourism. However, part of the variance of the dependent variable explained in each of the three regression analyses does not exceed the mean value, or is low ( $r^2$  for Y1 is .39; for Y2 it is .46, and for Y3 the analysed determination coefficient has a value of .18). As it has been established that the three dependent variables are mutually correlated, a new dependent index variable was formed by adding three independent variables ( $Y4 = Y1 + Y2 + Y3$ ).

Tab 8. Multiple regressions of the degree of support to tourism in the NP Đerdap for tourism impact variables.

Variable	Standardized Coefficient Beta	Correlations	
		Zero-order	Part
Creating new jobs for the local population	0.45	0.49	0.25
Development of the local culture without compromising the integrity and authenticity of the community	0.14	0.32	0.10
Access to places used by tourists	0.24	0.45	0.18
Correct understanding of tourism impact on the community	0.24	0.42	0.19
Age	-0.15	-0.10	-0.11

N= 227,  $r^2 = 0.480$

Table 8 shows the results of a standard multiple regression analysis with the resulting, new, index variable (Y4). It may be concluded that 5 out of 21 independent variables are included in the equation, explaining 48% of the variance of the local population's support to tourism. Specifically, the local residents from the NP Đerdap who support the development of tourism industry share the following characteristics and attitudes:

- they believe that tourism creates new jobs for the local population;
- they believe that tourism fosters the development of a local culture without compromising the integrity and authenticity of the community;

- they believe that the local population has an easy access to places used by tourists;
- they believe that they correctly understand the impact of tourism on the community;
- they belong to younger age categories.

It is particularly interesting that only one of the four socio-demographic variables (age) was included in the regression equation, while other indicators (gender, education level, employment in tourism) did not show a combined impact on the local community's attitude on tourism. As evident, perceived economic and socio-cultural impacts have the strongest effect on residents' support. This is partially expected, especially when it comes to potential economic impacts, since this type of benefits are both easy to observe and are often the most valued by local residents (Gursoy et al., 2002; Prayag et al., 2013).

The application of a standard multiple regression analysis on the sample of respondents from the NP Tara yielded completely different results. It was found that a number of independent variables predicted the local population's level of support to tourism to a statistically significant degree, but the variance values of the dependent variables explained in each of the three models were low ( $r^2 = .21$  (for Y1);  $r^2 = .25$  (for Y2);  $r^2 = .10$  (for Y3)). As the obtained correlation coefficients among the dependent variables indicated weak correlation strength, no combined index variable was formed, as it was done in the previous case.

In the case of the first model (Y1), 4 out of 22 independent variables explain 21% of the variance of attitudes towards the presence of tourists. It is interesting that the local residents from the NP Tara who supported the presence of tourists in the community shared the following attitudes: they believed that tourism neither created new jobs for the local population, nor employed young people, but they did believe that tourism development fostered the local culture without compromising the integrity and authenticity of the community. The respondents, also, believed that tourism had no impact on the crime rise.

As far as the other two models are concerned, only two variables made a statistically significant unique contribution – the variable related to the correct understanding of the impact of tourism on the community (for Y2) and the variable related to the availability of information on sustainable tourism to the local population (for Y3).

## 6. Conclusion and discussion

Based on the obtained research results, several conclusions can be made. From a general point of view, similarity of destinations status as protected areas has resulted in similar outcomes on the resident's support to the tourism industry to a certain extent. The analysis of the survey has shown that the local population of both national parks generally recognizes tourism as a potential development driver and has a positive attitude towards this industry. A strong positive perception regarding the presence of tourists in the local community is observed, which indicates the absence of any xenophobic feelings between tourists and the local population. Positive effects of tourism (no increased noise and large crowds, undisturbed access for the local population to sightseeing spots, undisturbed local activities and the fostering of local culture) are highlighted and a high degree of agreement regarding these aspects is reached among the respondents. According to the SET, we concluded that both segments of population have found the entire "tourist-resident" exchange beneficial for their prosperity, therefore, they supported development of tourism. Although residents were generally supportive, some concerns, primarily about environmental (NP Tara) and social impact of tourism, have been expressed.

The obtained research results suggest that certain independent variables significantly predict the degree of the local populations' support to tourism. Positive resident's attitudes in NP Đerdap were connected with the belief that tourism creates new jobs for the local population and fosters the development of the local culture and the authenticity of the community. Positive resident's attitudes in this NP are also related to some non-economic values such as: understanding of tourism impact on the community, accessibility of places used by tourists and age. These results confirm the principles proposed by previous studies, which indicated that residents who receive benefits from tourism or those who feel they are knowledgeable about

tourism, tend to have more positive perception of tourism development (Lankford & Howard 1994; Andreck et al. 2005).

Although strong support to the development of sustainable forms of tourism is generally present in both national parks, the study has identified certain differences in the sphere of tourism impact on the tested variables. This particularly applies to economic benefits related to the creation of new jobs for the local population. In this sphere, certain negative attitudes have been observed among the residents of the NP Tara who in general support the presence of tourists in their community. This negative attitude is explained in greater detail in a separate segment of the research (not included in this analysis), which involved respondents' answers to open-ended questions related to tourism development issues within the community. The respondents highlighted insufficient investment in this industry as one of the problems in the NP Tara, as well as the lack of involvement of the structures responsible for its organization, resulting in the corrupt employment of incompetent (politically engaged) staff. However, despite the observed negative perceptions, the residents of NP Tara have recognized other benefits of tourism (primarily cultural and legal benefits) therefore they supported the development of tourism industry.

It is necessary to point out that the positive perception related to tourism and its future development is significantly influenced by the limited employment opportunities in other sectors of the local economy. As previously mentioned, the municipalities on the territory of which the analyzed national parks are located mostly belong to the group of underdeveloped (Bajina Bašta, Kladovo) or extremely underdeveloped municipalities in Serbia (Golubac), implying the development below the national average, accompanied with unemployment and a low gross domestic product. In such cases, the economic prosperity of the community becomes the main basis for the increased interest of the local population in tourism development. This trend is rooted in structural changes in the economic base, fuelled by state and corporate decisions, but also by the general economic crisis in the country (terminating or reducing the production of industrial facilities), resulting in the pursuit of new, alternative ways of employment.

The findings of this study revealed that the most significant variable affecting resident's perception within both samples is education. The more educated people strongly supported the tourism development and had more positive perceptions regarding the availability of information on sustainable tourism and correct understanding of tourism impact on the community. This is consistent with some previous research (Teye et al. 2002; Andriotis & Vaughan, 2003) and can be explained by the fact that much has been written regarding benefits of tourism for NPs in Serbia at the local level. Therefore, this category of respondents could be more familiar with benefits than those with lesser education. The current study also concludes that people employed in tourism (or those who had at least one member of the closest family employed in this industry), had more positive opinion toward certain segments of tourism impacts (availability of information, the ways of spending money from tourism in the community). These findings appear to be in agreement with the basic principles of the social exchange theory – those who benefit from tourism perceive, on average, greater advantages than others (King et al. 1993; Lankford & Howard 1994). Comparing the results of both surveys, we conclude that attitudes on the tourism impact were partly gender based only in NP Tara.

The study has shown that in both national parks, tourism has a weak impact on the local community, in terms of knowledge and personal involvement in this industry. Although local residents have expressed a very positive attitude, they are still not properly informed regarding the control of tourism development at the local level, nor are they aware of the paths of the money spent in tourism. The same applies to the ways of making profit and providing tourism services. The locals recognize the term 'sustainable tourism' as positive, although they often do not know what exactly is implied under the term and how to get relevant information. The fact that the respondents believe that their understanding of tourism's impact on the local community is right and consider that the tourist offer should be enriched and expanded opens space for positive action in the future.

There are numerous managerial implications that can be highlighted. Future actions should be directed towards providing detailed information and enabling an easy access to information

related to community involvement in tourism activities, as well as ensuring improved coordination of participants in tourism (tourist organizations – NPs – local self-governments – NGOs). The managers of the NPs should take the role of educators of the population living in the municipalities on the territory of which these protected areas are located. As a way of improving the insufficient cooperation of participants in the tourism industry at different levels (which also involves the local population – NPs relation), the organization of meetings and workshops by the management of the NPs is recommended. These meetings should explain the activities of the management and present the options for involving all stakeholders in tourism development process. Also, through the implementation of training and seminars, the local community would participate in the activities related to the concept of sustainable tourism development. According to the results of this study, this concept encountered great misunderstanding among the local population, so the management is required to point out the possible role of the community in this process. An attitude of the management of NPs towards tourism was somewhat passive in the past, so in order to change it, the mentioned meetings have been intensified over the past years and are organized several times per year. Seminars, with an emphasis on rural development and involving the local population in tourism, are being arranged in partnership with educational institutions, WWF (World Wide Fund for Nature), NGOs, etc.

It is necessary to provide specific guidelines, as well as financial incentives. Local governance structures should be actively involved by providing tourism subsidies and encouraging small business in this sphere. One of the highlighted problems is the lack of start-up capital among the local population, due to which increased and targeted investments in tourism by the state are needed, with special financial incentives for private individuals. We highlight that positive developments have been made by the implementation of international projects and meetings that encourage cooperation between local communities and governance structures, but these have been merely initial actions that have not been implemented on a large scale.

The studies on the resident's perception of tourism impacts can be extremely useful to the destination managers for design and development of successful strategic plans. In line with this, our research points to the internal threats to the sustainable tourism development and provides the opportunity to take actions. In order to ensure a better understanding of the impact of tourism on the local community, we recommend implementation of the comparative interstate research studies that would add new results to the outcomes of this research. For future comparative analysis research would be useful to include different socio-economic indicators (gross domestic product) and variables (length of the stay, occupation) that may affect residents' perception on tourism impacts. Such studies may help researchers to develop more universal theories regarding the links between perceptions and tourism development.

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