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RESIDENTS' PERCEPTION TOWARD PROTECTED AREAS – LANDSCAPE OF EXCEPTIONAL FEATURES "VLASINA" (SERBIA)

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Abstract: This study is created and carried out with the intention to help to improve management in the protected area of "Vlasina", through a better participation of the local community. In order to depict the perception of local residents in the Landscape of exceptional features "Vlasina" the survey method was conducted on 81 adult residents (9,6% of the adult residents). During the survey, it was noticed that the proximity of the protected area affects the perception of local inhabitants. This is the reason why study area was divided into two parts: the area of the Vlasina Lake edge and the area of the Vlasina Lake hinterland. The obtained data were analyzed with standard statistical methods, descriptive statistic (frequency) and the Chi-square test. The research results indicate statistically significant association in the case of population attitudes about the conditions for developing rural tourism and the impact of protected area on the quality of life. While the residents near the Vlasina Lake see a bought (positive and negative) effect of the protected area on the quality of life and that the future of their village could be ensured through tourism, the inhabitants of the Vlasina hinterland have opposite views. Furthermore, the manager of the protected area is perceived negatively in both groups of inhabitants. All findings confirm that the protected area had little or no impact on the life and economy of the local population. Finally, the results of this study impose the obligation to the management structure to develop effective strategies and actions which will improve relationships with local residents.

Key words: protected area, local residents' perceptions, benefits and losts, Vlasina, Serbia

1. INTRODUCTION

An effective global network of protected areas (PAs) is seen as a key strategy to conserve biodiversity. However, the creation and maintenance of these areas in many countries is debatable (Allendorf, 2007). Their establishment often involves relocation and depriving people of access to resources upon which they have depended for generations (Western 1989; West & Brechin, 1991). Therefore, the authors are unanimous that finding ways to address local residents' concerns and integrate them into management strategies is crucial for the successful long-term conservation of these areas (Newmark & Leonard, 1993; Fiallo & Jacobson, 1995; Furze et al., 1996; Allendorf et al., 2006). As a consequence of this, active participation of citizens is considered as a key component in numerous participatory conservation models (Gadd, 2005; Kideghesho et al., 2007; Parr et al., 2008; Khadka & Nepal, 2010; Brunckhorst, 2010; Shackleton et al., 2010). Also, the relationship between PAs and local residents must be clearly understood in order to achieve PA conservation goals (Ormsby & Kaplin 2005).

A conceptual framework for understanding the human dimension of PA management was developed by Firey (1960) in the form of resource use theory. This theory recognizes three-value factors (ecological, economic, and ethnological/cultural) that interact with each other and play a crucial role in determining local perception toward a resource system. Different social groups value and interpret the resource system differently, depending on their own value factors (Mehta & Heinen, 2001). In accordance with the

above, there is growing empirical evidence in support of the thesis that benefits are an incentive for people to support protected areas and perceive conservation positively (Ite, 1996; Abbot et al., 2001; Goodwin & Roe, 2001; Sekhar, 2003). There are different types of benefits to local residents from PAs. Authors emphasize the importance of substantial benefits (fuel wood, grazing land, forest products), economic benefits (tourism-related employment income), and also non-economic benefits (conservation of wildlife, religious and cultural values, benefits for future, generations) (Gillingham & Lee, 1999; Infield, 2001; Spiteri & Nepal, 2006; Allendorf, 2007; Sandbrook, 2010). On the other hand, there are certain costs for the local population living in proximity to PAs (damage to crops). Consequently, residents' support for PA depends mainly on their perceptions of these costs and benefits and balancing these trade-offs become critical to long-term sustainability of PAs (Newmark & Leonard, 1993). A number of studies worldwide have examined the varied local responses towards PAs. Studies about perceptions are being widely used in evaluating public acceptance and the impact of conservation interventions (Walpole & Harold 2001; Christopoulou & Tsachalidis, 2004; Wang et al., 2006; Kideghesho et al., 2007; Bosak, 2008; Alibeli & Johnson, 2009; Šulc & Valjak, 2012; Bennett & Dearden, 2014), including domestic ones ,which are for this research of the particular importance (Stojanović et al., 2011; Drašković, 2013, Pavić et al., 2016; Petrović et al., 2017).

Many factors may influence perceptions and attitudes toward PAs, including access to park-related benefits (Newmark & Leonard, 1993, Boer & Baquete, 1998), the absence of local participation in decision-making of PA (Trakolis, 2001), relationships with PA staff (Ite, 1996; Ormsby & Kaplin, 2005), time of residence in the area (Newmark & Leonard, 1993). Some socioeconomic factors (age, education, place of residence, affluence) could significantly affect the conservation attitudes of local community (Newmark & Leonard 1993, Fiallo & Jacobson, 1995). Social aspects are often ignored in managing PA. It is usually an emphasis on protecting biodiversity. The primary cause of this is "the epistemological gap" between ecological and social sciences (Manolache et al., 2018). And these valuable spaces and people living in their immediate surroundings are inseparable and indispensable to each other for the sustainable development of these areas. Stressing the necessity of action of all stakeholders in the management of protected natural resources, Hossu et al., (2017) note the equally important nature of state actors and non-state actors. As important is the expert and technical knowledge of state actors in adopting programs and management plans, as much are the concrete experiences and knowledge of non-state actors, which in turn bring the local component into it. The plans for managing protected natural assets are often abstract, stereotype, all of them similar to each other, with the lack of concrete proposals of actions, measures and ways of their implementation. Insufficient financial resources and low environmental awareness of the local population are the most common causes of conflicts in PA (Stolon, 2008; Ioja et al., 2010). To overcome them, all stakeholders must be involved. Yet, the joint work of all stakeholders is at the same time the biggest challenge in managing PA, of which over the past twenty years more and more researchers have been discussing (Ruttinger et al., 2014; Hossu et al., 2018).

Based on the aforementioned conceptual framework, we have applied in our study a methodology relying on surveys with the aim to investigate residents' responses towards Landscape of Exceptional Features (LEF) "Vlasina". To meet the above goal, specific research hypotheses are defined. The basic hypothesis (H1) was: The proclamation of the PA had little or no impact on the life and economy of the local population. The basic hypothesis contained four sub-hypotheses:

1. H1a: The local inhabitants have no economic benefit from life in the protection zone or in the immediate surroundings of the PA.
2. H1b: The local inhabitants do not suffer any harm because they live in the protection zone or the immediate environment of the PA.
3. H1c: The location or proximity of the settlement relative to the PA affects the perception of the local inhabitants - the settlements closer to the basic phenomenon suffer a greater impact.
4. H1e: The socio-demographic characteristics of the individuals affect their overall perceptions.

We selected a set of personal cost and benefit variables that we hypothesized would affect local attitudes. Bivariate statistical analysis is used for identifying and testing the relationship between socio-economic characteristics and the perception of impacts.

2. STUDY AREA

Landscape of exceptional features „Vlasina" is a protected area located in the southeastern part of the Republic of Serbia, in the territory of the municipalities of Surdulica and CrnaTrava, in the Pčinja and the Jablanica districts. By the Decree on Proclamation (Official Gazette of the Republic of

Serbia, No. 30 of 11 April 2006), Lake Vlasina and its surroundings have been protected as Protected Area of category I -LEF. The PA covers a total of 12 740.90 ha and includes parts of the cadastral municipalities in seven settlements of the Surdulica municipality (Božica, Vlasina Okruglica, Vlasina Rid, Vlasina Stojkovićeva, Groznatovci, Drajinci and Klisura, total of 12 228.10 ha) and a small part of the Crna Trava municipality (512.80 ha) without inhabited places. All settlements are in the zone of protection regime III, and apart from Božica all other settlements also include in their territories parts in the zone of protection regime II (Fig. 1).

Vlasina Lake, the largest and the highest (altitude> 1000 m) lake in Serbia, is characterized by the rare species of fish and birds, and its rare plant species are its most remarkable features. So far, 840 plant species, 125 bird species and 27 species of mammals have been recorded (Group of authors, 2007). In November 2007, the Vlasina area was placed on the List of Wetlands of International Importance, also known as the Ramsar List. Also, Vlasina is the Important Plant Area (IPA), the Important Bird Area (IBA) and the part of the "Emerald" European ecological network. In the surroundings of the lake there is rich cultural heritage: Palja monastery (X-XI century), the St. Nicholas Church in Božica, former medieval monastery on Rud, today the church of the Holy Prophet Ilija, remains of the medieval mining that testify of developed mining in Roman times, are only part of the rich cultural heritage of this region. Vlasina is also known as fishing and hunting area. Tourist Organization of Surdulica is the manager of the LEF "Vlasina".

The socioeconomic structure of the population of the investigated area is very unfavorable. The region in which Vlasina is located (South and Southeastern Serbia) is one of the most affected by the process of depopulation. And the lack of human resources is one of the main obstacles to the establishment of an adequate sustainable development strategy in mountain border areas (Martinović & Ratkaj, 2015). It is precisely from the South-eastern (and Eastern) Serbia that migration of the population from the rural areas of Serbia began, in the 60s of the last century (Todorović, 2007). According to the 2011 Census, the average age

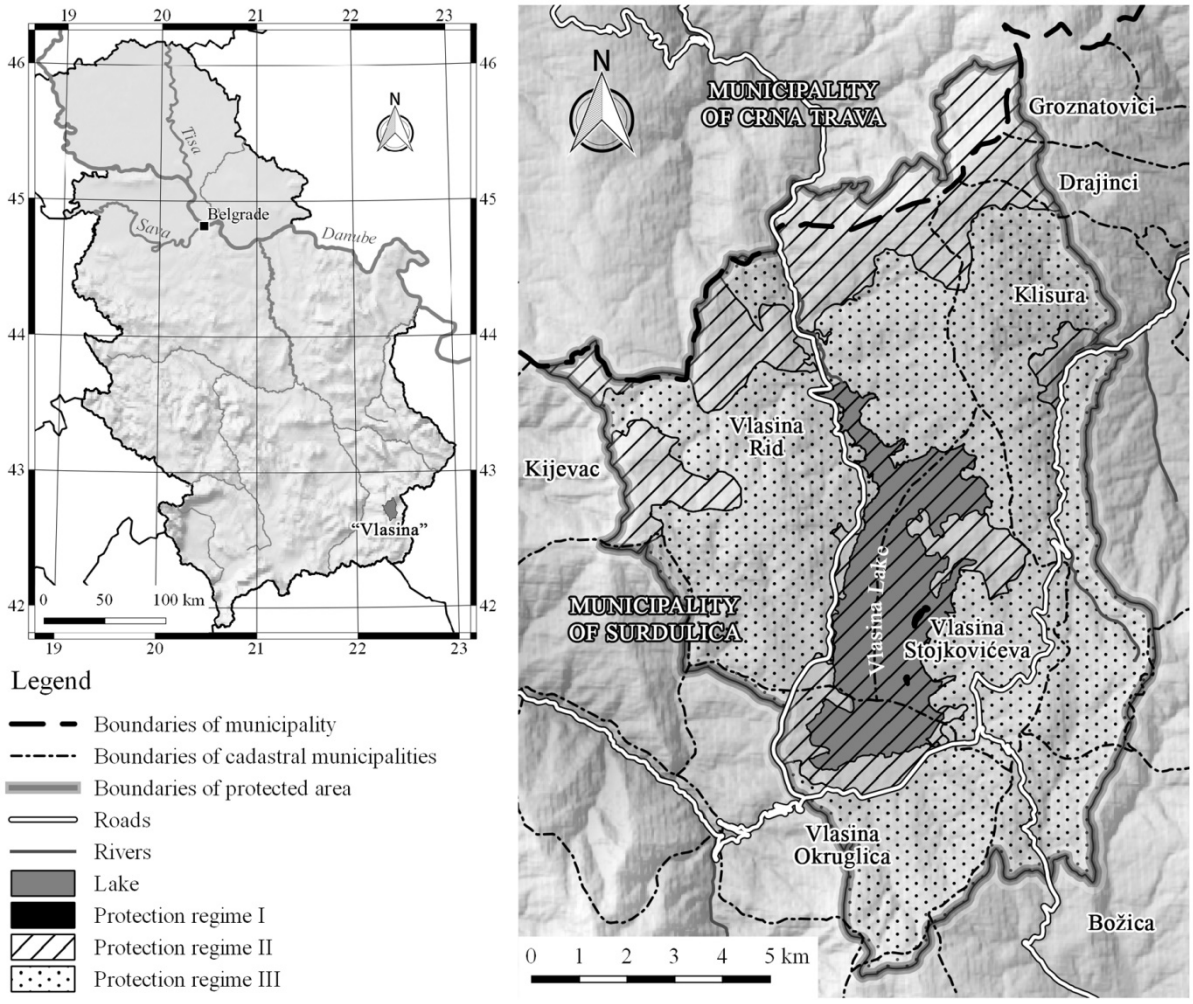

Figure 1. Landscape of exceptional features "Vlasina" with surrounding villages and its location in Serbia

of inhabitants in the territory of the surveyed settlements was 47 years, while the average at the level of the Republic for the same period was 42.2 years. The aging index in Serbia (without AP Kosovo and Metohija) according to the 2011 Census had a value of 121.9. In the entire research area it was more than three times higher (378.7), and especially high in the settlements of the hinterland (516). This negative process in the Vlasina area is not a recent one. The aging index greater than 40 was recorded for the first time in the 1971 Census, which coincided with the major social changes that affected the Vlasin region as result of the processes of industrialization and urbanization.

Demographic emptying of settlements and unfavorable age structure (a higher percentage of the population over 65 years of age –38.4% in the total population of LEF "Vlasina", compared to the percentage of the population under the age of 18– 12.1%, Statistical Office of the Republic of Serbia 2012) inevitably led to unfavorable conditions for economic development. The region of southern and southeastern Serbia and the municipality of Surdulica, in which LEF "Vlasina" is located, are among the most undeveloped in Serbia. According to the 2011 Census, the unemployment rate in Surdulica municipality was 40.9%, while at the same time the national average was 22.4% (Statistical Office of the Republic of Serbia, 2013).

3. METHODOLOGY

The research used a survey method. The survey was conducted in May 2017, in the area of six settlements of the PA: Božica, Vlasina Okruglica, Vlasina Rid, Vlasina Stojkovićeva, Drajinci and Klisura (settlement Groznatovci was out of our reach). The survey covered 9,6% registered adult residents (from 18 years and up) in all seven settlements of the PA (Table 1). Out of 30questionnaires that has been distributed to the parents of pupils in the three elementary schools, only 27 questionnaires were completed. Another 54 questionnaires were completed in the face-to-face survey using random sampling method. Out of the surveyed residents 49.4% were females and 50.6% were males. The largest percentage of respondents have secondary school education (64.2%), 18.5% have a college or university degree, while 17.3% of the respondents have only primary education. The average age of respondents was 47. The questionnaire consisted of 32 questions in total. The first group of questions related to the interviewed person (gender, age, school, occupation, type of household, number of emigrated members). The second group of questions concerns the use of natural resources of the region, the third group concerns tourism, and the fourth group was related to the Vlasina PA and local residents awareness with the status of protection and their relationship with the Manager.

It was evident from the conversation with the local population and the representative of the Manager that the PA didn't have the same impact on all settlements. Therefore, the investigated area was divided into two parts: the area of the Vlasina Lake edge and the area of the Vlasina Lake hinterland. In relation to this, the first part of the research concerned a comparative analysis of the attitudes of the local population settled within these two areas. The second part of the study included an analysis of the impact of socio-demographic variables on the perceptions of residents. The obtained data were analyzed with standard statistical methods, descriptive statistics (frequency) and X^2 (Chi-square) analysis. For data analysis, SPSS statistical software was used.

4. RESULTS

4.1. Settlements of the Vlasina Lake edge

The group of settlements of the Vlasina Lake edge consists of the following settlements: Vlasina Okruglica, Vlasina Rid and Vlasina Stojkovićeva. These settlements are located in the protection regime III, while some of their parts are in the zone

Table 1. Respondents in the PA settlements (May 2017)

Settlement	Questionnaires filled up	Inhabitants	Adult inhabitants	Number of households	Surveyed adults (%)
Božica	25	198	168	90	14.9
Vlasina Okruglica	19	128	113	47	16.8
Vlasina Rid	20	175	165	86	12.1
Vlasina Stojkovićeva	5	164	136	67	3.7
Groznatovci	0	21	21	11	0
Drajinci	2	53	48	26	4.2
Klisura	10	206	194	110	5.15
Total	81	945	845	437	9.6

Source: Statistical Office of the Republic of Serbia, 2014a, 2014b

of protection regime II. They are all spread villages, composed of several “mahals”. They are all cattle-breeding villages, and Vlasina Okruglica is a herding village as well. The majority of population are Serbs (Geographical Encyclopaedia of Settlements of Serbia, 2002).

A total of 10.6% of the adult population was surveyed. The average age of the respondents was 48.6 years. The surveyed sample included exactly 50% of men and 50% of women. The highest percentage of respondents completed secondary education (77.3%), 9.1% had only primary education, while 13.6% had a college or university degree.

The survey showed that out of the 32% of surveyed households, more than five members emigrated. The same percentage of households had from two to five members who emigrated and 23% of households had one member who emigrated. From 13% of surveyed households no member emigrated in the last ten years (the period that passed from the protection of Vlasina). Nevertheless, the largest percentage of respondents (68.2%) saw their future in their current place of residence.

Land was the natural resource used by the majority of the respondents –34.1% of them. These are, as a rule, gardens for personal use. They also use water as a resource, primarily for supply and fishing. Fishing was much more prevalent before protection, as was the usage of peat from the lake for animal husbandry (fertilization, feeding of cattle). Bathing was poorly mentioned by the locals, because the water is cold, muddy, and the access from the coast is unsafe. Beaches are not arranged, there are no rescuers and swimming is at one's own risk. When asked whether they could make a decent livelihood through agriculture only, 15.6% of the respondents involved in agriculture (agricultural and mixed households - 72.7% of the total respondents) answered affirmatively, while the highest percentage (62.5% of respondents from agricultural and mixed households) answered that it is necessary to engage in some additional activity.

Only 31.8% of the respondents in the settlements of the Vlasina Lake edge are engaged in tourism. Out of this number, 64.3% of them had been involved in tourism before the area was protected, while the others undertook tourism activities only in the last couple of years. The fact that the season lasts only two months (from mid-June to mid-August) is a big obstacle for local private entrepreneurs who are involved in tourism or would like to be, so tourism cannot be their only interest. When asked whether they could make a decent livelihood through tourism only, 14.3% of respondents from the group of tourist workers answered positively, while 85.7% said that it was possible to earn a decent livelihood "but not only from tourism". However, 77.3% of the respondents stated that the future of their villages could be ensured through tourism.

The highest percentage (97.7%) of the respondents were aware that they were living in a PA, and were also aware of the type of protection (77.3%). Exactly half of the respondents knew who was the Manager, although not everyone from that number specifically named Tourist Organization of Surdulica, but local rangers, representatives of the Manager with whom they were in daily contact. The highest percentage (48%) of the respondents stated that the Manager did not care adequately either about the nature or about the local population, 32% thought that the Manager was equally concerned about them and about the PA, while 20% shared the opinion that the manager is more concerned about the area protection.

The opinion on the positive influence of the proclamation of Vlasina as a PA on everyday life of the local population is prevalent (50% of the respondents), 23% of the respondents think that the fact that they live in the PA affects their daily lives both positively and negatively, while the remaining 27% believed that the act of declaring the PA had no impact on their lives. Healthy air as a benefit was mentioned by the largest number of the respondents (45.4%), while no benefit was observed by 25% of them.

The largest number of the respondents (65.9%) considered that they did not suffer any damage due to living in a PA. Respondents, who disagreed with this fact, mentioned that free hunting, fishing and gathering of fruits and medicinal herbs were banned. They also mentioned flooding, incursions of wild animals, displacement of a gas station that existed before the protection in Vlasina Okruglica and similar.

Asked for an overall opinion on the quality of their lives before and after protection of the area, 13.6% of the respondents said that they live better than 10 years ago (the period before the proclamation) and believed it to be a result of assigning the protected status to the area. To live better than 10 years ago, but not as a consequence of protection, declared 18.2% of respondents. The highest percentages (63.6%) thought that their life quality was worse, but not as the consequence of the area protection. Remaining 4.5% of the respondents considered the area protection as the reason for worse quality of life.

Regarding the attitudes of Vlasina's future, the majority of the respondents believed in further

protection (61%) and necessity of investing larger funds (14%). There were pessimists as well, though in a small percentage, which only saw the solution in relocation of the remaining population (7%).

4.2. Settlements of the Vlasina Lake hinterland

The second group of settlements included the following villages: Božica, Drajinci, Groznatovci and Klisura. All of them are located in the protection regime III of the LEF "Vlasina". They are all spread villages, composed of several "mahals".All of them are cattle-breeding villages. Groznatovci and Drajinci areas are pomicultural, and Klisura is agricultural. Božica and Klisura are border villages, at the border with Bulgaria. In all settlements of the hinterland the population majority are Bulgarians (Geographical Encyclopaedia of Settlements of Serbia, 2002).

A total of 8.6% of the adult population was surveyed. The average age of the respondents was 45 years. Male respondents were slightly more numerous (51.4%). Almost half of the respondents had a secondary education (48.6%), 27% elementary education, and even 24.3% had a college or university degree.

The survey showed a significant percentage of households with more than five members emigrated (24.3%), same percentage with two to five members emigrated and 32.4% households out of which no members had emigrated in the previous 10 years. Same as in the settlements of the Vlasina Lake edge, most of the respondents (67.6%) saw a future in their current place of residence.

Only 5.4% of respondents stated they did not use any resources whatsoever. The rest have dominantly used soil and forest fruits. They were mostly involved in agriculture for personal needs. When asked if they could make a decent livelihood from agriculture only, 32.3% of the respondents involved in agriculture (agricultural and mixed households) answered positively, while the highest percentage (54.8% of respondents from agricultural and mixed households) answered that they could not make a decent living from agriculture only and that was necessary to engage in some additional activity.

Very small percentage of the respondents was involved in tourism (5.4%). Half of that number was involved in tourism before establishing the PA, and the other half in the last couple of years. The people of the hinterland were unanimous in the opinion that visitors are rare in these settlements. However, there is a prevailing opinion about tourism as the future of this region, and 70.3% of the respondents saw the Vlasina's future in the development of tourism.

To live in a PA, 94.6% of the surveyed inhabitants were aware. More than a half of the respondents (56.8%) knew the type of PA, but 94% did not know who the manager was. The majority of the respondents felt neglected by the Manager ("more concerned about nature" - 30%, "does not care neither about nature nor about the population" - 27%) and 43% of them thought the Manager to be equally concerned about the local population and the valuable nature.

In this group of settlements also, most respondents shared only a positive attitude about the influence of the area protection on everyday life (54%), 43% of the respondents believed that the area protection had both positive and negative influence, while the remaining 3% thought that protection had no impact on their everyday life. Also, 27% of respondents did not recognize any benefits of living in the PA. The rest of the respondents, as in the settlements of the Vlasina Lake edge, recognized the benefits of unpolluted air and resources.

The majority of the respondents (70.3%) stated that they did not suffer any damage due to living in a PA, while the rest complained about the incursions of wild animals, the impossibility of free fishing, hunting and collection of forest fruits.

Asked, at the end of the survey, to give an overall opinion on the quality of their lives before and after declaring area protection, 13.5% of the respondents said that their life quality was better and that it was a result of assigning the protected status to the area. To live better than 10 years ago, but not due to the area's protected status stated 32.4% of the respondents. The majority (54.1%) thought that their life quality was worse, though not as a result of the area's protected status. Unlike the respondents in the lake's edge, there were no respondents from the hinterland who stated that their life quality had deteriorated as a result of assigning the protected status to the area. As in the previous group, the largest number of the respondents from the hinterland encourages further protection (87%).

After an individual analysis of attitudes within each category of studied settlements, it was necessary to perform a comparative overview of the attitudes of the population (Table 2). The results showed that statistically significant association was registered in the case of population attitudes about the conditions for developing rural tourism and the impact of PA on the quality of life.

In the first case, a significant part of the population from the second group of settlements (Vlasina hinterland) claims that they do not have adequate conditions to engage in rural tourism, nor do they want, unlike the majority of respondents from

the first group of settlements who are corroborating the lack of adequate conditions, but would be willing to engage in this economic sector, given the appropriate subsidies (χ^2= 12.532, p=0.002). Regarding the influence of PA on quality of life, notable percentage of respondents from the second group of settlements (Vlasina hinterland) considers that PA does not affect their quality of life, as opposed to the population from the first group who are less in favor of this claim and more convinced in the existence of (positive or negative) effects of PAs on life of the community (χ^2= 11.145, p=0.011).

4.3. The impact of socio-demographic variables on perceptions of a local community

In order to prove whether there are statistically significant discrepancies in the distribution of the local population standpoints on different socio-demographic features for defined statements, a chi-squared test was used, which analyzes the differences between the observed and the expected frequencies. The test compared the frequencies of the answers distribution in each category (gender, age, education, employment status, household type and number of family members who moved away in the last 10 years) with the values expected in case there is not any association between variables. In order to determine the strength of the association between category variables, Cramer's V and Phi coefficients were used and based on their value the extent of mutual size effect was identified (Table 3).

Statistically significant relationship was determined between the household type which the respondents belong to and the agricultural activity (χ^2= 49.088, p=0.550). In this case, all survey participants coming from agricultural households confirmed that they engage in subsistence agriculture and surplus trade (65%) or in subsistence agriculture exclusively (35%). Respondents from mixed households mainly produce for their own needs (69.8%), while those coming from nonagricultural households predominantly do not conduct agricultural activities (66.8%). Cramer's coefficient of variables' association (0.55) confirms the strong relationship.

The analysis determined the relationship between respondents' viewpoints on organic farming and their education (χ^2= 18.380, p<0.001) and employment status (χ^2= 8.978, p=0.011). Most respondents with higher education or university level education agreed that organic farming represents the future of agricultural production (66.7%), whereas the population with primary education mainly had the opposite stance (42.9%). Survey participants with secondary education had the most moderate opinions and predominantly affirmed they would be motivated to engage in organic production, provided that there were more adequate subsidies. The value of Cramer's coefficient (0.34) for aforementioned variables lies on the margin of medium and large size effect. In regard to respondents' employment status, a significant percent of the employed ones supported organic farming (35.4%) or was moderately in favor of it (50%), whereas majority of the unemployed population is not concerned with this issue and does not support organic farming (39.4%).

The second category of surveyed viewpoints of a local community concerns tourism development. The analysis recorded statistically significant relationship between respondents' employment status

Table 2. Differences in local population attitudes from the two analyzed groups of settlements (settlements of the Vlasina Lake edge and settlements of the Vlasina Lake hinterland)

Respondents' perceptions	χ^2 (*p value*)	Cramer's V coeff.[1]
Future (staying) in Vlasina	0.953	0.007
Farming	0.253	0.184
Organic farming	0.219	0.234
Possibility of a decent life from agriculture	0.670	0.099
The future of Vlasina based on agriculture	0.503	-0.099
Conditions for developing rural tourism	**0.002***	0.393
Rural tourism and the population remaining	0.242	0.082
Rural tourism and arrival of the new population	0.236	0.159
Possibility of a decent life from rural tourism	0.674	0.099
The future of Vlasina based on tourism	0.644	0.080
Activities of the Manager	0.160	0.213
Impact of PA on life quality	**0.011***	0.371
Benefits from living in PA	0.990	0.023
Damages associated with living in PA	0.90	0.023
Assessment of standard of living	0.316	0,169

[1]In the case of 2x2 table, the value of the Phi coefficient is interpreted

Table 3. The impact of socio-demographic variables on residents' perceptions

Residents' perceptions		Socio-demographic characteristics	χ^2 (*p value*)	Cramer's V coeff.[1]
Use of natural resources and agricultural production	Future (staying) in Vlasina	employment status	**0.017**	-0.291
	Farming	type of households	**0.001**	0.550
	Organic farming	education	**0.001**	0.337
		employment status	**0.011**	0.333
	The future of Vlasina based on agriculture	type of household	**0.050**	0.268
Tourism development	Conditions for developing rural tourism	employment status	**0.049**	0.273
	Rural tourism and the population remaining	education	**0.035**	0.288
		employment status	**0.002**	-0.369
	Rural tourism and arrival of the new population	employment status	**0.021**	-0.286
	Possibility of a decent life from rural tourism	employment status	**0.003**	0.381
	Possibility of a decent life from rural tourism	emigrated members	**0.002**	0.434
Protected area	Activities of the Manager	education	**0.006**	0.297
		employment status	**0.003**	0.381
	Impact of PA on life quality	education	**0.031**	0.256
		employment status	**0.050**	0.268
	Benefits from living in PA	age	**0.017**	0.317
		employment status	**0.042**	0.255
	Damages associated with living in PA	sex	**0.020**	0.286
		type of household	**0.020**	0.311
		emigrated members	**0.001**	0.470
	Assessment of standard of living	education	**0.006**	0.298
		employment status	**0.009**	0.340

[1]In the case of 2x2 table, the value of the Phi coefficient is interpreted

and their opinion on the conditions required for rural tourism (χ^2=6.046, *p*=0.05). Large portion of the unemployed population considers they do not possess the necessary conditions to engage in this activity, nor do they want to (60.6%), whereas the employed respondents had varied answers, with prevailing outlook that the adequate subsidies would provide favorable conditions to adjust the households for rural tourism (41,7%).

The relationship between respondents' household type and their opinion on the future of Vlasina based on agricultural production was ascertained (χ^2= 5.837, *p*=0.050). The local population coming from agricultural households agreed with this viewpoint to a large extent (80%), unlike the other two categories (the populations from mixed and nonagricultural households) whose opinions are equally divided between positive and negative answers.

The education and employment status of the respondents show statistically significant relationship with the statement: "Rural tourism can keep the residents in Vlasina". The population with higher education or university level education, as well as the respondents with secondary education, in majority agreed with the aforementioned statement, while the respondents with primary education had somewhat varied opinions (χ^2= 6.702. p=0.03). The employed population was far more inclined to support the proposed statement (85.4%) compared to the unemployed ones (51.5%). Phi coefficient (-0.40) confirms medium strength association between variables.

Similarly to the previous case, the employed ones agreed significantly more with the statement: "Rural tourism can attract new residents in Vlasina", in comparison to the unemployed ones (χ^2=6.542, *p*=0.021). Phi coefficient (-0.30) confirms medium strength association between variables. Regarding the statement: "I think rural tourism can provide for decent living", the employed population was more inclined to give positive answers (χ^2=11.755, *p*=0.003).

The analysis of viewpoints ascertained the relationship between the number of the respondents' household members who moved away and the statement that the future of Vlasina is based on tourism. The respondents whose households had larger number of members who moved away were more in favor of the proposed statement (χ^2= 15.286, *p*=0.002).

The third category of questions analyzed the perceptions of a local community related to PA. In case of questions concerning whether the respondents

were acquainted with the fact that they live in the territory of PA, as well as questions to identify the type of PA, Chi-squared test was omitted due to the high percent of uniform answers.

It was determined that the population with higher education and university level education generally considers that the manager equally takes care about nature preservation and about the population residing in PA or in its surrounding protective zone, whereas the respondents with lower education levels had varied opinions and were more open to criticize the manager (48.1% of the respondents with secondary education regards the manager negligent in taking care of nature preservation and also of the local community). (χ^2=14.278, p=0.006). The employed population supported the stance about manager's even care for the most part, in contrast to the unemployed ones who emphasized manager's negligence (χ^2= 11.765, p=0.003).

In respect to the effect of PA on the quality of life, statistically significant relationship was determined for identical variables, which was also the case for the previous question (education and employment status). The population with higher education levels agrees with the statement that PA positively affects everyday life of the local residents, whereas majority of the respondents with lower education levels consider that PA does not have an effect on their quality of life (χ^2= 10.626, p=0.031). Similar observations were characteristic for the employed population (predominantly positive effect) and the unemployed ones (no effect) (χ^2= 5.798, p=0.050).

Through the analysis of variable associated with potential benefits for the local population originating from PA, it was determined that the younger categories of the population generally acknowledged the benefits from living within PA, as opposed to the older categories of the residents (χ^2= 8.137, p=0.017). Similar relationship was recorded for the employed and unemployed population (χ^2= 4.143, p=0.042).

The female population is more inclined to the statement that there is no damage from living within PA, in contrast to the male part of the population (χ^2= 5.435, p=0.020). The same applies to the respondents from nonagricultural households, compared to the other two categories (the population from mixed and agricultural households) (χ^2= 7.847, p=0.020). Statistical significance with large size effect (phi =0.470) was recorded in respect of a relationship between the number of the respondents' household members who moved away and the statement about the damage originating from PA. In this case, the respondents whose households had none of the members moved out confirmed to a significantly larger extent that there is no damage due to living in PA, compared to the other analyzed categories.

The analysis of attitudes has determined the connection of the education (χ^2=14.407, p=0.006) and employment status (χ^2=9.343, p=0.009) of the respondents with the assessment of their own standard of living and the impact of the PA on it. Asked to compare the quality of their lives at the present moment and ten years ago, respondents with higher education mostly agreed that they now have a higher quality of life, but with the view that the cause of this is not the PA. The population with a lower level of education had a different opinion and most of them stated that they did not live better now than 10 years ago, but also with the view that the cause of this is not the PA.

5. DISCUSSION

A number of studies worldwide have examined the relationship between PAs and the local community. The varied local responses towards Pas confirmed that benefits are the major impulse for people to support PAs and experience conservation positively (Abbot et al., 2001; Sekhar, 2003). Research results in this paper indicate that the significant percentage of individuals in both settlement groups don't recognize any personal benefits from the area protection. The rest of the respondents recognized, more as advantages, unpolluted air and natural resources in the immediate environment. This is consistent with some previous researches (Kaltenborg et al., 1999; Infield 2001; Allendorf, 2007) that emphasize the importance of non-economic benefits.

Local perceptions of the benefits and losses from living in and around PA revealed several interesting commonalities and differences. Most local residents are familiar with the existence of the PA and the type of protection. However, apart from non-economic benefits, they didn't perceive any other advantages of living in and around PA. Majority of the respondents in both settlement groups rated their quality of life as worse than in the period of 10 years ago, but not as the consequence of the area protection. In a certain way, this is a confirmation of the indifferent or even negative attitude about the PA that is not rare among the local communities, due to the different reasons (loss of rights, restrictions on free access to area resources, displacement from traditional lands, etc.) (Heinen, 1993; Adams et al., 2004; Cernea & Schmidt-Soltau 2006). Results show that the location or proximity of the settlement to the PA affects the perception of the local inhabitants. The

settlements closer to the basic phenomenon suffer a greater impact, as confirmed by the attitudes of the respondents from the 2 groups of settlement regarding the impacts of the PA on the quality of life.

Living in proximity to the LEF "Vlasina" imposes costs to local residents. Conflicts with wildlife over crops, property and human safety issues occurred everywhere to a greater or lesser extent (Karanth & Nepal, 2012). In this case, majority of the population do not suffer any harm, but some of the respondents complained about the various issues (impossibility of free fishing, harvesting of fruits, the use of peat from the lake, flooding, the incursion of wild animals and the removal of the only gas station on Vlasina that existed before the establishing of the PA).

The study has shown that PA manager are perceived negatively in both settlement groups. Due to the fact that conservation success strongly depends on the local stakeholder collaboration in PA, improving communication and interaction between PA manager (Tourist Organization of Surdulica) and local residents is critical for more positive attitudes and support for conservation initiatives. This presents a significant challenge for the future actions, in order to avoid negative interactions between PA staff and local residents and to avoid widening people-PA splits that has been analyzed in many studies (Kernel, 2005; Fiallo & Jacobson 1995; Ormsby & Kaplin 2005; Allendorf et al., 2006; Tokarczyk, 2018).

The findings of this study reveal that the socio-economic variables affecting resident's perception in a great extent. The most significant variable affecting resident's perception is the employment status. The employed respondents confirmed in a significantly larger extent that they wanted to stay on Vlasina, unlike the unemployed. This category of respondents also has more positive attitudes towards tourism development and possibilities for agricultural production in Vlasina. These findings appear to be in agreement with the results of previous studies which indicated that some socio-economic factors (age, education, place of residence, affluence) could significantly affect the attitudes of local community (Newmark and Leonard 1993, Fiallo and Jacobson 1995).

6. CONCLUSION

Supported by interviews with the local population, as well as with the insight into the on-site situation, presented results lead to the following conclusions. From a general point of view, the local residents have no economic benefit from living in and around LEF „Vlasina". As a consequence, they do not perceive any advantages of conservation and their perceptions are mainly indifferent or negative. Living in proximity to the LEF „Vlasina" doesn't cause any harm to the majority of the population although some of them emphasized the existence of the specific costs. All these findings confirm the basic hypothesis of the research and are in agreement with the principles of resource use theory that highlights the benefits as the main drivers for people to support the PAs (Ite, 1996; Goodwin & Roe, 2001).

Based on our findings and discussions with residents, it is clear that local participation in PA establishment and management needs to be improved, as well as the relationship between residents and park managers. It is necessary to propose strategies and actions for improving people-PA relations in Vlasina. Local management structures should support community meetings and informal events in order to raise level of PA awareness. Developing of environmental education and outreach programs and supporting community development projects by PA staff could significantly improve relationship with the local residents. Also, important activity that should not be ignored is emphasizing direct links between PAs and community benefits.

The local community does not perceive tourism as an activity that can provide a decent livelihood to the individual, however, there is a prevailing positive opinion about the tourism as a future driver force for the economic development of this region. With all its potentials, LEF "Vlasina" is naturally prone to development of tourism (especially its ecologically based forms), that could be interpreted as the initial impulse for the overall local progress. However, this requires significant initial state intervention through increased investment, with special financial incentives for private individuals. As rural areas of the wider region have gone through numerous processes that have slowed their sustainability over the last decades (Ancuta et al., 2015) it is also necessary to solve the development problems identified through the survey: economic underdevelopment of the entire region, unfavorable age structure of the population, illegally built weekend settlements in the most attractive locations and insufficient municipal infrastructure and utility equipment.

The examination of local responses towards PAs, including perceptions, expectations and knowledge produce valuable information that can be incorporated into the decision-making process and help to soften people–PA conflicts. In line with this, our research points to the internal threats to the sustainable development of LEF "Vlasina" and provides the opportunity to take actions. In order to ensure a better understanding of the subject, we recommend implementation of the comparative

interstate research studies that would add new results to the outcomes of this research.

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