

Resident perceptions of livelihood impacts arising from the Kızıldağ National Park, Turkey

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Received: 24 August 2016 / Accepted: 6 February 2017 / Published online: 10 February 2017
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Abstract In this study, perceptions, needs, expectations and participation levels in the park management of residents of the Kızıldağ National Park were investigated. It was focused on especially how residents' livelihood was affected by establishment and management of Kızıldağ National Park. It was examined why residents do not support protection efforts. Research data were obtained with the help of a survey form prepared to determine the perceptions of residents living in the national park. For the analyses of obtained data, statistics package program (SPSS 20) was used and also independent-samples *t* test and one-way analyses of variance were applied. As a result, the most important negative effects were loss of income and changes in traditional lifestyle. The most affected group from these negative effects was the ones dealing with animal husbandry. For the sustainable management and protection of national park, sense of belonging should be brought to residents so as to increase participation, traditional lifestyle of residents should be conserved and new sources of income should be generated for residents. To improve the participation of residents in national park management, community engagement mechanisms can be used as a tool.

Keywords Residents' perceptions · Protected areas · Conservation · Participation · Sustainable management

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1 Introduction

Many steps have been taken in the last 50 years for the conservation and sustainable management of specially qualified areas across the world, and the number of areas protected and covered has increased rapidly (Tolunay et al. 2014). National parks and similar protected areas are regarded as key components of global protection strategies, covering approximately 12% of the earth's surface (Wells and McShane 2004; Bajracharya et al. 2005). However, emerging problems have significantly hindered the efficacy of protection programs (Newmark 1996; Woodroffe and Ginsberg 1998; Heinen 2010). One of these problems is the relationship between protected areas and residents. Generally, the subsistence of residents and their cultural values depend on protected area sources (Trakolis 2001a; Badola et al. 2012). Protected areas invariably affect the livelihoods of people living in surrounding communities or within their boundaries (Ferraro and Hanauer 2014). For instance, Badola et al. (2012) found a vital association between the traditional lifestyles of residents and the source values of protected areas.

The complex relations between residents and protected areas are not yet fully understood and have frequently been overlooked by the authorities of protected areas. In addition, with strict forms of conservation, many residents dependent on natural resources have been negatively affected. These complexities continue to prevent the effective management of national parks and other protected areas (Trakolis 2001a; Wilshusen et al. 2002; Brown 2002; Brosius and Russell 2003; Berkes 2004).

Some investigations have been conducted to understand and reveal the relationships between protected areas and residents, but the resource utilization of residents has been highlighted in most of these investigations (Nepal and Weber 1995; Dearden et al. 1996; Brown 1997; De Boer and Baquete 1998; Maikhuri et al. 2000; Straede and Helles 2000). Understanding the relationship between resource utilization and residents is crucial in terms of developing relations between protected areas and residents. People's perceptions carry importance for the design of sustainable strategies and policies to fulfill the needs and expectations of residents (Heinen 1993; Akama et al. 1995; Mehta and Heinen 2001; Sah and Heinen 2001; Weladji et al. 2003; Mukherjee and Borad 2004; Szell and Hallett 2013). In addition, understanding residents' perceptions and attitudes is helpful in resolving conflicts and making correct protection decisions on biodiversity conservation and sustainable development of protected areas (Mirasol et al. 2013; Deng et al. 2015). With respect to residents' perceptions and attitudes, factors such as effectiveness of management activities, residents' trust in the authorities, education level, economic level and consciousness of residents are involved (Dimitrakopoulos et al. 2010).

Previous research conducted on this topic has generally underlined the need to address residents' concerns to achieve effective protection of protected areas (McNeely and Miller 1984; Zube 1986; Hough and Sherpa 1989; Newmark et al. 1993). Understanding conservation and livelihood threats in protected areas is important in developing conservation policy (Hartter et al. 2016). Fiallo and Jacobson (1995) concluded that it is necessary to remove the restrictions residents face in the utilization of resources. Newmark et al. (1993) studied five different protected areas in Tanzania and determined that residents were concerned about problems of grazing and agricultural land.

In studies conducted in recent years, the importance of the participatory approach has been overly emphasized. For example, Khadka and Nepal (2010) focused on how residents' perceptions affect the application of participatory approaches. They found that differences in perceptions and expectations between local groups affect the success of

participatory practice. Other essential examples about participatory approaches are from studies of the International Union for Conservation of Nature (IUCN). These studies of IUCN are key references for the sustainable management of protected areas. IUCN has defined six protected area categories and four governance types for these six protected area categories. One of these governance types is “governance by indigenous people and local communities” (Dudley 2008; IUCN 2015). These studies indicated that at the international level, indigenous people and local communities represent key issues in the sustainable management of protected areas.

The purpose of this study was to investigate the perceptions, needs, expectations and participation levels in park management of residents living within the boundaries of the Kızıldağ National Park in Turkey. This study especially focused on how residents’ livelihood was affected by the establishment and management of Kızıldağ National Park. Thus, this study contributes to the sustainable design of strategies and policies for protected area management.

2 Materials and methods

2.1 Study area

The concept of national parks was legally elaborated for the first time in Turkey under the heading of “National Parks” in Article 25 of Forest Law No. 6831, adopted in 1956. The Yozgat Çamlığı National Park was established in 1958 and acquired the status of the first national park in Turkey. The number of national parks in Turkey increased rapidly after this date. Today, 40 parks have been named national parks and 848.199 ha is under protection (Tolunay and Akyol 2015).

The public agency responsible for management of protected areas in Turkey, the General Directorate of Nature Conservation and National Parks, identified and designated protected areas, while also undertaking the implementation of management plans relating to these areas. However, a participatory approach was not observed, especially in the initial years, in the preparation of plans and many problems have emerged today concerning the management of these areas (Alkan et al. 2010).

This study was conducted with residents living in the district of Yenişarbademli, within the borders of the national park. The Kızıldağ National Park is located between northern latitude $38^{\circ}03' - 37^{\circ}38'$ and eastern longitude $31^{\circ}29' - 31^{\circ}15'$, within the borders of the province of Isparta (Fig. 1). There are two districts (Şarkikaraağaç and Yenişarbademli) and 13 villages (Gölkonak, Gedikli, Sarıkabalı, Belceğiz, Armutlu, Karayaka, Kıyakdede, Yassıbel, Beyköy, Çelttek, Yeniköy, Çaltı, and Fakılar) within the borders of the Kızıldağ National Park. The district of Yenişarbademli is affiliated with the province of Isparta in the Lakes Region of Turkey, to the west of the Lake of Beyşehir, merging with the Anamas Mountains, which are the northern extension of the Taurus Mountains. The elevation of the district center from sea level is 1150 m. A transitional climate between the Mediterranean and continental climates prevails in the region. The average annual temperature in the study area is 11 °C. The lowest temperatures occur in January, while the highest temperatures occur in July. The maximum average temperature is 27.9 °C, while the minimum average temperature is -3.0 °C. The average annual rainfall corresponds to 808.2 mm (Özkan and Kantarcı 2008).

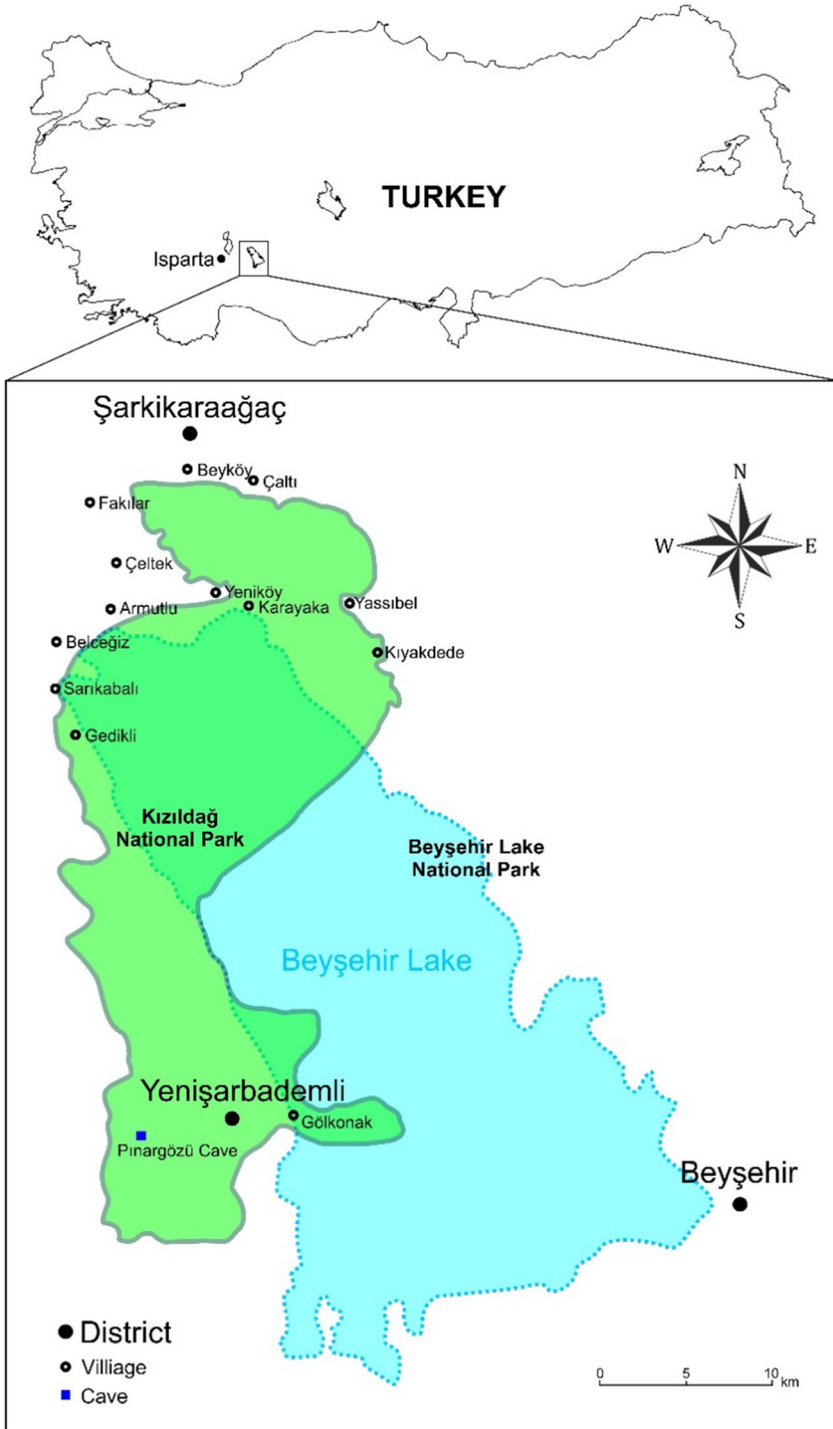


Fig. 1 Location of the Kızıldağ National Park

Kızıldağ National Park was declared a national park in 1969 and covers an area of 55.106 ha. It is one of the most important natural areas of the region and one of the areas that need to be protected in terms of biological diversity. Another important function of the national park is to protect Beyşehir Lake, which is a major wetland of the region, and the water resources of the lake. Furthermore, the other half of the lake was designated as Beyşehir Lake National Park to serve this purpose and is under protection. One part of Kızıldağ National Park was registered as a natural site in 1988 because inside there is Pınargözü cave, which is the longest cave in Europe and Turkey, and has a water spring and a large underground lake (Korkmaz 2001; Ülker 2009).

According to the latest data, the district has a population of 2463 people, with 1302 males and 1161 females. The population growth rate is -10.91% and household size is 5 people. The unemployment rate is 26.33% . In terms of unemployment, it ranks in fourth position in Turkey; 54.43% work in the service sector, 42.61% in the agriculture–livestock sector and 2.96% in the industry sector. The average annual per capita income in the district is approximately US \$7200. According to an economic development ranking conducted among 872 districts in Turkey, Yenişarbademli ranks 181 (TUIK 2014).

2.2 Data collection and statistical analyses

Data were collected from July 2014 through December 2014 via face-to-face surveys. The survey questionnaire was administered to 200 randomly selected households and used as the primary data collection instrument, combined with open-ended interviews with some key informants. The questionnaire was developed in consultation with academic literature and reports about protected areas and by contacting researchers in universities focused on protected areas. Then, a preliminary study was conducted in the research area. Based on the results of this preliminary study, the questionnaire was finalized; it consisted of two sections and contained 16 questions. The first section included questions on demographics while the second included questions on perceptions of the national park and residents' expectations with respect to livelihood and attitude.

The statistical analyses were performed using the SPSS 20 statistics package program. Cronbach's alpha coefficient was calculated at 0.701. Alpha is an important concept in the evaluation of questionnaires and a measure of internal consistency, that is, how closely related a set of items is as a group (Tavakol and Dennick 2011). Independent-samples *t* tests and one-way analyses of variance were used to measure significant differences ($\alpha = 0.05$) between means. The Duncan test was performed to determine which group caused the differences. Duncan proposed a test that provides a series of shortest significant ranges to compare differences between means (Tallarida and Murray 1987).

3 Results and discussion

3.1 Characteristics of residents

The demographic data and characteristics of residents included into study are presented in Table 1.

In the survey, 20% of the participants were females, 80% were males. There were five different age groups, and individuals under the age of 18 were not included in the study. While 36% of residents were below the age of 40, 64% were above the age of 40. In terms

Table 1 Demographic data and characteristics of residents

Characteristics	Group	<i>f</i>	(%)
Gender	Females	40	20.0
	Males	160	80.0
Age	18–30	36	18.0
	31–40	36	18.0
	41–50	45	22.5
	51–60	51	25.5
	61<	32	16.0
Education	Elementary school graduate	113	56.5
	High school graduate	59	29.5
	University graduate	25	12.5
	Postgraduate	3	1.5
Occupation	Unemployed	6	3.0
	Animal husbandry	9	4.5
	Housewives	11	5.5
	Worker	13	6.5
	Farmer	25	12.5
	Government employees	40	20.0
	Retired	44	22.0
	Self-employed	52	26.0
Income level (US \$)	0–200	32	16.0
	201–400	85	42.5
	401–600	41	20.5
	601–800	20	10.0
	801–1.000	12	6.0
	1001<	10	5.0

of the educational level, 56.5% of residents were elementary school graduates while the rate of university graduates was 12.5%. In terms of occupation, 26% of residents were self-employed, 22% were retired and 20% were government employees. Furthermore, 4.5% worked in animal husbandry, 6.5% were workers and 12.5% were farmers. The self-employed group was generally composed of persons qualified as small business owners and dealing in trade. Those in this group were the small-scale entrepreneurs of the district. The workers group was identified as manual laborers who did not have steady work or a steady income. In the past, the only source of income for those engaged in animal husbandry in the region was animal husbandry and animal husbandry has been performed as a profession. Therefore, in this study, residents dealing with animal husbandry were omitted from the farmer group because farmers are most likely to feed animals for their own needs and they use land in their own property. The residents were categorized into six income groups based on income level. The minimum wage is approximately US \$600 in Turkey (CSGB 2016); 79% of the residents had a monthly income below US \$600. Thus, 79% of the residents' income was below the minimum wage.

3.2 Perception of socioeconomic impacts

In the study, two main socioeconomic impacts were identified: impact on lifestyle and impact on income. The national park status of the region changed the traditional life of residents who were negatively affected by the situation. The statistical analysis of the data obtained via face-to-face interviews and surveys clearly revealed this. The results of the statistical analysis are presented in Table 2.

Major changes occurred in the life residents had been pursuing for years because the region became a national park. As a result, they were obliged to quit some of their local cultures and habits associated with the natural environment (e.g., animal husbandry, hunting, use of non-wood forest products). These kinds of habits existed previously, but after the changes in legal status of this area, these habits were regarded as crimes and prohibited. Some residents supply their needs from resources outside the national park. However, others supply their needs in an illegal way from national park resources. The punishment levied by national park authorities demonstrates this. Türker and Kaygusuz (2001) and Tolunay et al. (2008) discussed similar cases in their studies. They reported that residents living in forests traditionally use the natural resources for their daily needs, such as wood for cooking and heating, trees for shelter, land for animal grazing and non-wood forest products for other needs. West et al. (2006) reported that regulations associated with protected areas constrain residents' livelihood activities and can increase conflict between people and wildlife despite residents being highly dependent on natural resources. Adams and Hutton (2007) revealed the social impact of efforts to establish protected areas. They stated that the rights of indigenous people should be considered because the life of indigenous people is affected directly or indirectly by the establishment of protected areas.

Residents dealing with animal husbandry were most affected by the region becoming a national park. Indeed, the Duncan test confirmed this (Table 3). Upon the declaration of the region as a national park, it became forbidden to perform animal husbandry within the borders of the park and severe sanctions were imposed. As a result, those dealing in animal husbandry changed their lifestyle or quit their job, selling their animals, or tried to resolve this problem by moving their animals outside the borders of the national park. Residents recorded that to date no resolution had been provided for this issue by the local administrators.

Another negative perception emerged involving loss of income. Residents stated that they incurred an income loss because they lived within the borders of the national park (Table 4). The income loss appears to be one of the most important negative perceptions

Table 2 One-way ANOVA test results on impacting the traditional life of residents due to the national park

One-way ANOVA	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
The level of impact on the ongoing life of residents due to the fact that the region was declared a national park					
Between groups	3.375	7	.482	2.484	.018*
Within groups	34.020	192	.177		
Total	37.395	199			

Test was applied according to the occupational groups

* $P < 0.05$, significant at a confidence interval of 95%

Table 3 Duncan test results on impacting traditional life of residents due to national park

Occupation	N	Subset for alpha = 0.05	
		1	2
Animal husbandry	9	1.1111	
Unemployed	6		2.1667
Housewives	11		2.6364
Worker	13		2.0769
Farmer	25		2.1200
Government employees	40		2.3250
Retired	44		2.2955
Self-employed	52		2.0000
Sig.		1.000	.125

Table 4 Results of the independent-samples *t* test conducted according to gender

Levene's test for equality of variances	<i>F</i>	Sig.	<i>t</i>	<i>df</i>	Sig. (two-tailed)
Income loss incurred by residents due to living within the borders of a national park					
Equal variances assumed	28.023	.000	-2.076	198	.039*
Equal variances not assumed			-2.358	72.027	.021*

* $P < 0.05$, significant at a confidence interval of 95%

emerging in relation to the national park. When evaluated according to gender groups, this negative perception derived especially from male residents (Table 5).

Among the residents, 69% reported that they incurred an income loss because the region became a national park. Of those residents who were affected, 87% were males and 13% females. A similar result was observed in research conducted by Trakolis (2001b) on residents' perceptions of the topics of planning and management with residents of the Prespes Lakes National Park in Greece. According to Trakolis (2001b), the residents incurred an income loss when a national park was established. Khan and Bhagwat (2010) also reported that residents incurred an income loss when a national park was established. They conducted their study with residents of Chitral Gol National Park in Pakistan. However, their study had an important difference from this study; for reasons of tradition, they could not conduct any surveys or interviews with female residents. But gender can play an important role in people's relationships with the environment. Allendorf and Yang

Table 5 Loss of income of residents due to national park

Income loss due to National Park	Percent	Gender impacted	Percent
No	31.0	Female	13.0
Yes	69.0	Male	87.0
Total	100.0	Total	100.0

(2015) emphasized the necessity of gender-sensitive approaches to park–people relationships in terms of management and research.

Considering the income loss from the perspective of occupational groups, the groups most affected were those involved in animal husbandry, farmers and workers. Because the region was a national park, wood production and other activities were ceased within the borders of the national park and the area was under protection of the law on national parks and other relevant laws. Thus, the workers earning income from forest labor incurred direct income losses. These findings overlap the findings of Alkan (2009). Alkan (2009), in research conducted in Kovada Lake National Park residents, determined that residents who have income from forest work suffer a direct loss of revenue because of the region's declaration as a national park.

Another group that incurred income loss is composed of those dealing with animal husbandry. As explained previously, those dealing with animal husbandry either quit their profession with the banning of animal husbandry activities or moved their animals to other areas. Furthermore, the use of pastures in the park area for grazing purposes was restricted under national park laws. In research conducted with residents of the Kovada Lake National Park, Alkan et al. (2009) found that the primary factor causing negative local perceptions of protected areas was the income loss of those dealing with animal husbandry. The results in this study support these researchers' findings.

Farmers comprise another group incurring income loss. In the face-to-face interviews, farmers indicated that they lost access to some of the resources upon declaration of the area as a national park. For instance, they previously collected non-wood forestry products (e.g., mushrooms, thyme, sage, rose hips) but they could not collect them any longer. In the past, they said they had fulfilled the forage and grass needs of their animals through grazing in the fields of the national park, but this was no longer possible due to the ban. Karanth and Nepal (2012) supported these findings; according to their study conducted on the loss and revenue perceptions arising from the protected areas among residents of the protected areas in India and Nepal, residents incurred product losses.

Another form of income loss was observed in the private property within the national park. Some restrictions, such as allowance for construction in private property in certain proportions or non-allowance imposed on the use of the land under private property, led to a decrease in the purchase and sale values of these lands. The respondents in the interviews noted that landowners were dissatisfied with this situation.

3.3 Perceptions of sustainable management

The statistical analyses on the perceptions of residents regarding whether the national park could be sustainably managed or not are provided in Table 6. One of the negative perceptions of residents concerned the lack of sharing or communication regarding the national park management's decisions. A similar situation was found by Atmıř et al. (2007). In their research conducted on public participation in Turkish forestry, non-sharing of forestry management decisions with residents was designated as one of the barriers to sustainable management. Tomicevic et al. (2010) conducted research on the perceptions of the residents of Tara National Park, Serbia, and proposed using the participation as an encouragement tool for the sustainable use of natural resources. On the other hand, Baral (2012) argued that factors such as meetings, exchange of ideas, experiences and resources were important for understanding relations between park management and residents. In a similar study Sarkki et al. (2015) highlighted the management of protected areas should be

Table 6 One-way ANOVA test results due to occupational groups

ANOVA	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
Sharing of national park management's decisions with residents					
Between groups	3.375	7	.482	2.721	.010*
Within groups	34.020	192	.177		
Total	37.395	199			
The appreciation level of national park's current management					
Between groups	35.017	4	8.754	3.909	.004*
Within groups	436.738	195	2.240		
Total	471.755	199			
National park conservation level of relevant laws					
Between groups	27.526	4	6.882	3.688	.006*
Within groups	363.894	195	1.866		
Total	391.420	199			
Level of belief that national park may be developed in a sustainable manner					
Between groups	13.187	4	3.297	3.051	.018*
Within groups	210.733	195	1.081		
Total	223.920	199			
In which issues national park should be developed					
Between groups	9.016	4	2.254	2.857	.025*
Within groups	153.864	195	.789		
Total	162.880	199			
The level of national park's publicity					
Between groups	34.278	4	8.570	3.701	.006*
Within groups	451.517	195	2.315		
Total	485.795	199			

* $P < 0.05$, significant at a confidence interval of 95%

negotiated in a context-sensitive manner and in collaboration with the various stakeholders, especially including the local people who live and work in the protected areas.

The differences, emerging from non-sharing of management's decisions with residents, originated from workers according to the Duncan test (Table 7). People included in the worker occupation group were manual laborers. Furthermore, the persons included in this group also earned income from forestry work before the region was declared a national park. The legal restrictions arising with the declaration of the area as a national park significantly reduced the employment opportunities in forestry resources. Non-sharing of management's decisions increased the uncertainty about the future of the worker group. Moreover, these persons with no job security perceived the decisions adopted by the management of the national park as a threat to their future.

Another negative perception is the low level of appreciation among residents with regard to the current management and practices of the national park (Table 6). In a study conducted with residents of the Royal Bardia National Park in Nepal, Allendorf et al. (2007) stated that this negative perception could be eliminated with the inclusion of residents' perceptions and expectations in the practices of the park administrators.

Table 7 Duncan test results on sharing of national park management decisions

Occupation	N	Subset for alpha = 0.05	
		1	2
Animal husbandry	9	1.0000	
Unemployed	6	1.0000	
Farmer	25	1.0800	
Housewives	11	1.0909	
Retired	44	1.1818	
Self-employed	52	1.2115	
Government employees	40	1.2250	
Worker	13		1.6154
Sig.		.223	1.000

The conservation level of national parks by laws is regarded as insufficient by residents (Table 6). Considering these negative perceptions among farmers, residents in the farmer group do not appreciate the practices of the current management and believe that the current legal arrangements do not sufficiently protect the national park. Farmers believe that the decisions adopted by the park management and the practices implemented had a direct impact on them; because the farmers reported that their land was located within the borders of the national park, their agricultural production was reduced due to restrictions on chemical fertilizers and pesticides. Similar results were obtained in the work conducted previously. According to research conducted with the residents of Pendjari Biosphere Reserve located in Benin (Vodouhe et al. 2010), 89% of residents displayed a positive approach toward the concepts of biological diversity and conservation. However, the negative views toward the park management increased due to restricted agricultural activities for conservation. In a different study conducted on the residents of the Mikumi National Park in Tanzania, Vedeld et al. (2012) asserted that residents living within the park should hold official rights for the use of park resources and that this would be important in achieving a sustainable balance. Another study conducted with the residents of the Chitwan National Park in Nepal highlighted a link between the subsistence of residents and conservation (Nepal and Spiteri 2011). Moreover, Ting et al. (2012) said that establishing a harmonious relationship is the key for forest resource management.

In the interviews conducted with residents other than the farmer group, participants expressed that the laws for the national park are insufficient for conservation. The discomfort about this topic occurred in relation to, especially, illegal hunting. Residents were disturbed because of the illegal hunters coming from outside the region. Furthermore, they also believed that relevant legislation was applied solely to residents and that it was insufficient to control those coming from outside the region. In other study, it was found that residents thought that their presence prevented illegal activities such as illegal hunting or wood cutting by outsiders (Hussain et al. (2016).

Considering the occupational groups in terms of their level of belief that the Kizilıdağ National Park was developed in a sustainable manner (Table 6), the self-employed group thought differently from the other groups. Self-employed people had a rather low level of belief that the national park could be developed in a sustainable manner. In the interviews conducted with persons in this group, it was noted that this was the group with the highest expectation about the national park. This group believed that expenditures would increase with the increase in the number of visitors to the park. However, they indicated that they

experienced no major financial changes compared to the previous years and that the financial increase they expected did not occur. Those in this group believed that the park management did not make any investments to enhance the functionality of the park and that the management did not display any efforts to increase the number of visitors. Similar results were reported by Ezebilo and Mattsson (2010) with the residents of Cross River National Park in Nigeria. Although the national park was not under a development agency, residents believed that the park had to contribute to social and economic sectors. Heikkinen et al. (2012) and Mukul et al. (2012) expressed that residents got employed in the protected areas (e.g., ecotourist guides, local ecosystem officials) could create synergies between residents and protected areas.

The priority among residents with regard to issues of the national park that need to be developed was the economic income to be provided by the national park to the region. The unemployed group of residents in particular believed that the economic contribution from the national park to the region had to increase. The residents included in this group believed that the economic inputs would help them find a job. Residents believed that other infrastructure investments, such as view terraces, hiking trails and picnic areas, had to be made as soon as possible. In a study conducted on those living in the Gaoligongshan Nature Reserve in Southwest China, Allendorf and Yang (2013) referred to the challenges of finding common ground between the subsistence of residents and protected areas. Furthermore, the study highlighted that the park management and residents worked on common management scenarios. In research conducted on the perceptions of residents in the National Park of Eastern Macedonia and Thrace in Greece, biological diversity was identified as the most precious asset of the ecosystem. This was demonstrated by residents being willing to make a payment to contribute to the sustainable management of the area because residents obtained major income from the national park (Pavlikakis and Tsihrintzis 2006).

With regard to the level of publicity for the national park, self-employed people believed that the publicity for the national park was insufficient. As previously mentioned, those included in this group were small-scale enterprises and dealt in trade. They gave great importance to the number of visitors to the national park because they believed that the income they will earn from the visitors will increase with an increase in the number of visitors. In the interviews conducted with residents outside this group, the same expectations were also observed.

4 Conclusions

This study identified the perceptions and expectations of residents living in Kızıldağ National Park toward the protected area, as well as the reasons for not supporting the conservation of these areas and the reasons for the conflicts with park management. Residents had an overall negative perception of the national park.

The traditional life of residents was negatively affected by the region being declared a national park. The people whose traditional life was most affected among the residents were those dealing with animal husbandry. Residents living within the borders of the national park said that they incurred an income loss because the region was declared a national park. Eighty-seven percent of the residents incurring an income loss were males. Other identified negative perceptions about the national park included the non-sharing of the national park management's decisions with residents, low level of appreciation for the

current management of the national park, low level of publicity for the national park and low conservation level of national parks by relevant laws. In addition, another negative perception reflected the low level of belief that the national park could be developed in a sustainable manner. Moreover, in relation to the question regarding on which issue the national park should be developed, residents said that it is important to increase the economic contribution provided by the national park to the region.

Residents' support for protecting the area carries great importance for fulfilling social, economic and ecological services expected from the national park. Therefore, to achieve the effective management and sustainability of the national park, it is necessary to eliminate the negative perception of residents. While the participation of residents in the planning and management activities, sharing of decisions adopted with residents and consulting residents on the decisions to be adopted is important in terms of the social functions of the protected areas, the generation of new sources of income is also important for economic functions. As long as they are aligned with the conservation goals, the development of human activities in the protected areas should be accepted. National park management and local administration should cooperate with residents to reach the conservation and sustainability goals of protected areas and meet on common grounds. Many examples are available on how residents can cooperate and collaborate with protected area management. For example, in countries such as Canada, New Zealand, Australia and several countries in Latin America, many new protected areas have been established at the request or initiative of indigenous owners or through joint arrangements with governments (Dudley 2008; IUCN 2015).

To increase the participation of residents in protected area management, management can be broadened to include current best practices community engagement mechanisms. For this purpose, use of the protected area classification developed by IUCN and analysis of successful examples can be employed. In the planning process, consideration of the relationship with residents, such as livelihood, is of great importance for the success of the participatory management model. In this model, management responsibility can belong to the state, local governments, local communities, non-governmental organizations or a commission formed at their partnership. However, all social groups in society must be included in making decisions.

To summarize, protected areas are growing in importance in aspects such as biodiversity, climate change, water and catchment management, education, research and ecotourism. The support of all social groups in society is necessary to manage protected areas in a sustainable manner. With regard to protected area management, under the principle of participation, it is necessary to pay attention especially to residents' rights because these residents have economic and cultural relations with protected areas.

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