

# **RESIDENTS' ATTITUDES TOWARDS A NATIONAL PARK UNDER CONDITIONS OF SUBURBANISATION AND TOURISM PRESSURE: A CASE STUDY OF OJCÓW NATIONAL PARK (POLAND)**

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**Abstract:** The article attempts to contribute to the global discussion on the social aspects of the functioning of protected areas. It explores the attitudes of local communities towards national parks and the determinants of those attitudes. The problem is presented using the example of Ojców National Park (Pol. OPN), a small-area national park located in the suburban zone of Kraków (Poland) and subject to strong pressure of tourism and suburbanisation. The analysis is based on interviews with people residing within the boundaries or buffer zone of the OPN. The residents are proud to live in a scenic location; they tend to perceive the national park in the context of its significant natural value rather than its administration and the related restrictions, and mostly approve of its existence. There is a high support for implementing the participative model of local area management. At the same time, however, the residents' preferred methods of area management are in conflict with the need to protect the Park's natural and landscape values. The residents favour commercial tourism infrastructure within the protected area and residential housing development in its close vicinity. The residents' attitudes towards the Park are also shaped to a large extent by complex factors relating to the area's history and its location within the suburban zone of a major city.

**Keywords:** protected areas, Ojców National Park, national park buffer zone, residents' attitudes, park–people relationships, local development, suburban zone, *k*-means clustering

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**Streszczenie:** Artykuł wpisuje się w ogólnoswiatową dyskusję dotyczącą społecznych aspektów funkcjonowania obszarów chronionych. Podejmuje zagadnienie postaw miejscowych społeczności wobec parków narodowych oraz warunkujących je czynników. Problem ten przedstawiono na przykładzie Ojcowskiego Parku Narodowego, małego powierzchniowo parku położonego w strefie podmiejskiej Krakowa, będącego pod silną presją turystyki i suburbanizacji. Analiza oparta została na wywiadach przeprowadzonych wśród mieszkańców Parku i jego otuliny. Mieszkańcy są dumni z zamieszkania w pięknej okolicy, park narodowy postrzegają głównie przez pryzmat jego cennych walorów przyrodniczych, a nie ograniczeń i administracji oraz w większości popierają jego funkcjonowanie. Istnieje wysokie poparcie dla wdrażania partycypacyjnego zarządzania obszarem, lecz przeważają poglądy dotyczące zagospodarowania terenu, które stoją w sprzeczności z ochroną walorów przyrodniczych i krajobrazowych Parku. Mieszkańcy popierają rozwój komercyjnej infrastruktury turystycznej w granicach obszaru chronionego oraz zabudowy mieszkaniowej w jego sąsiedztwie. Istotny wpływ na postawy mieszkańców wobec Parku mają czynniki historyczne oraz zespół uwarunkowań związanych z położeniem w strefie podmiejskiej.

**Słowa kluczowe:** obszary chronione, Ojcowski Park Narodowy, otulina parku narodowego, postawy mieszkańców, relacje park-ludzie, rozwój lokalny, strefa podmiejska, metoda *k*-średnich

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## 1. Introduction

In the global discussion on the functioning of natural protected areas, there is a growing focus on social and economic considerations. The evolving challenges faced by protected areas are well illustrated by conclusions of consecutive IUCN World Parks Congresses. Starting from the 1982 Bali congress entitled "National Parks and Protected Areas in Support of Social and Economic Development", a combination of nature conservation considerations with social and economic ones has been increasingly recommended (IUCN 1993, IUCN 2005, Miller 1984, Phillips 2003). It is being stressed that national parks should be integrated into social and economic planning procedures and comprehensive management of their respective areas, with

the participation of experts representing different domains and with due consideration to the needs of various interest groups. The areas should operate in ways, which stimulate the local economic development and improve the local communities' quality of life (Borrini-Feyerabend et al. 2004, 2013; IUCN 2014). This conceptual shift has been significant enough to perceive it as having produced a new functional paradigm of protected areas (Phillips 2003; Mose, Weixlbaumer 2007; Ervin et al. 2010).

A participative model of protected area management is recommended. It is based on an ongoing cooperation between the parks' management bodies and local authorities, residents, businesses and non-governmental organisations (Borrini-Feyerabend et al. 2004; Plummer, Fennell 2009; Getzner et al. 2010; Dudley 2013; Švajda, Sabo 2013). Enhanced cooperation fosters mutual trust and understanding and facilitates new solutions, which help prevent or mitigate social conflicts arising in relation to the parks, and increase benefits that parks bring to the local communities. This, in turn, encourages residents to develop positive attitudes towards the parks and to approve of their actions. Such a support is seen by some authors as essential for the parks to perform well and meet their conservation goals (Wells et al. 1992; Osiniak et al. 1993; Borrini-Feyerabend et al. 2004; Królikowska 2007; Törn et al. 2007; Hibszer 2008; Hirschnitz-Garbers, Stoll-Kleemann 2010).

Since shedding the communist rule in the early 1990's and embarking on democratic transition, Central and Eastern European countries have gradually introduced legal regulations, which today allow social participation in making decisions on protected areas. The managing bodies of these areas are increasingly introducing participative methods, opening up for discussion and seeking consensus (Brandon, Dragos 2008; Švajda 2008; Gerner et al. 2012; Meessen et al. 2015; Bauer et al. 2018). However, introducing the management model based on ongoing cooperation with local residents has proven very problematic at times. This is because of: lacking tradition of social participation in management of public resources; low social capital; shortage of competent human resources in management bodies of protected areas; mutual mistrust between those bodies and local residents; and numerous long-standing social conflicts and clashing interests around the protected areas, which often hampers dialogue, sometimes to the point of making it impossible (Królikowska 2007; Lawrence 2008; Švajda 2008; Stringer, Paavola 2013). For national parks, these problems largely stem from the past model of creating and managing protected areas. National parks were created through centralised decisions disregarding the local residents' interests. Consequently, those residents largely saw national parks as hampering their freedom of land management and access to natural resources, and perceived the parks' management bodies as externally imposed, restraining powers (Grabowski, Marmuszewski 1985; Osiniak et al. 1993; Górecki et al. 1998). Information flow, if any, was only from the managing bodies to society, never in the opposite direction (Ioras 2003; Schwartz 2006; Lawrence 2008).

One Polish example of a national park, which has generated social conflicts for years is Ojców National Park (Pol. OPN). A public consultation held in 2016 as part of an effort to develop OPN's conservation plan only exacerbated the pre-existing conflicts. This triggered the decision to undertake research into the residents' attitudes towards the Park. The aim of this research was defined as exploring the attitudes of local residents towards Ojców National Park and identifying the determinants of those attitudes, as well as identifying the key social and economic benefits and challenges resulting from the Park's functioning.

## **2. Ojców National Park: a protected area under the pressure of tourism and urban sprawl**

Ojców National Park (OPN) is located in southern Poland, on the Kraków-Częstochowa Upland (the "Polish Jura"). At 21.6 km<sup>2</sup>, it is the smallest of all 23 Polish national parks. It includes fragments of the karstic valleys of the river Prądnik and its tributary, the Sąspówka, with the adjacent parts of Jurassic upland. In terms of administrative divisions, it is located in the Małopolska province, Kraków county, in the communes of Jerzmanowice-Przeginia, Skąta, Sułoszowa and Wielka Wieś (Fig. 1). The area lies within Kraków's suburban zone: the southern boundary of OPN is only 6 km away from Kraków's northern city limits. The Upper

Silesian Industrial Region is 30 km away. OPN includes areas developed and inhabited by man, including the village of Ojców (with a population of 220 in 2016), which developed as a spa location in the late 19th and early 20th centuries. As much as 27.9% of OPN's area are private lands, including agricultural lands and built-up areas. OPN is one of two Polish national parks classified in IUCN Category V of protected areas.



Fig 1. Research area. Source: own work

Its small area under protection, its elongated 12 km-long shape with protruding parts, along with the economic utilisation of the Prądnik valley and a heavily developed surrounding, mean that the human pressure on OPN is stronger than on any other national park in Poland (Partyka, Żółciak 2009). The key threats are the heavy tourist traffic (ca. 400,000 visitors per year, i.e. 18,600 per km<sup>2</sup> per year) and intensive housing development around the Park, leading to its “insular” character (Partyka, Żółciak 2009). These threats have been evident ever since the Park’s creation in 1956. Already in the first OPN spatial management plan, adopted in 1963, a buffer zone was laid out around it, with restrictions on human economic activities aiming to protect the Park against external pressure (Partyka 1980).

Even in the 1960’s, OPN was well within Kraków’s commuting area. However, the population growth in Kraków’s suburban zone remained low under the economic and social realities of “real socialism”, with extensive development of large residential areas within cities (with predomination of blocks of flats), low level of private car ownership, and poor infrastructural development of urban peripheries (Zborowski 2005). OPN was then surrounded by agricultural land. Development pressure increased following the political and economic transition: many residents abandoned farming, suburbanisation grew, and so did the local governments’ spatial management powers.

This part of Kraków’s suburban zone, with its natural value, attracted growing numbers of people as a possible residential location, which intensified conflicts between the local communities’ economic interests on the one hand and the need to protect the natural and scenic values on the other. As rational spatial policy was lacking and the spatial planning was deficient, housing development was chaotic and uncontrolled, leading to urban sprawl in the southern part of OPN’s buffer zone (Hołuj, Lityński 2016).

Between 1998 and 2018, the population of the five communes in the study increased by 34%, mostly as a direct result of the influx of new inhabitants. The improved living conditions and gradual abandonment of the extended family model caused housing to grow faster than population numbers. The impact of suburbanisation is most palpable in the communes directly

adjacent to Krakow: in the Wielka Wieś commune, the number of flats doubled since 1998, whereas in Zielonki, it rose by 135% (Table 1). The settlement pressure also touched the area in direct vicinity of the OPN – ironically, settlement density in the Park's buffer zone is currently higher than in the parts of the communes outside the OPN and its buffer zone; what is more, new houses are constantly being built there (Serafin, Zawilińska 2017).

Tab 1. Population and housing growth in 1998–2018.

Commune	Population			Average birth rate 1998–2018 [‰]	Average migration rate 1998–2018 [‰]	Population density in 2018 [pers./km <sup>2</sup> ]	Number of dwellings		
	1998	2018	1998=100				1998	2018	1998=100
Jerzmanowice-Przegonia	10 159	10 935	108	0.9	2.4	161	2 614	3 050	117
Skala	9 396	10 556	112	-0.9	5.8	141	2 700	3 387	125
Sułoszowa	5 999	5 830	97	0.7	-1.7	109	1 580	1 760	111
Wielka Wieś	8 372	12 356	148	1.7	15.8	257	2 010	4 010	200
Zielonki	12 635	22 582	179	1.6	21.6	461	3 219	7 560	235
RAZEM	46 561	62 259	134	0.9	11.3	212	12 123	19 767	163

Source: own work based on the Local Data Bank of the Central Statistical Office of Poland

### 3. Research methodology and characteristics of the respondents

In order to explore the attitudes of the local communities, questionnaire-based interviews were conducted in 2016 among residents of communes hosting OPN, i.e. the communes of Jerzmanowice-Przegonia, Skala, Sułoszowa and Wielka Wieś. Only residents of villages whose territories include parts of OPN or its buffer zone were interviewed (Fig. 1). The survey was carried out using individual questionnaire interview method (Paper & Pen Personal Interview), which was conducted in the form of direct interviews with the residents. The survey was made with open, semi-open and closed questions. Among the latter, rating and Likert scale questions were used. The respondents were anonymous.

Quota sampling was used, chiefly in order to obtain a sample structure corresponding to each village's population potential (Table 2), as well as to the gender structure and age structure of the area under study. In order to diversify the respondents' sample as much as possible, the research was conducted on various days of the week and at various times of the day, covering the entire areas of the respective villages, interviewing the residents at their homes as well as in public locations.

The residents' reluctance to take part in the survey was a serious challenge. Another was finding residents at their homes: many of them spent most of their days away from home, working or going to schools in other locations.

Responses were compiled in a database, which was then subject to descriptive analysis. In a further stage, the sample of respondents was divided into clusters representing similar opinions. To this end, *k*-means clustering was used, aiming to maximise the distances between the clusters.

Tab 2. Structure of the respondents' sample by place of residence, compared with the population structure of each village. Source: data from commune offices (as at end 2016) and questionnaire survey

Commune (Villages)	Population		Respondents	
	Number	%	Number	%
Jerzmanowice-Przegonia (Sąsów)	1 364	8.1	21	10.3
Skala (Cianowice, Grodzisko, Maszyce, Ojców, Skala, Smardzowice)	6 501	38.4	73	35.8
Sułoszowa (Sułoszowa, Wola Kalinowska, Wielmoża)	5 841	34.5	65	31.9
Wielka Wieś (Biały Kościół, Czajowice, Prądnik Korzkiewski, Wielka Wieś)	3 210	19.0	45	22.0
Total	16 916	100.0	204	100.0

204 people aged 16 or older were interviewed. Females accounted for a slight majority of the sample (53.4%). The age structure of the sample is presented in Table 3. 19.6% of the respondents were tertiary education (university) graduates; 39.2% had graduated from a secondary school, 26.5% had completed vocational education and 14.7% had completed primary education.

*Tab 3. Age structure of respondents.*

Age group	Respondents	
	Number	%
16–25	40	19.6
26–35	34	16.7
36–45	29	14.2
46–60	37	18.1
60+	64	31.4
Total	204	100.0

Source: questionnaire survey

At the time of the survey, 5.4% of the respondents were, or had close family members, employed by OPN, and a further 2.9% provided services to OPN. 21.1% of the respondents owned land within OPN boundaries. 40% of that land was built-up plot, 33.3% were meadows and pastures, and 20% were arable lands. Forests accounted for 4.4%, and lands with other uses accounted for 2.2%.

## 4. Results

### ***Associations with the Park***

In order to probe the respondents' emotional attitudes towards the Park, a free association technique was used: each respondent was asked to name the first three things that came into their mind when they heard the words "Ojców National Park". More than half of the respondents (57.4%) only named positive things. Sadly, those with solely negative connotations with the Park were also relatively numerous (22.5%). Others came up with both positive and negative connotations (8.3%), neutral connotations only (2%), or declined to answer (9.8%) (Table 4).

*Tab 4. Spontaneous first connotations with Ojców National Park.*

Connotations	Respondents	
	Number	%
Positive only	117	57.4
Negative only	46	22.5
Both positive and negative	17	8.3
Neutral	4	2.0
No response	20	9.8
Total	204	100

Source: questionnaire survey.

Most of the positive connotations (53.8%) related to the Park's natural value, with words such as: forest, vegetation, nature, rocks and caves. The Park also invoked thoughts related to leisure and recreation (16.7%), with connotations such as relaxation or walks; or cultural values (14.2%), e.g., castle and historic monuments. Other connotations included: beautiful landscape (5.4%), clean air (2.9%), calm and peace (2.1%), childhood, home neighbourhood (2.1%). Negative connotations, on the other hand, mostly related generally to restrictions, prohibitions and impediments for the local residents (31.2%) or, more specifically, to restrictions to the development of housing or other investment projects (10.8%). As much as one-fifth of the negative connotations, reflected the respective respondents' view of OPN as a neglected and poorly managed area (words such as: run-down; dilapidated; scrubby; nettle-infested;

vermin; trees decaying, broken or withered; poor management). Some less frequent connotations related to the nuisance from excessive numbers of tourists (11.8%), or pollution and waste (7.5%); they also included criticism or even insults towards the nature conservation services (7.5%) and complaints about wild boars destroying crops (6.5%). Interestingly, respondents of the two youngest age groups (16 to 35) only voiced positive connotations with OPN. The highest proportion (35.5%) of respondents providing only negative connotations was in the oldest age group (60+).

### ***Identifying the impact of the Park on the life of the residents***

Further during the interview, the respondents were asked to rate OPN's impact on the life of the local communities and to name some benefits and problems or nuisances which the Park caused to them. Most respondents rated the impact as big (35.8%), moderate (28.9%) or very big (25%); much less frequently as small (7.4%) or very small (2.9%). As many as 44.1% of the respondents believed that, OPN brought no benefits to the local residents. Where benefits were named, 1/4 of all the responses pointed to the development of tourism and the related economic benefits. Further, more than 1/5 of the respondents pointed to the fact that, thanks to the existence of the national park, the area had high natural value, clean air, calm, and good conditions for leisure. Only 2.9% of the respondents mentioned job opportunities related to the Park.

The most frequently mentioned negative aspects of OPN's existence and operation related to restrictions and impediments to house-building (43.8%), and to excessive vehicle traffic and "crowds" of tourists (10.4%). A fairly frequent complaint was about animals (mainly wild boars) destroying crops (6.5%) and about the Park hampering the economic development (growth of business, construction of roads, development of farming) (5%). Only 10.4% of the respondents did not mention any benefits or nuisances from the Park. The problems and nuisances mentioned had affected 37.3% of respondents directly. Out of that number, 60.3% had experienced restrictions on building a new house (including the procedure of reclassifying an agricultural plot as a building plot, obtaining a building permit, or the obligation to adjust the design to nature conservation requirements) and a further 16.4% had been hampered in their efforts to expand or renovate existing buildings. Further, respondents mentioned problems with developing their business, accessing their properties, as well as crops being destroyed by wild boars and prohibitions on entering the forests and collecting mushrooms.

In order to verify whether the problems identified led to conflicts, the respondents were asked to name any conflicts between the local residents and the OPN management, which they knew of. Some respondents (38.7%) believed there were no such conflicts. Some (16.7%) declined to answer. The largest proportion (44.6%) did name some examples of conflicts, though. These related mostly to problems obtaining building permits (39.8%) and restrictions in place in the buffer zone (18.4%). Other respondents mentioned conflicts related to crops destroyed by animals and problems with obtaining the related compensations (13.6%), and prohibitions on entering the forests and collecting mushrooms (5.8%).

### ***Opinions on the functioning of the Park***

To explore the residents' opinions on the importance of national parks for nature conservation, the existence of OPN, the influence of local communities on its operation, the development of tourism in the Park and the functioning of the buffer zone, the respondents were asked to rate, on a five-degree Likert scale, their agreement or disagreement with certain statements (Table 5). The respondents largely approved of national parks. 83.2% of them "agreed" or "strongly agreed" that national parks were important for nature conservation. They were also proud of living in a scenic area within, or close to, the national park (80.3%). The respondents were more divided in their judgements on OPN's impact on the local villages and their residents. Still, most respondents (64%) agreed that having a national park nearby was good for their village (14.3% disagreed).

A vast majority of the respondents (82.1%) believed that commune authorities and residents should have more say in decisions on the operation of OPN and should have access to information on the Park's finances, i.e., funding sources and expenditure (69.2%).

Most respondents believed that OPN made their village more attractive for tourists (77.1%). Most also disagreed with the view that if the Park had not existed, the area would be better adapted for visitors and would see higher numbers of them (66.1%). The respondents were largely in favour of creating more accommodation and catering establishments within OPN, which should, in their opinion, be chiefly based on agro-tourism and private accommodation (73.3%). The support for building more mass-tourism facilities (hotels, large accommodation facilities) was slightly lower (65.2%) and growing with the respondents' age (from 40% in the youngest age group up to 77.4% in the oldest group).

Tab 5. Residents' view on selected issues related to the OPN operation. Source: questionnaire survey.

Issue	Opinion [%]					Mean rating
	5: Strongly agree	4: Agree	3: Neither for nor against	2: Disagree	1: Strongly disagree	
National parks are important for nature conservation.	41.1	42.1	9.9	5.0	2.0	4.1
I am proud of living in a scenic area, within/close to a national park.	42.4	37.9	16.7	1.5	1.5	4.2
Having a national park nearby is good for our village.	27.6	36.5	21.7	11.8	2.5	3.7
Local authorities and residents should have more say in decisions on the operation of OPN.	39.3	42.8	15.4	2.5	0.0	4.2
Residents should have access to information on the finances of OPN (how it raises its funds and what it spends them on).	39.8	29.4	24.9	5.5	0.5	3.8
If the National Park did not exist, the area would be better adapted for visitors and would see higher numbers of them.	9.0	7.0	17.9	37.8	28.4	2.3
There should be hotels and large accommodation facilities built within OPN.	30.3	34.8	18.9	12.4	3.5	3.8
There should be more agro-tourism facilities and small private accommodation facilities for tourists.	31.2	42.1	15.8	8.4	2.5	3.9
There should be more restaurants and bars opened in OPN.	26.2	36.1	20.8	12.9	4.0	3.7
Building new houses within OPN should be completely banned.	9.4	10.9	20.8	35.6	23.3	2.5
In the buffer zone, there should be no restrictions on building new houses, holiday houses or accommodation facilities.	28.9	26.9	20.9	18.9	4.5	3.6
The OPN buffer zone is unnecessary and should be eliminated.	20.8	19.8	26.2	24.8	8.4	3.2

More than half of the respondents (58.9%) disapproved of a total prohibition on building new houses within the boundaries of OPN, while only 1/5 of them approved of the ban. Many respondents commented their response to this question by saying that, in their opinion, only people originating within the area should be allowed to build their houses there. More than half of the respondents (55.7%) were also in favour of easing bans within the buffer zone and believed that no restrictions should be in place within the zone as far as building new houses, holiday houses or accommodation facilities was concerned. 40.6% of the respondents went as far as to question the rationale for the existence of the buffer zone and thought it should be eliminated altogether. This issue proved a very divisive one: 1/3 of the respondents were of



the opposite opinion and 26.2% had no clear view on the issue. Mostly older respondents called for the buffer zone to be eliminated (64.9% in the 46–60 age group, 53.2% in the 60+ group and only 23% in the youngest group).

### ***Perceptions of the relations with the Park management***

Further questions in the questionnaire concerned mutual relations and cooperation between OPN and the residents. Only 16.2% of the respondents declared they monitored the Park's operation on an ongoing basis. The proportion was the highest (41.4%) among respondents who were university graduates. A predominant group (59.6%) found out only occasionally about the Park's activities, and 1/4 of the respondents admitted to being completely uninterested in OPN's operation. Only 1/3 of the respondents declared ever having taken part in any form of cooperation with the Park management. Most of these (16.2% of the total) had attended a meeting, 10.8% had taken part in a survey, and 8.8% had contributed in a consultation. Participation in a competition (1%) was the only remaining form of cooperation. Only 18.1% of the respondents had had any direct contact with the Park's management. Such contacts usually related to formal procedures concerning construction of a house, felling trees or obtaining compensation for crops destroyed by wild boars. Several persons mentioned having contacted the management at a meeting, as part of their work, or on a private basis.

To see how the residents perceived the attitude of OPN management towards them, the respondents were asked to choose a statement, which they thought best summed up the relationship. As many as 52.9% of the respondents believed that, the Park's management ignored the residents. Smaller groups believed that the best words to describe OPN's attitude were "informing" (16.7%) or "seeking consensus" (15.7%); only 3.9% saw it as "cooperation". The remaining respondents declined to answer.

The respondents were also asked to suggest some actions which they thought OPN management should take to win more support from the residents and ensure a more favourable impact of OPN on their lives. 1/3 of the respondents were unable to provide any such suggestions. Those who did mostly said that OPN should engage in cooperation with the residents, hold meetings and consultations, and seek compromise (35.1% of those who made any suggestions). Many respondents thought that the Park should provide more and better information on its activities (22.4%), ease restrictions for residents, especially on building houses (20.1%), and be more "people-friendly" and inquisitive about people's problems (15.7%). Other than that, respondents also suggested that OPN should invest more in developing tourism, expand (or stop hampering the expansion of) tourist facilities, solve the shortage of car parks, help residents to comply with regulations, give more jobs to the residents, co-finance certain initiatives, and prevent destruction of crops by animals.

To conclude the interview, the respondents were asked whether they would be willing to engage in any voluntary activities for the Park. Most respondents (68.1%) had no such intention. Noticeably, the proportion of those refusing any involvement was highest among the older respondents, up to as high as 95.3% in the 60+ age group. Among the youngest (16–25), the proportion was 32.5%. The voluntary activities named the most frequently by the respondents as ones they could take part in were: joining one of the waste-collection actions (39%), helping to serve visitors (32.2%), and contributing to education activities (27.1%).

### ***Cluster analysis***

In order to distinguish groups of respondents representing similar views on the functioning of the National Park and its buffer zone and the future management of the protected area, *k*-means clustering was used. The analysis was based on three variables. To maximise the distances between the clusters, three clusters were defined. The variables and their mean values in the clusters are presented in Table 6.

Cluster 3 includes the highest proportion (41%) of the subjects. These respondents strongly approve of OPN but are convinced that accommodation facilities for mass tourism should be developed within the boundaries of the Park, and generally think there should be no restrictions

to development within the buffer zone. Such an attitude can be considered 'utilitarian' – they support the existence of a national park, but as a tourist attraction (giving the area 'a good brand'), which should be a factor of intensive development of the region.

The second in line is Cluster 1, with 33% of the subjects. These respondents are also in favour of the existence of OPN, but not as strongly as in Cluster 3. On the other hand, they tend to oppose an extensive development of tourism infrastructure within the Park and housing development in its buffer zone (supporters of sustainable development). Cluster 2 has the least subjects (26%), who show low approval of OPN. Most of them are in favour of expanding accommodation facilities for mass tourism within the Park and restriction-free development in its buffer zone (supporters of unlimited development).

*Tab 6. Mean values of variables within clusters.*

Variable	Cluster		
	1 – Supporters of sustainable development	2 – Supporters of unlimited development	3 – Utilitarian attitude
Having a national park nearby is good for our village.	3.71	2.77	4.40
There should be hotels and large accommodation facilities built within OPN.	2.48	4.42	4.39
In the buffer zone, there should be no restrictions on building new houses, holiday houses or accommodation facilities.	2.94	4.75	3.33

Source: questionnaire survey.

The views presented are markedly highly correlated with age. Respondents in younger age groups (up to 35 years of age) generally voiced opinions corresponding to Cluster 1. On the other hand, this cluster included few respondents beyond 60 years of age. Cluster 2 represents views voiced usually by middle-aged and older respondents. Among the oldest respondents, views corresponding to Cluster 3 were the most frequent. These views also dominated in the middle age group (Table 7).

*Tab 7. Age structure of respondents in each cluster.*

Age	Cluster [%]		
	1	2	3
16–35	52.7	9.5	37.8
36–60	23.1	36.9	40.0
60+	19.7	34.4	45.9

Source: questionnaire survey.

## 5. Discussion

Studies of local communities' attitudes towards national parks, conducted in various locations and national parks worldwide, have shown a broad spectrum of historical, political, social, cultural, economic, and natural determinants of the community perception of national parks (see e.g. Fiallo, Jacobson 1995; Wallner et al. 2007; Karanth, Nepal 2011; Andrade, Rhodes 2012; Bragagnolo et al. 2016). The researchers have also pointed out that people's attitudes towards protected areas are highly individualised and shaped by a number of factors, including the impact of regulations governing the national park on the lives of the person concerned and his/her family, the person's environmental awareness, his/her knowledge of the park, prior experiences, personal relations with the park staff, or even his/her personality (Osiniak et al. 1993; Hibszer 2013).

In Central and Eastern Europe, residents' attitudes towards national parks have undoubtedly been largely affected by the manner the parks were created, without regard to the interest of local communities. The creation of a national park brought about regulations which restricted

the local residents' freedom of business and were largely incomprehensible to them. The regulations were often at odds with people's traditionalist views of how the lands they inherited from their ancestors should be properly managed. Importantly, national parks in Poland were largely created on private lands (private ownership now accounts for 14% of Polish national parks' combined area, but up to as much as 62% in the Narew National Park). Their creation meant that ownership rights of private landowners were restricted, or at times even abolished, within the parks.

The historical context is crucial for OPN. The Park was created in 1956 in an area, which had been under intensive economic use. It had been a popular leisure destination with well-developed infrastructure and had a well-established tradition as a spa location, dating back to the 19th century. As Partyka (2005) explained, the creation of OPN did not initially raise concerns of the local residents only because they were unfamiliar with this concept of nature conservation and misunderstood the "park" designation by believing it would be a continuation of the pre-World War II spa traditions. Research conducted in the late 1980's and early 1990's showed that the residents would ideally have preferred the national park to be a neat and tidy man-managed area, much like public parks in cities or spa towns, with a complete infrastructure to cater for the numerous visitors (Domański, Partyka 1992). Spa traditions in the area resulted in a management vision which was in conflict with the nature conservation purposes of a protected area. For many years, this conflict continued to underlie the disagreement between the residents and OPN management. The local residents' views identified by Domański and Partyka are still alive, but are now mostly represented in older age groups.

The residents interviewed in the present survey declared a high approval of the general concept of national parks and were convinced of their importance for nature conservation. They were, however, less positive about the existence of a national park in their own area. A similar pattern was also observed in other protected areas in Poland. People living within, or close to, a protected area experience its regulating and restricting impact directly on a daily basis. Inevitably then, their approval of national parks is lower than that of people living further away (Hibszter 2013; Mika et al. 2015). Despite restrictions on land use and other nuisances related to its function as a protected area, OPN was perceived by residents mainly through its natural and cultural value and leisure opportunities. Consequently, the residents' first connotations with the Park were largely positive and not linked with the Park's administration or the restrictions they experienced. A similar perception of national parks by local communities has also been identified in other protected areas in Central and Eastern Europe (Hibszter 2013; Mika et al. 2015; Järv et al. 2016; Bauer et al. 2018).

Residents' attitudes towards a national park are determined to a very significant extent by the park's impact on their economic standing. Residents who perceive clear economic benefits from the park's existence are more likely to approve of the park and willing to accept the restrictions it entails. This has been confirmed through research in the Tatra National Park in Poland (Grabowski, Marmuszewski 1985). Economic considerations are far more potent than nature-related ones in shaping the local communities' support for nature conservation (Kalaja 2012, Mayer, Job 2014). Where residents perceive no economic benefits but only restrictions, their attitude towards the protected area is negative (Hirschnitz-Garbers, Stoll-Kleemann 2010). Importantly though, those economic benefits are often underestimated by the residents, which, by contrast, makes them see the costs as very high (Dixon, Sherman 1991).

Benefits associated with a national park may be either directly linked with the park's functioning as a local economic operator (e.g., offering jobs or purchasing goods or services on the local market) or more indirect (proceeds from tourism, shaping the region's image and brand, growth of ecological farming, increased value of real properties, more opportunities to raise funds from grants). National parks located in remote regions, particularly those with a well-developed human resources and infrastructure and a substantial budget, are often important players in their respective local economies (Bołtomiuk 2011). By contrast, a small national park like OPN,

offering only 45 full-time jobs and with a budget of approx. EUR 1 million,<sup>2</sup> operating in Kraków's suburban zone<sup>3</sup>, is not a significant economic player.

For national parks, which are popular tourist destinations, the tourism-related benefits are usually the ones, which feature most prominently. Visitors' spending may largely exceed the expenditure by national parks' management bodies (Parks Canada 2011; Mika at al. 2015). No research into visitors' spending has to date been conducted for OPN, so its scale remains unknown, as does the extent of the Park's economic impact on its neighbourhood. The only such research in Poland thus far has been conducted for Babia Góra National Park (Mika at al. 2015; Mika, Zawilińska 2015). It showed that amounts, which the tourists visiting the National Park spent in the adjacent communes, were more than four times the expenditure of the Park's managing body. Unfortunately, the visitors' expenditure was spread very unevenly.

For OPN, an analysis of the nature and spatial distribution of tourist traffic, along with the tourist infrastructure and paid attractions, shows that most of the benefits are reaped by owners and staff of restaurants, bars and accommodation facilities in Ojców, the village located in the centre of OPN. This raises a question of whether the benefits from incoming tourism to OPN are indeed a result of the Park's existence. In fact, tourism had developed in the Prądnik valley long before the Park was established. Some residents therefore claim that if the Park did not exist, the area would be more intensively adapted for visitors and would generate more benefits from tourism. They obviously overlook or disregard the fact that the valley would lose much of its attraction if it were extensively developed.

The heavy concentration of tourist traffic (including motorised) in the Park's centre is detrimental to the nature and onerous for the residents, and results in an uneven distribution of benefits. Unfortunately, the OPN management has little leverage to change the situation as it has no say in the development of tourist infrastructure in the Park's neighbourhood, cannot set a traffic limitation on the public road crossing the Park and exerts very little influence on the tourist attractions offered on private property within the Park's borders. Given those factors, strong tourist pressure and the growing development in the OPN buffer zone, the OPN management should initiate the development of a comprehensive tourism management plan for the Park and its functional surroundings; the plan should be created in cooperation with local self-government bodies and key local tourism stakeholders. The implementation of this plan should lead to developing a comprehensive system of interconnected tourist infrastructure and services in the OPN and its surroundings. Tourist infrastructure should be located mostly outside the park and include, among others, parking lots, visitor centres with educational and commercial offer (food, local products, souvenirs), and tourist equipment rentals (e.g., bicycles, cross-country skis etc.). Plotting new communication grids should be made with limiting traffic from cars and coaches in mind; instead, it should favour pedestrian, bicycle and ski traffic as well as shuttle buses that would circulate between parking lots and chief attractions in the Park and its neighbourhood.

Introducing such solutions would increase profits from tourism and would likely create more jobs for the residents of the Park's buffer zone. To create a complex tourism system, a large-scale cooperation of multiple bodies would be required. However, the joint management model for national parks and their surrounding areas, involving a cooperation of the parks' management bodies and the local governments, has not been practised in Poland. Cooperation between these two types of institutions is often limited to the legally required consultations on procedures and documents (Zawilińska, Mika 2013). This is despite research in many protected areas worldwide having shown that the development of such cooperation increases the benefits for local communities (Getzner 2003).

Such benefits often extend beyond tourism into other economic areas, such as the development of ecological farming or certified local produce. Knaus et al. (2017) have described an example

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<sup>2</sup> The revenues of Polish national parks range from ca. EUR 0.7 million to ca. EUR 6.5 million (Zbaraszewski 2016).

<sup>3</sup> Kraków county, which includes OPN but does not include the city of Kraków itself, had ca. 11,800 economic operators in 2016; 168 of those employed more than 50 staff each. The city of Kraków had ca. 134,500 economic operators, of which 1,100 had more than 50 staff each.

of Entlebuch UNESCO Biosphere Reserve in Switzerland, where products sold under the brand “Echt Entlebuch” generated a remarkable gross added value of US\$ 5.8 million in 2014. Regrettably, no such initiatives are developed in OPN or its neighbourhood, and no local brand has emerged here.

The conditions of the suburbia make agriculture less economically viable compared to other options in the job market, whereas land plots for housing development are very expensive. This causes local inhabitants to abandon agriculture and convert their land from agricultural to building one. In this situation, the only measure to safeguard the protection of the national park and its buffer zone would be legal recourse (e.g., introducing spatial development plans and park protection programmes) that would curb housing development on agricultural land. Such measures should go hand in hand with supporting local inhabitants, with special focus on supporting agricultural production, e.g., organic farming and other initiatives aiming to maintain or restore the traditional farming in the Park or its vicinity.

Project-driven initiatives for local development are facilitated by the current legal form and funding arrangements of national parks in Poland. Since 2012, national parks have operated as State-owned legal entities, enjoying broad autonomy in terms of organisation and funding. They are allowed to engage in business activities and raise their own funds through grant projects. Between 2012 and 2014, targeted subsidy from the State budget (central government), for the parks’ current operation only accounted for 33% of the parks’ total revenue. The remaining part was raised by the parks through their own activities, including through grant projects, which were often carried out in partnership with other local entities (Babczuk, Kachniarz 2015). Diversifying the parks’ funding sources and building local partnerships for the development of legally protected areas is in line with the global trends and management models recommended by international nature conservation organisations (e.g., Stolton, Dudley 1999; Phillips 2000).

Regrettably, Ojców National Park itself has not initiated, or engaged in, any major initiatives for local economic development. As a result, residents whose livelihoods do not depend on tourism see no economic benefits for themselves from the Park’s existence. Only some of the respondents realised intangible benefits, mostly related to the preservation of attractive areas for the residents’ leisure. However, leisure use of the area is restricted under legal requirements of nature conservation: hiking, cycling etc. is only allowed on trails laid out for the respective purposes, and wandering around freely around the forest, collecting mushrooms etc., is prohibited. Many residents fail to understand, and consequently to accept, such regulations.

Research worldwide has shown that local communities’ attitudes towards protected areas are significantly influenced by the management model adopted therein and the residents’ relationships with the parks’ managing bodies. The participative management model reinforces the local communities’ sense of ownership, enhances their environmental awareness, improves their relationships with the local administrations, and increases their approval for national parks. Andrade and Rhodes (2012), having analysed 55 case studies, found that the higher the residents’ participation in decision-making about a national park was, the higher was also their support for the park’s policy. Admittedly, participation makes legal procedures longer and most costly, but has been shown in many case studies to be effective for reaching consensus and to facilitate the implementation of the agreed solutions (Hough 1988; Pimbert, Pretty 1995; Borri-Feyerabend et al. 2004; Törn et al. 2007).

On the other hand, participative method is not a panacea against social challenges in the management of protected areas. It has also been shown, in certain cases, to lead to adverse effects. Niedziałkowski et al. (2012), having analysed the example of the Białowieża Forest in Poland, were led to a conclusion that, where conflicts of interest are strong, win-win solutions are hard to achieve, which limits the possibilities of involving the local communities in the decision-making. Attempts to introduce the participative model in such cases only escalate the conflict and provoke the respective interest groups to demonstrate their power, which may be detrimental for nature.

In the case of OPN, most respondents thought that the Park’s management ignored the residents; a minority of them thought that it informed them or sought consensus. Only few

residents perceived any attempts at cooperation. Also, few respondents had had any contact with the Park's management. The research has shown a strong support from the residents for the participative management model. A vast majority of the respondents thought that the residents and the local government should have more say in decisions on OPN's operation. The intention, declared by OPN, to involve the residents in the decision-making had not thus far been matched by the respondents' involvement, or their declared willingness to engage, in any of the Park's activities. By far, most respondents had never been interested in the Park's matters or participated in any activities initiated by its management. Most had no intention to take part in any voluntary activities for the Park in the future, either.

One is challenged to be optimistic about the introduction of the participative management model, having analysed the respondents' views on the key problems and social conflicts within and around OPN. The most important problem perceived by the residents is the restrictions in development within the Park and its buffer zone, including limitations on building new houses or expanding the existing ones. The respondents voiced their strong support for expanding the accommodation and catering facilities, including for mass tourism, and for liberalising the development restrictions within the Park and its buffer zone, even up to eliminating the buffer zone altogether. This clear conflict of interest is an obvious hindrance to introducing the participative management model. It was made clear during the public consultation for the preparation of the Park's conservation plan, when meetings with residents turned turbulent at times. Importantly though, the existing conflicts have largely resulted from deficient legal regulations and dysfunctional spatial planning, both of which have led to chaotic housing development in the Park's surrounding. Seeing as, for many years, there has been no nature conservation plan in place for OPN, or local spatial development plans for the area in general, while the local authorities had broad competences in land management, housing in the buffer zone has been developing largely unhindered (Serafin, Zawilińska 2017).

One reason for optimism is provided by analysing the age breakdown of responses. Young people had invariably positive connotations with the National Park, were more numerous to approve of its existence and restrictions entailed by nature conservation, and more willing to declare future involvement in voluntary activities for the Park. A similar pattern was also observed in other protected areas in Poland (Hibszar 2008, 2013; Zawilińska 2016). A. Hibszar (2008) attributed it to environmental education and cooperation with schools, conducted by all national parks in Poland for years.

## **6. Conclusions and recommendations**

Efforts by the management of a national park to build positive relations with the local residents and to introduce participative management methods for the protected area require identifying the local community's attitudes towards the park and understanding the factors determining these attitudes, as well as analysing the key social and economic benefits and challenges related to the park's operation.

The research conducted in OPN showed the local residents to be very favourable towards the general idea of national parks. Their support for the existence of a national park in their area was much lower, but approval still dominated. A vast majority of respondents were proud to live in an area of a high natural and scenic value, and mostly perceived the national park in the context of its natural and cultural value rather than its administration and the related restrictions. They thought that the national park contributed largely to the area's attraction as a tourist destination, and saw the development of tourism as the key advantage related to the park's existence. Even though they experienced some nuisance from the large number of visitors, the respondents were in favour of further developing tourism within the park.

Regrettably though, the local residents' wishes relating to the development of the Park's area and buffer zone were inconsistent with the requirements of nature and landscape conservation. Their strong support to expanding accommodation and catering facilities within the Park, and to the freedom of housing development in its buffer zone, seems to reflect their insufficient environmental awareness and low sensitivity to the beauty of the surrounding landscape and the *genius loci* of the place. It also shows them to be focused on raising short-term economic

benefits, e.g., from tourism or sale of land, and to misunderstand the right of ownership as equivalent to the right to development. Disapproval of OPN and strong support for the extensive development were typical for respondents in middle and older age groups. One might optimistically expect the generational shift to bring about a change in the local community's attitude towards the Park and its views on the Park's further course.

The key factors determining the local residents' attitudes towards OPN include historical considerations (the locality's traditions as a spa area and the Park's past management model) and OPN's location, both within Kraków's suburban zone and close to the Upper Silesian Industrial Region. The area's high population density and high level of economic development both mean that the OPN is not a significant economic player (neither as an employer nor as an investor) in the region. The intensive tourist traffic is mostly attributable to one-day visiting and is concentrated on a small area in a region, which does not otherwise depend on tourism for its livelihood. Furthermore, there is a growing pressure towards housing development around the Park and prices of land are growing, as more residents are abandoning farming and suburbanisation is advancing rapidly.

In the situation of a clear conflict of interest, an effective management of OPN and the introduction of the participative model requires several types of efforts to be undertaken simultaneously:

- Information flow must improve between OPN management and the local residents. Efforts must be made to explain to them the benefits (both economic and intangible) from the Park's existence and the adverse effects of human pressure on nature. Consensus and compromise must be sought, and the sense of local identity and shared responsibility for the region's future must be developed.
- Partnerships and networking should grow in the relations with local players (local government, NGOs, businesses). They should be involved in initiatives which reconcile the area's social and economic development with protection of the Park's natural, scenic, and cultural values.
- As far as contacts with the local authorities are concerned, regular cooperation and coordinated efforts in social and economic development planning in communes hosting the Park should be a priority.

Depending on whether or not the efforts listed above are effective, it will become apparent whether OPN, an enclave of natural value in a suburban zone, will be saved, or else, will be subject to progressive degradation and will eventually have to cease to exist.

Research into the social aspects of the functioning of the OPN has shown that further studies are needed in this area. Perhaps most urgent is the establishing of the impact of the Park on local economies and identifying the material and non-material benefits it brings to local inhabitants. It is equally important to conduct a wide-range study of the effects of uncontrolled urban sprawl and scattered housing development pattern, a study that would consider the natural, landscape, social and economic aspects of the phenomenon. Through making the results of such studies known to the local inhabitants and decision-makers, a change of social reception and attitudes towards the Park – and, consequently, the future development of these areas – can be leveraged.

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