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**THE SPATIAL AND FINANCIAL ASPECTS
OF A PROTECTED AREA AS EXEMPLIFIED
BY THE ROZTOCZE NATIONAL PARK**

**PRZESTRZENNE I FINANSOWE ASPEKTY
FUNKCJONOWANIA OBSZARU CHRONIONEGO
NA PRZYKŁADZIE ROZTOCZAŃSKIEGO PARKU
NARODOWEGO**

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Summary: The article presents the national park not only as an area, but also as an active governing unit. Empirical research has been conducted (between 2008–2012) using data from the financial-accounting records of the Roztocze National Park (RNP) and from the Central Statistical Office. The study included an analysis of a degree to which the municipalities connected with the RNP through their territory fulfilled the tourist function, as well as an analysis of overall RNP activity. The scale of activities undertaken by the RNP shows that the impact of the park as a subject is substantial. This is especially important for developing the tourist function in the municipalities connected with the park through their territory.

Keywords: protected area, tourist function, space management.

Streszczenie: Artykuł przedstawia park narodowy nie tylko jako obszar, lecz także jako aktywną jednostkę gospodarującą. Badania empiryczne wykonano w latach 2008–2012 w oparciu o dokumentację finansowo-księgową RPN oraz dane statystyczne GUS. Badania obejmowały analizę stopnia pełnienia funkcji turystycznej przez gminy terytorialnie z RPN powiązane oraz analizę działań RPN. Skala podejmowanych przez RPN działań wskazuje, że wpływy RPN jako podmiotu są znaczące. Jest to szczególnie istotne dla rozwoju funkcji turystycznej w gminach terytorialnie z RPN powiązanych.

Słowa kluczowe: obszar chroniony, funkcja turystyczna, zarządzanie przestrzenią.

1. Introduction

Nature protection area form, represented by a national park, determines the management of municipal space within park borders. It also affects – even though

to a lesser extent – the method of buffer zone management. The primacy of nature protection objective remains absolute in the area of national parks and any human activities have to be subordinated to this goal – including also economic activities. Such a situation results in spatial conflicts and in the identification of nature protection area forms with the limitations of space usage only. As Cz. Wodzikowski rightly notes, imposing the area form of nature protection represented by a national park on local communities did not result in the desirable effects – spatial conflicts related to the establishment of national parks after 1989 frequently resulted in the reduction of protected area which, on the other hand, makes the proper protection of the entire ecosystem impossible [Wodzikowski 2014, pp. 1188–1189]. The contemporary trend in tourism demand, resulting in the expectations that space desirable for recreation purposes is the one offering the abundance of natural wealth, persists in contradiction to the reluctance towards nature protection area forms. Therefore, the limitations effective in protective areas ensure measurable benefits for the local community. [Kozak 2012, p. 164].

The purpose of the article is to present a national park not only in the category of an area, but also as a managing unit – an investor, an employer and an entity exerting active impact on the covered area. The empirical research was conducted based on the data from the financial and accounting records of Roztocze National Park and the Central Statistical Office. The adopted research period ensured performing observations of three organization and legal forms based on which national parks have been functioning in recent years.

2. Roztocze National Park – spatial perspective

Roztocze National Park (RNP) is situated in the central-eastern part of the country, in the Lubelskie region. In spite of the pre-war nature protection traditions in the described area – in 1936 Bukowa Góra reserve was created – RNP was not established until the Regulation of the Council of Ministers was issued on 10 May 1974 [Regulation of the Council of Ministers... 1974]. Initially, the protected area covered 4,800.65 ha and constituted a part of the state-owned forest farm of two forestry districts: Zwierzyniec and Kosobudy. It has to be emphasized that while establishing RNP the park buffer zone was not specified. In 1990 the area of RNP was significantly extended – the total of 7,811.31 ha from the two above-mentioned forestry districts was included within the boundaries of the protected area [Regulation of the Council of Ministers 1990]. Another legal act, important from the perspective of the park area, was issued in 1995 – the buffer zone covering 38,095.87 ha of RNP was identified and also the Park area was extended to the level of 8,481.76 ha [Regulation of the Council of Ministers 1995]. In accordance with RNP data its current area amounts to 8,482.83 ha, of which forests cover 8,102 ha (95.5%).

The protected area shape and the existing linear infrastructure hinder the execution of a national park's basic function, i.e. nature protection – the Park does not constitute

an entirely coherent unit. Moreover, two railway lines and five sections of public roads cross the Park. The area of RNP (see Table 1) is dominated by Zwierzyniec municipality, which covers over 90% of the protected area.

Table 1. The area of Roztocze National Park in each municipality (data from 2013)

Specification	Zwierzyniec Municipality	Adamów Municipality	Zamość Municipality	Józefów Municipality
District	Zamojski			Biłgorajski
Area of municipality in ha	15,355	11,066	19,611	12,646
Area of the RNP in ha	7,967	329	4	183

Source: own elaboration based on Central Statistical Office (Local Data Bank) data.

RNP area management, and therefore all its components, is strictly dependent on the provisions of the Act dated 16 April 2004 on nature protection [Journal of Laws 2004, no. 92, item 880 as amended]. The provision of the RNP area for tourism purposes depends on maintaining the indispensable infrastructure – also including tourist trails or water reservoirs (Stawy Echo (Echo Ponds)). The following buildings used for carrying out scientific, monitoring, information, education and tourism oriented functions of the discussed park can be distinguished: Education and Museum Center, Forester's Lodge and Biały Słup Roztoczańskie Scientific and Educational Center. There are no tourist hostels in the area of the Park and it offers only six rain shelters. The Education and Museum Center has been functioning since 1994. Apart from educational classes, taught by RNP employees, tourists are also offered a permanent exhibition presenting Park's nature, as well as temporary artistic and ethnographic exhibitions. One should emphasize that the Center provides a library with 30 journal titles at its disposal and over 10,000 books about nature. Forester's Lodge presents a historic establishment created based on an old forester's house. The modern complex called Biały Słup Roztoczańskie Scientific and Educational Center consists, among others, of the following components: a laboratory adopted for conducting hydro-chemical research, conference hall and lecture hall for over 200 participants and also social facilities. Tourist trails, covering the total of about 30 km, hiking or bike paths running through the area of RNP are strongly related to the protected area surroundings, which results from RNP area shape. The park can also be visited kayaking, riding a horse or even by car – public roads are about 56 km long. The Center of Polish Primitive Horse Preservation Breeding is a unique tourist attraction – RNP offers horse riding lessons on Polish primitive horse.

The number of tourists visiting RNP is estimated at about 120,000 annually. The popularity of conducted educational activities can be quantified by the number of museum visitors – 30,000 in 2012 – and the number of educational events – 438 [Ochrona Środowiska 2013, p. 290]. The number of tourists visiting the discussed park is not impressive comparing to the most popular parks in Poland visited annually

by over 2 mn people – Karkonoski National Park and Tatra National Park. One has to bear in mind that RNP was established much later than the above-mentioned national parks and its immediate neighborhood does not offer tourism oriented centers at the level of Karpacz or Zakopane. Western Roztocze was, indeed, included among the areas of major significance for recreational tourism; however, none of the locations situated in the municipalities territorially connected with RNP was listed among the major holiday resorts [Lijewski, Mikułowski, Wyrzykowski 2008, pp. 55–65].

This, however, does not mean that the tourism function is absent in the municipalities territorially connected with RNP. Due to the popularity of the Internet and the role it plays in territorial marketing it is worth analyzing the information presented on the official websites of the discussed municipalities. Zwierzyniec, Zamość and Józefów municipalities provide extensive information about its tourist attractions. Local authorities of Adamów municipality identify tourism as the future direction of its development. Municipalities get involved in promotional activities emphasizing their tourism advantages, also addressed to regional communities – Zwierzyniec and Józefów took part in the plebiscite entitled Tourist Pearls of Lubelskie Region organized by Lublin radio.

Complex presentation of RNP requires characterizing the level of tourism function carried out by the municipalities territorially connected with the park [Lijewski, Mikułowski, Wyrzykowski 2008, pp. 23–25]. For this reason, Baretje and Defert index and Charvat index were calculated – the results are presented in Tables 2 and 3. It should be noted that the values for Zamość rural municipality were separately adopted (symbol 2 in the Local Data Bank) and Zamość as a city with county rights.

Formula 1. Baretje and Defert index

$$Tf(t) = \frac{\text{number of beds in the area} \times 100}{\text{number of population in the area}}$$

Source: Kowalczyk [2002, p. 58].

Table 2. Baretje and Defert index for the municipalities territorially connected with RNP and for Zamość city

Specification	2008	2009	2010	2011	2012	2013
Zwierzyniec	4.22	4.69	4.39	3.26	6.32	7.54
Zamość	0.55	0.44	0.59	0.68	0.82	0.67
Józefów	2.40	0.92	2.22	2.38	2.33	2.55
Zamość (city)	1.43	1.49	1.98	1.90	2.08	1.64

Source: own elaboration based on Central Statistical Office (Local Data Bank) data.

The values of Baretje and Defert index indicate that Zwierzyniec municipality is characterized by the highest level of tourism function development among the areas under analysis. It should be also emphasized that in spite of the dominating position held by Zwierzyniec municipality the values it achieves do not allow for referring to its area as the one characterized by the developed tourism function. It was not possible to perform due calculations for Adamów municipality – the Local Data Bank presents zero rows for the items indispensable to calculate the necessary indices.

Formula 2. Charvat index

$$T_{Ch} = \frac{\text{number of night accommodations sold} \times 100}{\text{number of local population}}$$

Source: Lijewski et al. [2008, p. 25].

The values of Charvat index (see Table 3) confirm the domination of Zwierzyniec municipality. However, the decreasing number of night accommodations sold results in a lower Charvat index value recorded in this municipality in 2013 only against the one calculated at the beginning of the analyzed period.

Table 3. Charvat index for the municipalities territorially connected with RNP and for Zamość city

Specification	2008	2009	2010	2011	2012	2013
Zwierzyniec	267.92	261.78	166.89	172.83	259.31	254.70
Zamość	49.81	40.83	48.43	66.21	72.83	79.30
Józefów	63.73	29.18	41.20	103.93	189.76	136.75
Zamość (city)	110.60	119.37	150.31	132.43	131.93	130.40

Source: own elaboration based on Central Statistical Office (Local Data Bank) data.

The municipalities connected with RNP can be referred to as the ones aspiring to execute the tourism function. It should be also noted that Zamość city does implement the tourist function to some extent. Therefore, any activities stimulating tourism in the researched area should not be underestimated.

3. Roztocze National Park – subjective approach

Roztocze National Park represents the state legal entity running an independent financial economy. The entity has economic, organizational and legal independence. The analysis of assets structure and value at the disposal of the park, the scale of employment generating function, as well as the data referring to selected cost types represent one of many methods for presenting Park's activities – also including the possibility of tourism function execution by the territorially connected municipalities.

Due to the various organizational-legal forms existing between 2008–2012, the empirical research (in all three above-mentioned domains) has been conducted in the following manner:

- between 2008–2010 – separately for the state budgetary unit (SBU) and the Roztocze National Park auxiliary enterprise (AE);
- in 2011 – for the state budgetary unit (as of January 1, 2011 auxiliary enterprises have been claimed by their parent budgetary units);
- in 2012 – for the state legal person (SLP).

Arriving at valid conclusions required the summing up of the values related to the state budgetary unit and its auxiliary enterprise (between 2008–2010). Thus, Tables 4 and 5 include the phrase “as governed by the RNP” along with respective summary data.

Table 4. The net assets of Roztocze National Park and its Auxiliary Enterprise in 2008–2012 in thousands PLN, as of December 31 of each year

Specification		2008		2009		2010		2011	2012
		JB	GP	JB	GP	JB	GP	JB	POP
Capital assets		1,427	7,421	1,152	8,103	4,850	8,030	17,526	635,875
Fixed assets		1,427	7,421	1,152	8,103	4,850	8,030	17,526	635,875
1	Tangible assets (net)	1,277	7,421	1,011	8,103	2,355	8,030	17,166	635,815
2	Tangible assets under construction	151	0	141	0	2,495	0	410	60
Current assets		189	893	208	905	270	261	496	1,110
Balance sheet total		1,616	8,314	1,360	9,008	5,120	8,291	18,022	636,985
As governed by the RNP		9,930		10,368		13,411		18,022	636,985

Key: BU – Roztocze National Park budgetary unit, AE – Roztocze National Park Auxiliary Unit, SLE – the Roztocze National Park state legal entity.

Source: own elaboration using RNP and RNP AE balance sheets.

The data presented in Table 4 indicate that the value of assets (total assets) at the disposal of RNP, starting from 2009, exceeds PLN 10 mn. A sudden increase of the assets value in 2012 resulted from the valuation of land and presenting their value in the balance sheet. Moreover, the structure of assets illustrates that fixed assets represent their major component – the item of property, plant and equipment. The item assets under construction show the value of the carried out investments, which means that the analyzed unit, in the period 2008–2012, was performing works aimed at the increase of fixed assets value used for the implementation of statutory objectives.

RNP, being an organizational unit, generates direct employment – about 80 full-time jobs in the period under analysis. In order to discuss the employment generation function of RNP, the information about gross salaries level is presented in Table 5.

Table 5. Gross salaries in RNP and its Auxiliary Enterprise between 2008 and 2012 in thousands PLN, as of December 31 of each year

Specification	2008		2009		2010		2011	2012
	BU	AE	BU	AE	BU	AE	BU	SLE
Gross salaries	2,239	1,131	2,354	1,147	2,298	1,247	3,313	3,717
As governed by the RNP	3,370		3,501		3,545		3,313	3,717

Key: see Table 4.

Source: own elaboration using RNP and RNP AE documents.

Costs covered by RNP refer, by large, directly to the provision of tourism, environmental education and ensuring the sustainability of natural and cultural resources of the Park.

Table 6. Costs related to the possibility of tourism function execution covered by RNP in the period 2008–2012 in thousands PLN

Specification	2008	2009	2010	2011	2012
	AE	AE	AE	BU	SLE
The protection of natural and cultural resources of RNP	1,299	1,722	1,745	2,252	6,078
R&D, educational and tourism oriented activities	442	463	397	698	2,880
Total	1,741	2,185	2,142	2,950	8,958

Source: author's estimations based on RNP and RNP AE documents.

It should be noted that ensuring natural and cultural sustainability is also related to maintaining tourist attractiveness of the area – the costs cover, among others, such activities as:

- the protection of water ecosystems, e.g. moving the excess of vegetation in Stawy Echo (Echo Ponds), renaturalization of hydrographic conditions;
- reconstruction cutting for cultivation or sanitation, e.g. the reduction of stands of artificial origin;
- forest cultivation and stand reconstruction, e.g. growing the planting material in nurseries, afforestation;
- the protection of special care animals, e.g. the protection of migratory routes of amphibians;

- running an animal breeding center – breeding Polish primitive horse and sheep of the Uhruska breed;
- fire and damage protection, e.g. maintaining firebreaks.

In the period 2008–2010 all statutory tasks of national parks were executed by the auxiliary units created at the parks. Budgetary units were performing managerial functions and in their financial and accounting records the group 5 accounts were not distinguished. In view of the above Table 6 presents the data referring to the auxiliary unit for the period 2008–2010 only.

4. Final remarks

Roztocze National Park, covering almost half of Zwierzyniec municipality area, is characterized by the specific system of borders. It is neither a compact nor an easy to isolate area – it is made up of two almost utterly separate fragments additionally sliced by generally accessible roads. This hinders the execution of nature protection function, however, also makes the RNP area easily accessible for tourist traffic. Zwierzyniec municipality is characterized by the best developed tourism function with over half of its area located within RNP boundaries. In the course of five years the assets of RNP were systematically multiplied – it is worth observing that the entity still owns assets under construction, which confirms its investment oriented activities. Employment at the level of 80 full-time jobs, along with almost 4 mn annual salaries, allow recognizing RNP as an important employer at the local job market. The volume of costs resulting from its tourism function illustrates not only the scale of RNP outlays covered in order to maintain the area characteristics, but also shows the value of activities based on which the territorially connected communes can influence their own tourist product in a cost-free way. As a result of activities carried out by RNP, its tourism infrastructure, indispensable for the tourism function development, is maintained since – according to some local authorities – it constitutes the future direction of local development. Diverse external sources are taken advantage of to finance Park's activities, thus relieving municipalities of the need to finance the above-mentioned infrastructure in the area covered by legal protection.

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