

## Article

# National Parks—Areas of Economic Development or Stagnation? Evidence from Poland

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**Abstract:** An increasingly popular approach to protected areas as places that should combine natural and socioeconomic goals, poses questions regarding the effects of achieving such goals, particularly in the context of generating local economic benefits. Therefore, the objectives of this study are as follows: (1) determining the level and diversity of the socioeconomic development of communes with national parks as compared with neighboring communes that are not protected because of national parks (treating them as a point of reference for comparisons), and (2) presenting the level of tourism development in communes with national parks as compared with neighboring areas and other components of socioeconomic development. The achievement of the research objectives is based on the use of 28 indicators which, following the standardization process, allow for constructing a synthetic index (Composite Development Index-CDI) that shows development disparities in the two analyzed groups of communes. The results indicate that communes with national parks are characterized by a slightly higher level of general development as compared with other communes and a considerably higher level of tourism development. However, it should be noted that the adopted indicators differ considerably in both groups of communes.

**Keywords:** national park; local economic development; conservation and development; paradigm shift; composite development index



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## 1. Introduction—Facing a New Paradigm

In the face of increasing climate changes, a rapid deterioration in biodiversity, as well as the on-going urbanization processes and the decreasing share of areas not managed and transformed by man, more attention is being given to the development of protected areas and their role in the conservation and sustainable development of the earth [1,2]. The functioning of protected areas is considered key to maintain life on our planet and preserve biodiversity [3–5]. The share of such areas in the total areas of countries and regions is a commonly used indicator of sustainable development [6,7].

Apart from the spatial development of protected areas, the period of the last four decades has seen an evolution in attitudes to their objectives, functions, and challenges to be met [2,8–11]. The evolving challenges faced by protected areas are well illustrated by conclusions of consecutive IUCN (International Union for Conservation of Nature) World Parks Congresses [2,10–12], and IUCN Best Practice Guidelines for Protected Areas [8,9]. This evolution consists in attributing to protected areas not only nature-related goals but also social and economic goals including UN development goals [13,14]. It is believed that protected areas should provide model solutions in combining nature-related and socioeconomic goals, and they should generate economic benefits for local communities, supporting local and national economies [15]. Very high expectations relate to the social functions of protected areas in peripheries, which are often areas of stagnation and low living standards [16]—their functioning should reduce poverty and development inequalities on a global and regional scale [17–20].

Changes in protected areas policies are so extensive that they can be referred to as a global change of a paradigm [21]. Mose and Weixlbaumer [22] describe them as a shift from a “static-preservation approach” to a “dynamic innovation approach”. The first model assumes the existence of a dichotomy: protected areas—unprotected areas, and conservation of nature—economy. Such a division leads to the perception of protected areas as “natural islands”, the management of which is confined to their administrative boundaries (“boundary thinking”), and attention is given exclusively to nature-related issues [23]. Such a management model does not consider a protected area’s relations with its socioeconomic environment or the needs of local communities, focusing on the protection of nature against people. The contemporary integration model (“dynamic innovation approach”) is based on a holistic approach that regards a protected area as a link in a comprehensive ecological network, functionally related to a socioeconomic environment. In this approach, unlike in the segregation model, a dichotomy does not exist. The integration model combines the nature conservation with the preservation of cultural heritage, local identity, and economic development. In this approach, protected areas aim to conserve nature and improve the living conditions of local communities [8,9,24]. Z. Mirek [25] believes that man should be perceived as a part of nature, so the conservation of nature also indicates the protection of people’s environment and their welfare.

A shift towards an integrated management model in protected areas requires the treatment of such areas as a uniform territory in terms of specific conditions and development needs. Literatures on the subject refer to this approach as a place-based approach, which indicates strengthening economic and social activities in a given territory through mobilizing and using its internal resources including natural resources [26]. The identified local resources can be key to a region’s competitive position, particularly when some of them are unique in character, distinguishing this region from other areas. It should be stressed that the identification and effective use of existing resources is a sine qua non for gaining a competitive edge. As practice shows, success is achieved when the identified resources (not necessarily unique in character) are combined with an innovative idea implemented as a result of the network of cooperation among local entities (see: [27]). Literatures stress that bottom-up processes dominate over top-down processes in local development, and development is mainly attributed to the efforts undertaken by local communities [28–30].

A broader concept than resources, which has gained in significance in the recent years and which seems crucial in effective territorial management, is territorial capital. According to the original definition proposed by OECD in Territorial Outlook, it represents a set of assets that constitute a basis for local endogenous growth, for decision making, as well as the professional use of such resources [31]. According to Camagni, territorial capital comprises all the elements at the disposal of a territory that constitute its value. Apart from components of territorial capital such as geographical location, area, climate, production facilities, and traditions, the author also points to natural resources, mutual understanding, trust, and formal and informal principles enabling local entities to cooperate [32]. In EU member states, including Poland, efforts are being undertaken to implement a territorial approach to development, which should relate to a specific geographic, social, and economic space, while its level and pace should be mainly dependent on its endogenous potential.

The territorial approach to development has been part of the country’s socioeconomic policy for more than a decade. The presently binding strategic document setting directions for Poland’s regional development, the national regional development strategy 2030 [33], indicate that the effective development of all of the country’s regions is conditioned by networks of local cooperation based on bottom-up initiatives integrated into the identified endogenous development potential of a given area [33].

A change in the development paradigm of protected areas also implies changes in management concepts including a dynamic innovation approach to models based on integrated development management, good governance, and adaptive management [8,34–36]. This approach assumes integrating protected areas into socioeconomic planning with the participation of experts representing various fields. In the planning process, it assumes the necessity of considering the social and economic costs and benefits of the functioning of parks from the perspective of various groups of interest. This model is based on a participatory approach and continuous cooperation between park management boards, local authorities, inhabitants, entrepreneurs, and non-governmental organizations [21,37–39].

Research studies conducted in Central Europe indicate that a shift from a bureaucratic model of protected areas management to a participatory model in post-Communist countries is frequently hindered by a number of factors [40].

On the basis of a review of world literatures, Du et al. [41] present a wide range of theoretical concepts of integrating protected areas with their surroundings. However, in a number of cases, the implementation of integration approaches faces difficulties. The successful implementation of these concepts and enhancing the positive socioeconomic effects of the functioning of parks are dependent on various institutional, political, historical, spatial, and social factors [37,42,43]. Schliep, Stoll-Kleemann [44] and Hirschnitz-Garbers, and Stoll-Kleemann [45] note that such factors are local in character, and their great diversity prevents the use of model solutions. It is necessary to develop separate strategies for each individual area, based on the proper identification of local conditions. Mika et al. [42,46] presented a wide range of relations between national parks and territorial social systems functionally and spatially linked to parks, and developed a theoretical model of a local economic system of a national park. The main components of this system are as follows: (1) the natural resources (values) of a park, (2) an institutional entity managing a park, (3) tourists, (4) local economic and other service providers (e.g., for tourists) that do not have a formal status of a business (e.g., agritourism farms), (5) local authorities, and (6) local communities. The authors believe that a good identification of the network of functional and economic relations is a basis for implementing a modern integration model, for efforts aimed to increase the positive impact of parks on local development, and to gain inhabitants' support.

A similar approach is adopted by Mayer and Job [47], who present a network of relations between a protected area and its surrounding region, national economy, state budget, visitors, and business. Both Mika et al. [42] and Mayer and Job [47] note that in the countries of Central Europe, most costs of the functioning of protected areas are incurred at a national level (due to state budgets being the major source of financing), while local entities are the main beneficiaries of existence of protected areas.

Mayer and Job [47] conducted an extensive analysis of German language literatures on the economic aspects of protected areas. They note that the socioeconomic aspects of the functioning of protected areas are very significant from the European perspective because such regions are subject to relatively intense human activity. Many European authors point to the lack of research studies on the socioeconomic conditions and the effects of activities generated by protected areas. Simultaneously, they recognize the impact of research in this field on the effective management of parks and their surroundings as well as on easing local conflicts and promoting social support for their functioning [37,48,49].

## 2. National Parks in Poland in the Context of Local Development

There are 23 national parks in Poland with a total area of 3151.3 km<sup>2</sup>, which accounts for 1% of the country's area. As compared with the world network of parks, Polish parks are not very large with their areas ranging from 21.6 km<sup>2</sup> (Ojców NP) to 592.2 km<sup>2</sup> (Biebrza NP), (an average of 137 km<sup>2</sup>). National parks are surrounded by buffer zones. Their total area amounts to 4494.7 km<sup>2</sup>. According to the classification of the International Union for Conservation of Nature (IUCN), 15 national parks represent category II, two parks—category V, and six youngest parks have not been classified yet [50].

From an administrative perspective, Polish national parks belong to 119 communes. The share of parks in the total area of communes is very diverse, amounting to a maximum of 85.9%. All the communes with national parks have other protected areas. As a result, 43% of communes with parks represent areas that are fully or almost fully (more than 97% of the total area) covered by the programs of the conservation of nature. Apart from the previously mentioned buffer zones, many national parks neighbor landscape parks or protected landscape areas (72% of communes), and more than half of communes, apart from national parks, have nature reserves, ecological areas, documentation sites, or landscape-nature complexes. Moreover, all the national parks are integrated into the European Ecological Network Natura 2000, with the majority of communes comprising areas outside national parks. Also, some of the parks belong to the UNESCO World Heritage Sites (Białowieża Forest) and UNESCO Biosphere Reserves (10 national parks along with surrounding protected areas), and parts of seven parks are included in the List of Wetlands of International Importance (Ramsar List). Communes with national parks within their administrative boundaries are characterized by a fairly complex structure of protected areas of various categories, managed by different central and local government administration entities, and functioning also in compliance with international laws.

National parks are established in all landscape areas: mountains (8), highlands (3), lowlands (6), lake regions (4), and seacoast (2). Within park boundaries, protective regimes are divided into three categories: strict protection, active protection, and protection of landscape. They account for 24.1%, 59.1%, and 15.1% of the total areas of parks, respectively. All national parks are surrounded by buffer zones, which are not formally protected, but which protect parks against external threats resulting from human activity. In practice, the introduction of buffer zones imposes certain restrictions in spatial management resulting from the priorities of the conservation of nature and landscape. National parks mainly comprise woodland (representing 61.9% of their total area), with a significant share of agricultural land (14.9%), and in the case of Warta Mouth NP—76.4%. An analysis of the role of parks in local development should also consider the issue of privately owned land within their boundaries, which accounts for 13.5% of the parks' areas (in some cases this share is high, e.g., 59.95% in Narew NP) [50].

From an organizational perspective, national parks in Poland enjoy the highest status of protection. Since the beginning of 2012, they have operated as state legal persons (previously as state budget entities), which implies a broad scope of authority enjoyed by park directors with regard to protection policies, the availability of protected areas, finances, and relations with the external environment. The activities of national parks are directly supervised by the minister responsible for the environment (currently the Minister of Climate and Environment), and no other entity coordinates the functioning of all parks. The minister appoints and removes park directors from their positions. National parks have independent systems of financial management, and their income relies on state budget subsidies, funds acquired from external sources (Polish and foreign), and their own economic activities [51]. In 2012–2017, each of these sources of income represented approximately one third of the total income of all national parks in Poland. Parks differed considerably in terms of the amount and structure of state subsidies [52,53]. The current principles of financing provide an opportunity for developing a new model of local business relations based on marketplace rules [42,46]. Moreover, diversified sources of financing and the increasing engagement of park management boards in raising funds encourage cooperation between national parks and self-government entities, NGOs, and entrepreneurs.

There is a visible gradual change in the activities of parks with regard to their relations with the social environment. Park management boards become increasingly open to debates and compromise solutions, understanding the necessity to gain support of local communities through, for example, initiatives contributing to local development. Also, local authorities and businesses as well as inhabitants change their attitudes to parks [54–57].

Unfortunately, a model of managing parks and their surroundings based on partnership relations has not been implemented in Poland yet [58,59].

From the perspective of development planning, it should be noted that the protection of parks is based on 20-year plans. Such plans concern nature-related issues, they regulate the principles of the availability of parks, and they contain guidelines for local spatial development plans concerning the elimination or mitigation of environmental risks. They are documents that refer to economic activities from the perspective of their impact on parks' natural resources. They do not present any analyses of the impact of parks on local development. Protection plans are only evaluated by local self-governments and may be approved even if evaluations are negative. Local development planning is vested in municipal self-governments, but basic planning documents such as the analyses of conditions of and trends in municipal spatial management are individually prepared for communes. Such documents must be consulted with park directors but only with respect to national parks and their buffer zones. Arrangements refer exclusively to those provisions of plans that could have a negative impact on parks [51]. In conclusion, national parks and their surroundings do not have integrated planning procedures in the area of the conservation of nature and socioeconomic development.

Changes in Poland's public management since the beginning of the 1990s allow for departing from a centralized and hierarchical system based on the top-down approach in favor of multilevel governance based on network structures and the partnership of public (state and self-government) and non-public entities. These changes are also reflected in regulations enabling citizens to participate in decision-making processes [60–62]. These processes also refer to managing protected areas. The present legal regulations provide opportunities for cooperation and ensure the possibility of social participation. However, their implementation is frequently hindered by specific local obstacles resulting mainly from historical factors and related social conflicts connected with protected areas and the lack of traditions of social participation in managing public resources [63–67].

In the first place, attention should be given to some historical facts of establishing and managing national parks in the past. The first two national parks in Poland (Pieniny and Białowieża Parks) were established in the interwar period (1932) as organizational units separated from State Forests. After World War II, national parks were also established in privately owned territories. Most of them were established in 1947–1989, the political system in which decision making was centralized, and decisions were implemented as recommendations with no attention given to inhabitants' interests and opinions (including the owners of protected areas). From the perspective of local communities, park management boards represented an externally imposed authority and restrictions that were not always understood by inhabitants. The social perception of the functioning of national parks was determined by restrictions imposed on economic activities [42,49,55,64]. Interestingly, since the introduction of the requirement to obtain a permission for establishing a national park or broadening its area by territorial self-governments in 2000, the spatial development of this form of protected areas has been practically non-existent. Out of several projects, only one has been implemented since that year—Warta River Mouth NP (in 2001). It is the only national park in Poland established as a result of a grassroots initiative.

The national parks that should mostly engage in initiating cooperation for the benefit of local development are those included in UNESCO Biosphere Reserves. Activities aimed to improve the living conditions of local communities are regarded as the main functions of such areas [68]. However, in the current Polish law on nature conservation [51], biosphere reserves are completely omitted. As Schliep and Stoll-Kleemann [44] express it, they are treated as “an additional label for already existing protected areas”.

### 3. The Objectives and Methodology of the Research Study

In the context of the process of developing a new global paradigm of the protected areas functioning, which assumes a shift from a segregation to an integration model, strengthening links between a protected area and its socioeconomic environment, as well as their positive effect on local development, the question arises as to the stimulating impact of Polish national parks on the economy of local communes. Such an assessment on the scale of all national parks in Poland has not been made so far. The research gap is particularly evident in quantitative studies, as previous research was based mainly on qualitative methods showing mostly opinions of inhabitants and local authorities on this influence of parks. The lack of comprehensive studies and barely noticeable activities undertaken by parks in monitoring and promoting their social and economic functions lead to a common conviction among the inhabitants of national parks about their negative impact on local economies, while benefits are exclusively attributed to the promotion of regions and tourism development [42,49,64,69,70].

Two research hypotheses are put forward to verify this opinion:

**Hypothesis 1 (H1).** *Communes with national parks are characterized by lower levels of socioeconomic development as compared with neighboring areas without parks due to development constraints.*

**Hypothesis 2 (H2).** *Communes with national parks record higher levels of tourism development than neighboring areas.*

In the context of the presented reasoning and hypotheses, the study intends to accomplish the following objectives: (1) identification of different levels of socioeconomic development in communes with national parks as compared with neighboring communes without protected areas—parks (treating the latter ones as benchmarks), and (2) describing tourism development in communes with national parks as compared with neighboring communes and other components of socioeconomic development.

To achieve this objective and verify the above hypotheses, multivariate comparative methods allowing to analyze phenomena, which are simultaneously affected by a large number of characteristics (variables) and factors, are used. The Composite Development Index (CDI), based on one of the linear ordering methods, is constructed in order to compare the elements of the set described by many variables (characteristics). Linear ordering methods allow for determining the hierarchy of analyzed objects according to the adopted criteria, for example from the best to the worst developed ones. These methods have been improved, applied, and described by a number of authors representing the fields of statistics, geography, or economics. Attention should be given to major contributions made to this discipline by Polish researchers: J. Perkal [71], S. Leszczycki [72], Z. Hellwig [73], J. Parysek [74], Z. Ziło [75], and T. Grabiński [76]. Equally significant achievements in world literatures have been accomplished by such authors as J.A. Hartigan [77]; H. H. Bock [78]; and B. S. Everitt, S. Landau, M. Lees, and D. Stahl [79]. One of the linear ordering methods is the Composite Development Index (CDI), which is applied in this study to achieve its research objectives. Its construction assumes several steps (Figure 1). Firstly, a set of data is created (so called geographic matrix), which aims to perform the following tasks: identify the components describing the level of socioeconomic development, make a preliminary selection of characteristics for particular components characterized by normal distribution, identify stimulants and destimulants, exclude highly interdependent characteristics of low changeability, and normalize characteristics [80]. In further steps, CDI is calculated according to the adopted method. This work makes use of the method based on the procedure developed by J. Perkal [71].

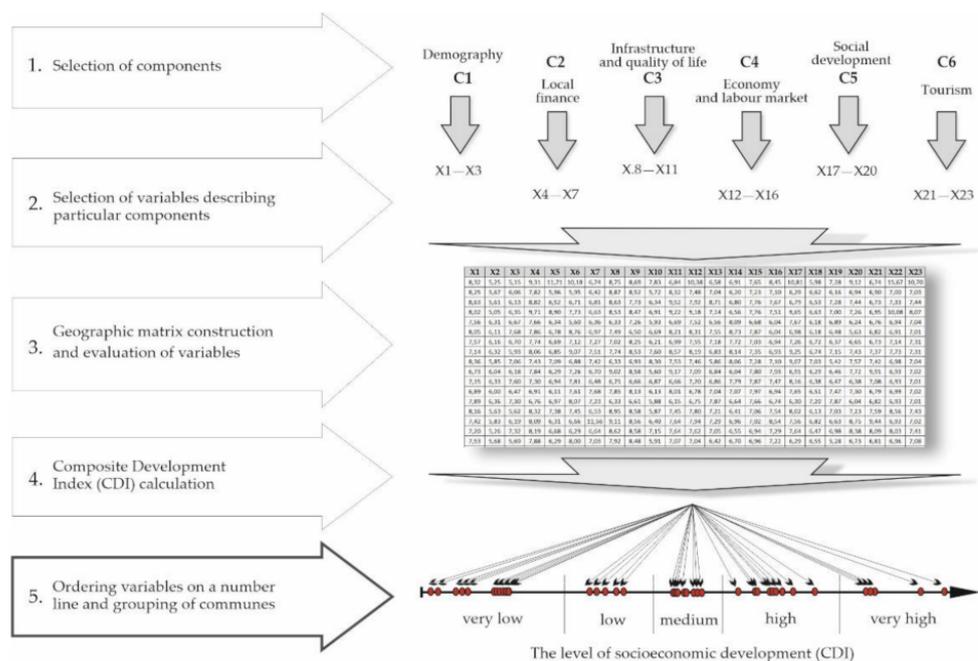


Figure 1. Scheme of the research procedure. Source: own research.

The first phase aims to select the components that describe the level of socioeconomic development in the analyzed areas, reflecting various aspects of the problem. The selected components describing the characteristics of socioeconomic development are as follows: demography (C1), local finance (C2), infrastructure and quality of life (C3), economy and labor market (C4), social development (C5), and tourism development (C6). The objective of the further step—based on the evaluation of characteristics—is to select variables (characteristics) that describe the particular components in the best way. Following the selection of variables, we determine whether a given characteristic is a stimulant or a destimulant in terms of its impact on socioeconomic development. This procedure is necessary to ensure the preference uniformity of variables. Variables are regarded as stimulants when their increased value indicates a higher level of development, while those variables that indicate a lower level of development are treated as destimulants. It should be noted that the selection of variables is based on the general principles of constructing a geographic matrix, so called correctness conditions: measurability, summability, independence, changeability, relativity, and normal statistical distribution [80]. In the context of the adopted procedure, special attention is given to characteristics related to summability, independence, and relativity. Summability is understood as the selection of characteristics that allows their presentation in the same units. The summability of variables in the matrix is achieved through the standardization of variables according to the formula:

$$X'_i = \frac{X_i - \bar{X}}{S} \quad (i = 1, \dots, n),$$

where:

- $X'_i$ —standardized  $i$ -th realization of variable,
- $X_i$ —standardized variable,
- $\bar{X}$ —arithmetic mean of variable,
- $S$ —standard deviation of variable.

To ensure the preference uniformity of variables, variable  $x$  is subjected to the following procedure:

$$x_i'' = \begin{cases} x_i' & \text{for stimulants} \\ -x_i' & \text{for destimulants} \end{cases} \quad (i = 1, \dots, n),$$

Positivity in the standardization process is achieved through a transformation that increases the values of all variables by the same amount, retaining mutual relations between particular variables:

$$x_i''' = \begin{cases} x_i'' & \text{when } \min \{x_{ij}''\} > 0 \\ x_i'' + \delta & \text{when } \min \{x_{ij}''\} \leq 0 \end{cases} \quad (i = 1, \dots, n; j = 1, \dots, m),$$

where:

$m$ —number of variables,

$\min x_{ij}''$ —minimum value in the whole matrix of data

$\delta = -\min \{x_i''\} + \frac{1}{5}s_x$ ,

$s_x$ —standard deviation for the whole matrix of data.

The next step of building a geographic matrix is the description of correlations between variables. The existence of strongly correlated variables indicates that their changeability in the subsequent objects is similar. Therefore, instead of all characteristics, we should select those that are not strongly correlated. This objective is achieved through the calculation of Pearson's linear correlation coefficient between particular variables, creating the matrix of correlations, and the selected variables are not strongly correlated (for threshold value 0.6 or  $-0.6$ ). In this phase of the procedure, five of the previously selected characteristics are rejected.

Attention is then given to the changeability of characteristics. The measure of changeability—standard deviation, is used for this purpose, allowing for the determination of differences between values according to particular variables. It is an absolute measure of changeability that describes the degree to which all the objects of the analyzed population differ from the arithmetic mean of the analyzed variable [81]. It is calculated according to the following formula:

$$S = \sqrt{\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^2} \quad (i = 1, \dots, n), \quad (1)$$

where:

$S$ —standard deviation,

$x_i$ —value of  $i$ -th variable,

$\bar{x}$ —arithmetic mean of the analyzed variable.

Finally, 28 variables are selected for further calculations (Table 1), which serve to determine the level of socioeconomic development. One of the multivariate analysis methods is used for this purpose—linear subordination. This method—based on the differentiation of  $n$ -characteristics in  $n$ -objects—allows for ordering variables on a number line. The further analyses employ the procedure of calculating a synthetic coefficient. It consists in calculating the average value from normalized variables (Composite Development Index-CDI) according to the following formula:

$$SDM_i = \frac{1}{p} \sum_{j=1}^p x_{ij} \quad (2)$$

where:

$CDI_i$ —value of synthetic coefficient,

$x_{ij}$ —standardised value of  $j$ -th characteristic for  $i$ -th object,

$P$ —number of considered characteristics.

**Table 1.** Variables considered in the study.

No.	Name of Component	Symbol of Indicator	Name of Indicator
1	Demography [C1]	X1	Gender disproportion rate in age group 20–39
2		X2	Live births per 1000 population
3		X3	Deaths per 1000 population
4	Local finance [C2]	X4	Share of commune's own revenue in total revenue
5		X5	Total income per one inhabitant
6		X6	Share of investment outlays in total expenditure [%]
7		X7	Value of contracts/decisions related to additional financing from operational programs, acquired per one inhabitant
8	Infrastructure and quality of life [C3]	X8	Share of population using natural gas installations [%]
9		X9	Share of population using waste treatment plants [%]
10		X10	Number of elementary schools per 1000 inhabitants
11		X11	Building-based concentration of landline internet of the speed of at least 30 mb/s [%]
12	Economy and labour market [C4]	X12	Newly registered entities per 10,000 working age population
13		X13	Share of newly registered creative sector entities in the total number of newly entities [%]
14		X14	Migration attractiveness rate
15		X15	Share of registered jobless population in the total working age population [%]
16	Social development [C5]	X16	Employment rate (number of working population per 1000 inhabitants)
17		X17	Foundations, associations, and social organizations per 1000 inhabitants
18		X18	Beneficiaries of local social aid programs per 10,000 inhabitants
19		X19	Voter turnout in self-government elections in 2018 [%]
20	Tourism [C6]	X20	Share of kindergarten children in the group of children aged 3–5 years [%]
21		X21	Commune's income from tourism, culture, and protection of national heritage [%]
22		X22	Commune's tourism function according to Barefje and Defert (number of accommodation places per 100 inhabitants)
23		X23	Overnight stays of foreign tourists in tourist accommodation facilities per 10,000 inhabitants

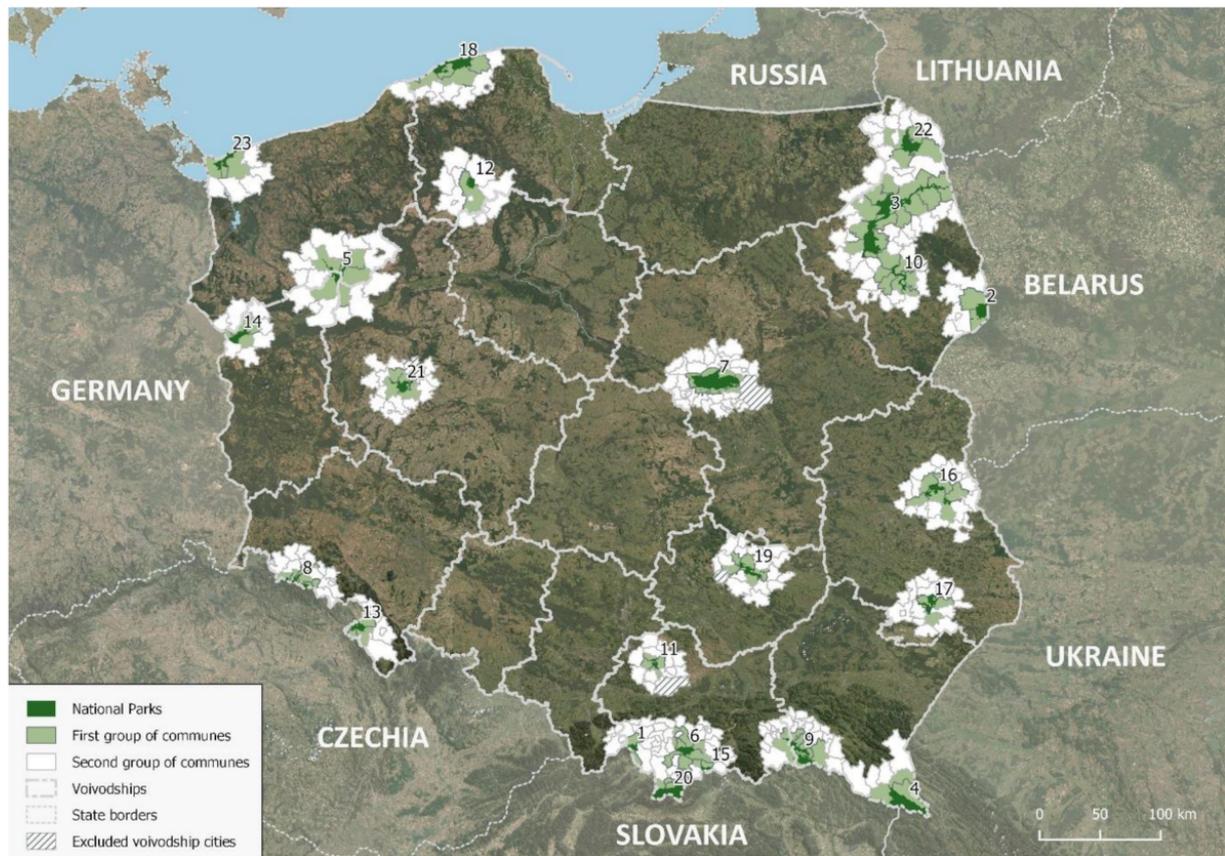
The value of CDI relates to communes with national parks as compared with benchmark parks. Additionally, CDI values are separately calculated for six components (CDIC1-6), including tourism, and the obtained results are differentiated for communes with national parks and benchmark communes excluding urban communes.

The values of CDI and CDIC1-6 are presented for communes using a cartogram method—a cartographic quantitative method. The division of data is based on the Jenks natural breaks classification method [82]. It consists in the grouping of data, which minimizes changeability while maximizing between-class variance. As a result, the boundaries of ranges are situated in the place of “natural breaks” in the statistical distribution of variables. This method assumes that a constant number of units and constant range of classes are not maintained.

#### 4. Research Area

To achieve the objectives of the work, the research area is determined on the basis of communes (gminas—basic administrative units in Poland). Communes correspond to Local Administrative Units (LAUs), introduced in the European Union in 2017, also the components of NUTS. The study comprises 384 communes divided into two groups. The first group represents communes with national parks. However, because of a number of the exclaves of particular parks (sometimes located several dozen kilometers from a given park and occupying a small area), it is assumed that the park area within its boundaries must exceed 0.05% of its total area. A national park, as defined by the Act of 16 April 2004 on the conservation of nature [51], is an area characterized by unique natural, scientific, social, cultural, and educational values, having an area of not less than 1000 hectares, in the territory of which the entire nature and landscape values are subject to protection. The

number of national parks is determined by an annex to the Act, which identifies 23 parks (Figure 2). This study presents 107 communes with this form of protection (communes with parks). The second group comprises entities that neighbor communes from the first group or those whose area of at least 50% is located within a 20 km buffer from the boundary of a park. The number of such communes is 277, which serve as a reference for the first group (a benchmark).



**Figure 2.** Research area. Source: own research. National parks (NP): 1—Babia Góra NP, 2—Białowieża NP, 3—Biebrza NP, 4—Bieszczady NP, 5—Drawa NP, 6—Gorce NP, 7—Kampinos NP, 8—Karkonosze NP, 9—Magura NP, 10—Narew NP, 11—Ojców NP, 12—Bory Tucholskie NP, 13—Góry Stołowe (Table Mountains) NP, 14—Ujście Warty (Warta River Mouth) NP, 15—Pieniny NP, 16—Polesie NP, 17—Roztocze NP, 18—Słowiński NP, 19—Świętokrzyski (Holy Cross Mountains) NP, 20—Tatra NP, 21—Wielkopolska NP, 22—Wigry NP, 23—Wolin NP.

Selecting a group of benchmarks is a better solution than comparing the development level of park communes to the rest of Poland. Geographical proximity determines similar development conditions of these two groups of communes, which in this case seems to be crucial. Such an approach was used by Martínez-Vega et al. [83] in assessing the sustainability of park municipalities in Spain. The problem that may arise in this approach are the park's external effects, which can reach beyond its immediate vicinity and also include the benchmark communes [84]. However, it should be assumed that a national park does not adversely affect the development of these communes and the influence is rather positive (e.g., employment and supply effects). Moreover, the effect is not strong, as proved by Mika et al. [46], showing that the economic benefits of a national park mainly flow to the communes on whose territory it is located.

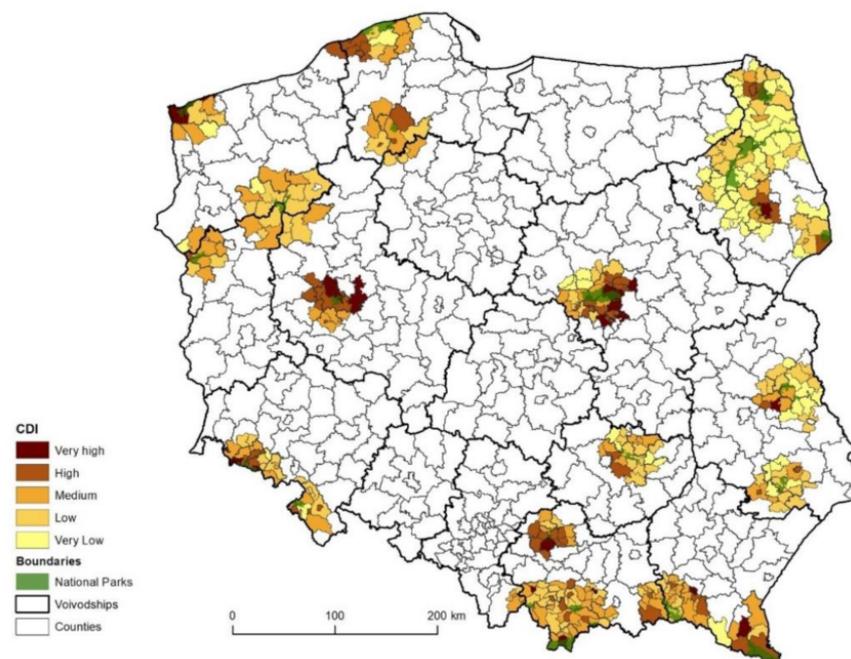
Additionally, to determine the impact of urban communes on development gaps measured by CDI and CDI C-6, we calculate indicators for communes in the first and second group excluding urban communes ( $n_1 = 96$ ,  $n_2 = 240$ , respectively). A comparison of development gaps in the identified communes for particular parks requires the aggregation

of communes in the areas where national parks are close to each other, and the analyzed communes (in which parks have a possible impact on socioeconomic development) are neighboring regions. For this purpose, 17 areas are identified in which the presented development gaps are divided into two groups: communes with parks and benchmark communes. The voivodeship capitals: Warsaw, Krakow, Poznań, Kielce, and Białystok are excluded due to a slight impact of national parks on their development.

## 5. Results and Findings

The results of the study indicate that communes with national parks are characterized by a slightly higher level of development than reference areas (the average values of rates are 7.22 and 7.16, respectively). Socioeconomic development disparities between communes with parks are slightly larger than in reference areas—the values of standard deviations amount to 0.46 and 0.37, respectively. Differences between average values of synthetic indicators (CDI) for communes with parks and the average value of the indicator jointly calculated for both groups are 0.03 and  $-0.03$ , respectively (fi 2).

The highest level of socioeconomic development is recorded in communes with national parks in the close vicinity of the largest cities—Kampinoski NP (national park), Ojcowski NP, Wielkopolski NP, as well as communes with unique natural values—Tatrański NP, Bieszczadzki NP, Woliński NP, Słowiński NP, and Karkonoski NP. The lowest level of development is recorded by communes located in the peripheries, especially those in the eastern part of the country and related to Biebrzański NP, Roztoczański NP, and Poleski NP. It should be noted that communes characterized by the lowest level of development include those with parks as well as those reference regions located farther away from parks (Figure 3).



**Figure 3.** The synthetic indicator of socioeconomic development in analyzed communes. Source: own research.

Table 2 also presents the average values of synthetic indicators calculated for communes with parks and reference/benchmark communes including and excluding urban units (48 urban communes are excluded). The originally double-track analysis results from the assumption that in the planned research study a national park is regarded as a major factor influencing the development of communes within its boundaries. Large cities may have a major impact on the development of their surrounding areas. However, differences between the average values of synthetic indicators in the two analyzed

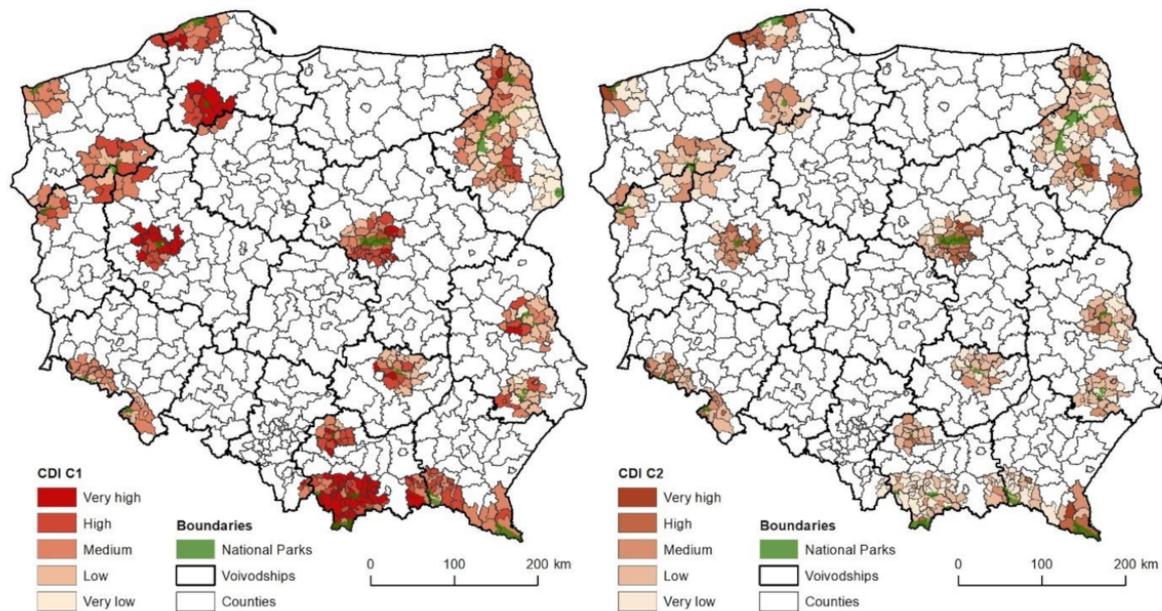
groups of communes are very slight in both cases. It indicates that the inclusion of urban communes in the analysis does not affect its results. It can be assumed that cities located both in communes with parks and reference units balance the obtained values of synthetic indicators. Having considered this fact, the further analyses include urban communes (excluding voivodeship capitals).

**Table 2.** CDI values including and excluding cities from the research sample along with the identification of adopted components.

Type of Commune	Number of Communes	CDI	CDI <sub>c1</sub>	CDI <sub>c2</sub>	CDI <sub>c3</sub>	CDI <sub>c4</sub>	CDI <sub>c5</sub>	CDI <sub>c6</sub>
		Average Value of Indicator						
Communes with parks	107	7.22	7.09	7.32	7.15	7.14	7.30	7.30
Reference/benchmark communes	277	7.16	7.21	7.12	7.19	7.19	7.13	7.13
TOTAL	384	7.19	7.15	7.22	7.17	7.16	7.22	7.22
Communes with parks (excluding urban communes)	96	7.05	6.96	7.16	6.98	6.97	7.15	7.10
Reference communes (excluding urban ones)	240	7.00	7.04	6.96	7.03	7.03	6.96	6.98
TOTAL (excluding urban communes)	336	7.02	7.02	7.02	7.02	7.02	7.02	7.02
Difference between Value of Indicator and Average Value								
Communes with parks	107	0.03	−0.06	0.10	−0.02	−0.03	0.09	0.09
Reference communes	277	−0.03	0.06	−0.10	0.02	0.03	−0.09	−0.09
Communes with parks (excluding urban ones)	96	0.03	−0.06	0.14	−0.03	−0.04	0.14	0.09
Reference communes (excluding urban ones)	240	−0.01	0.02	−0.06	0.01	0.02	−0.05	−0.04

The analyses of the demographic potential (CDI<sub>c1</sub>) of communes indicate a division into centers and peripheries—the highest values for “demography” are recorded in communes that neighbor Polish largest cities (Figure 4). It refers to communes related to Kampinoski, Ojcowski, and Wielkopolski National Parks, located in the close vicinity of Polish largest cities (voivodeship capitals). The results also point to lower demographic indicators in communes related to parks located near Poland’s eastern border. The analysis of demographic synthetic indicators in the two groups of communes (with parks and surrounding communes) points to a slightly higher average value of the synthetic indicator related to demographic processes (7.09 and 7.21). The difference between an average value of the component “demography” for communes with parks and the value of this indicator for all the analyzed areas amounts to −0.06, and for reference communes, −0.06. Also, the values of standard deviations of these indicators for both groups of communes are different: For communes with parks, −0.8, and for surrounding communes, −0.75. It points to a greater demographic diversity of communes with parks.

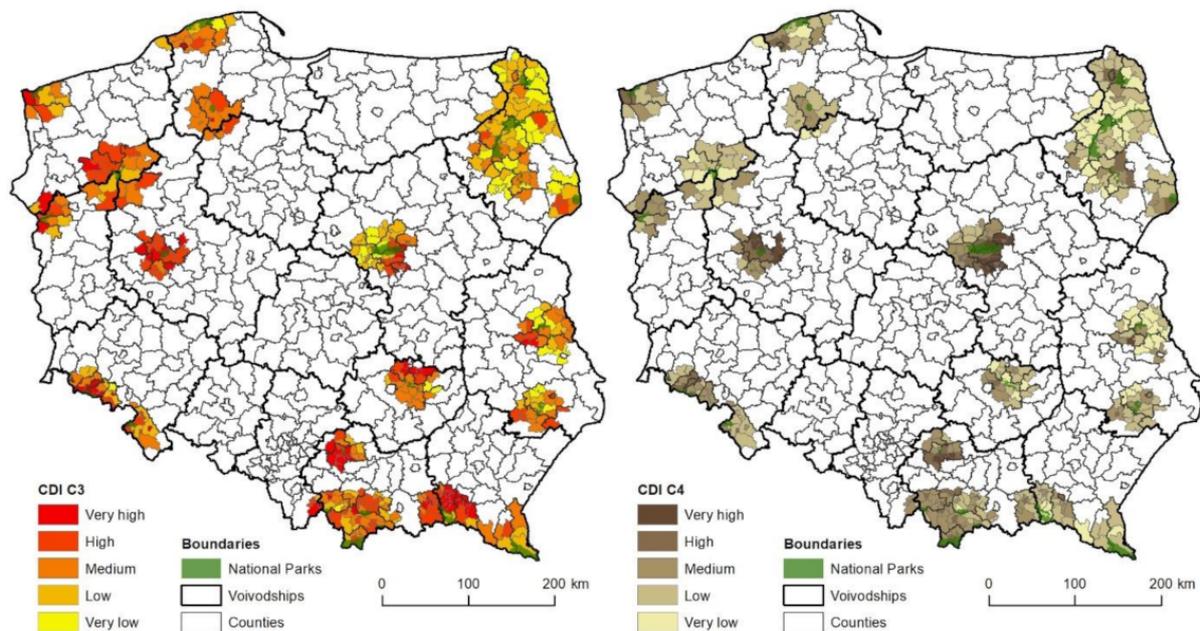
Communes are also analyzed from the perspective of local finance. A very high value of the synthetic indicator for this component is recorded for communes with parks located in the vicinity of big cities—Kampinoski NP and Wielkopolski NP, as well as in the areas with tourist attractions—Słowiński NP, Woliński NP, Karkonoski NP, and Bieszczadzki NP (Figure 4). It should be noted that an average value of the local finance synthetic indicator is higher for communes with parks (7.32 as compared with reference regions, −7.12). The difference in average values for this component amounts to 0.1 for the first group and −0.1 for the second group. Gaps in local finance levels are much larger among communes with parks (standard deviation of −0.86) than in reference communes (0.63). Both communes with parks and reference areas in south-east Poland have considerably lower local finance indicators (with the exception of several communes in Bieszczady NP, which can be attributed to well-developed tourism and low population density).



**Figure 4.** Synthetic indicators for components “demography” ( $CDI_{C1}$ ) and local finance ( $CDI_{C2}$ ). Source: own research.

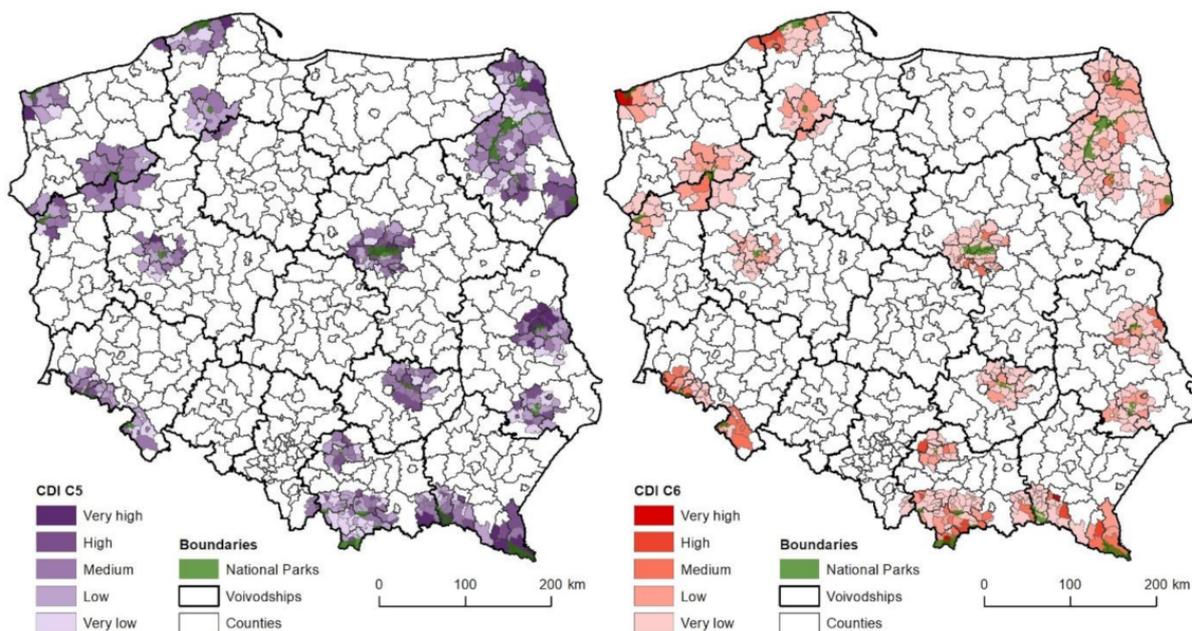
Synthetic indicators related to the development of technical infrastructure ( $CDI_{C3}$ ) indicate slightly different spatial trends. The former division of Poland resulting from the borders between the Austrian, Prussian, and Russian partitions is still visible (Figure 5). Due to such a historical situation (Poland was divided between those three countries for 123 years) especially technical and social infrastructure is better developed in Northern, Western, and partially Southern Poland (where the partitioners were Prussian country and Austria). In the eastern territories of Poland, which at those times were part of Russia, the infrastructure is still poor. These disproportions resulting from the division have also been noticed by other authors [85,86]. Indicators describing the development of technical infrastructure are considerably lower in communes located in the eastern and central part of the country. It refers to communes related to Wigierski, Biebrzański, Narwiański, Białowiecki, and Świętokrzyski national parks. Differences between communes with parks and reference areas with regard to the development of infrastructure are slight (7.15 and 7.19). The difference of the average value of this component for communes with parks and all the analyzed areas amounts to 0.01, and for reference communes,  $-0.01$ . The internal diversity of the two groups of communes is also slight (standard deviations are 0.57 and 0.53, respectively).

“Economy and labor market” is a significant indicator of the level of economic development. Similarly to the development of infrastructure, but to a smaller degree, the spatial structure of the country is characterized by a lower level of development in the east as compared with other regions. Communes in central and eastern Poland have lower levels of economic and labor market development. The results of the analysis show that the best developed communes are located in the vicinity of big cities—communes in Wielkopolski NP (near Poznań), Kampinoski NP (Warsaw), and Ojcowski NP (Krakow) (Figure 5). Also, high values of the analyzed component are recorded in communes with tourist attractions, particularly those in which the tourist functions have been developed for years (communes linked to Karkonoski NP, Tatrzański NP, Ojcowski NP, Woliński NP, and Słowiński NP). The average values of synthetic indicators of the component “economy and labour market” in communes with parks are slightly lower than the respective values in communes without parks (7.14 and 7.19, respectively). Simultaneously, there is a relatively large economic development gap in communes with parks (standard deviation of 0.75 as compared with 0.63 in reference areas).



**Figure 5.** Synthetic indicators for components “infrastructure” and “quality of life” ( $CDI_{C3}$ ), and “economy and labor market” ( $CDI_{C4}$ ). Source: own research.

The values of synthetic indicators of the component “social development” are dispersed (Figure 6), with some differences recorded in communes with parks and reference areas; the average values of synthetic indicators are 7.30 and 7.13, respectively. Social development levels in the analyzed groups of communes are comparable (standard deviations of  $-0.57$  and  $0.5$ ).

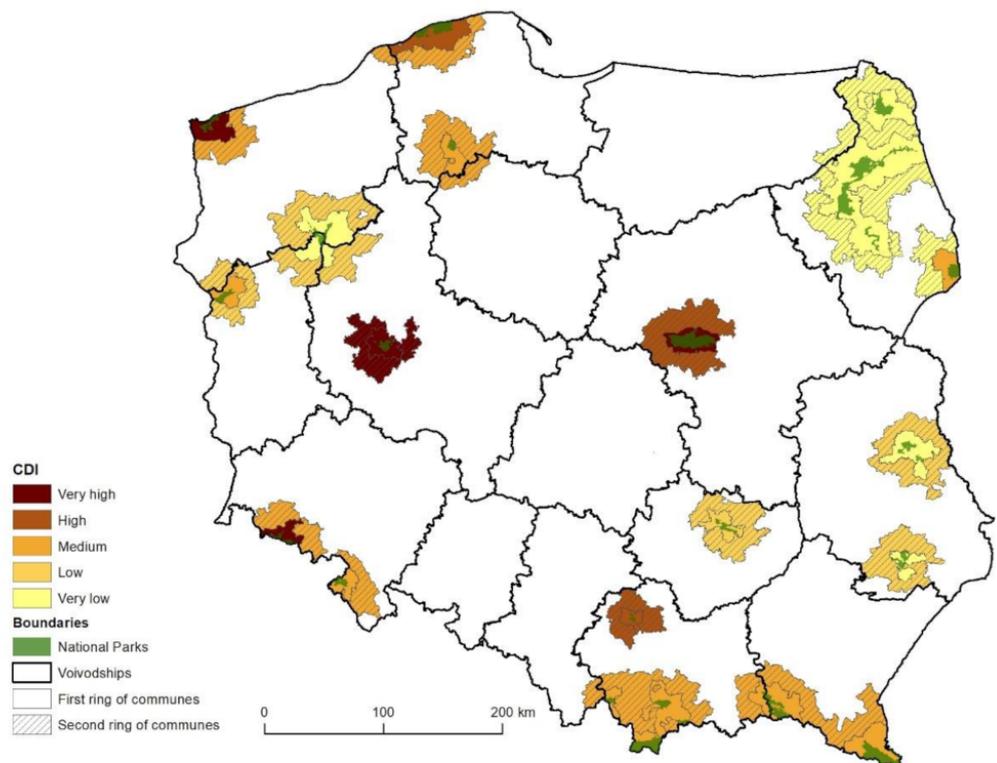


**Figure 6.** Synthetic indicators for components “social development” ( $CDI_{C5}$ ) and “tourism” ( $CDI_{C6}$ ). Source: own research.

Tourism is a significant component of socioeconomic development in the areas with natural values. The results of the study indicate that in most communes with parks tourism is better developed than in other areas. It is mainly the case of communes belonging to Słowiński NP, Karkonoski NP, Tatrzański NP, Góry Stołowe NP, and Woliński NP (Figure 6). Also, well-developed tourist activities in communes with parks may have an impact on the previously discussed higher local finance synthetic indicators.

The above conclusions are confirmed by the fact that the average value of synthetic indicators of tourism development in communes with parks is higher than in reference areas (7.30 and 7.13, respectively). The highest tourism development indicators are recorded in the south (mountains) and in the north (seaside) of the country. The diversity of communes with parks in terms of tourism development is also higher than in reference areas (standard deviations  $-0.92$  and  $0.53$ ).

Table 3 presents differences in synthetic indicator values (overall and for particular components) between communes with parks and reference areas by particular parks. When the compared communes are within the range of several parks, they are presented as communes with parks (Figure 7). A generally lower level of socioeconomic development of communes with parks (expressed by CDI) is recorded only in four parks/groups of parks: Poleski, Roztoczański, and Drawieński national parks, and the group of Bieszczadzki and Magurski national parks. The remaining parks and groups of parks record higher values of overall synthetic indicators. A considerably better socioeconomic situation is recorded in communes with parks, particularly in Woliński, Karkonoski, and Białowieski national parks. This is not an issue in national parks in the vicinity of big cities (Ojcowski, Kampinoski, and Wielkopolski national parks).



**Figure 7.** Average values of synthetic development indicators (CDI) for communes with parks and reference areas by particular parks. Source: own research.

**Table 3.** Differences in values of synthetic indicators between communes with parks and reference areas by parks/groups of parks.

Areas with Parks	CDI	CDI <sub>c1</sub>	CDI <sub>c2</sub>	CDI <sub>c3</sub>	CDI <sub>c4</sub>	CDI <sub>c5</sub>	CDI <sub>c6</sub>
Biebrzański, Narwiański, Wigierski	0.03	−0.16	0.12	0.01	0.01	0.12	−0.02
Białowiecki	0.37	−0.30	0.70	−0.03	0.28	0.91	0.51
Poleski	−0.09	−0.04	0.19	−0.38	−0.44	0.28	0.04
Roztoczański	−0.10	−0.30	−0.04	−0.34	0.07	−0.04	−0.01
Bieszczadzki, Magurski	−0.08	−0.23	−0.01	−0.18	−0.48	0.58	0.08
Babiogórski, Gorczański, Pieniński, Tatrzański	0.02	0.06	0.15	−0.05	−0.22	−0.04	0.21
Ojcowski	0.12	0.45	−0.02	0.40	0.02	0.07	−0.54
Kampinoski	0.25	0.06	0.51	0.09	0.38	0.42	−0.10
Góry Stołowych	0.04	0.12	0.20	0.09	−0.07	0.02	0.38
Karkonoski	0.47	−0.19	0.35	1.05	0.48	0.45	0.23
Wielkopolski	0.22	0.12	0.32	0.04	0.61	0.12	−0.35
Drawieński	−0.14	−0.47	−0.04	−0.45	−0.10	0.07	0.13
Ujście Warty	0.14	0.33	0.13	0.22	0.22	−0.07	−0.04
Woliński	0.69	0.40	1.34	0.29	0.33	−0.08	3.00
Bory Tucholskie	0.13	0.63	0.06	−0.13	0.41	−0.44	−0.16
Słowiński	0.07	−0.21	0.33	−0.27	−0.09	0.04	0.92
Świętokrzyski	0.06	0.14	−0.04	−0.19	−0.07	0.39	0.14

It should be noted that differences in synthetic indicators between two analyzed groups of communes are in most cases slight, and the widest gaps are recorded in tourism development and are visible in Woliński and Słowiński national parks (3.0 and 0.92, respectively) and, to a smaller degree, in Białowiecki and Góry Stołowe national parks (0.51 and 0.38). In contrast, differences in synthetic indicators of tourism development between communes with parks and reference areas in Ojcowski and Wielkopolski national parks amount to −0.54 and −0.35, respectively.

## 6. Discussion

In the context of the research goals of this work and its hypotheses, it should be noted that communes with national parks in the entire territory of the country are characterized by a higher level of socioeconomic development than neighboring areas as well as a higher level of tourism development. Therefore, the first hypothesis should be rejected, while the second one was confirmed. Simultaneously, it should be stressed that these conclusions refer exclusively to the entire group of communes with national parks.

The results of the analysis confirm the findings of Getzner et al. [37] based on studies conducted in various countries of the world that suggest that protected areas do not hinder regional development but increase or at least stabilize production activities and employment in a given region. However, it does not imply that the results of research conducted in the national parks of Australia, the United States, Spain or Great Britain, which show a positive impact of protected areas on the economy [83,87–89], can fully apply to the conditions of all Polish national parks and the socioeconomic situation of particular communes. It should be noted that the socioeconomic situation is very diversified, and not all communes with parks/separated groups of parks are characterized by a higher level of development than reference areas. Also, the results point to large differences in the values of indicators in communes within the administrative boundaries of particular national parks. Attention to a diversified socioeconomic situation in areas with national parks is also given by other authors including Kulczyk-Dynowska [49] and Podawca and Pawłat-Zawrzykraj [90].

Researchers who conduct in-depth analyses of the role of national parks and other protected areas in local development in various countries of the world point to a variety of endogenous and exogenous factors that influence local development (see: [42,47,91–95]). Referring the results of this study to the findings of other authors, it should be stated that the fact itself that a given commune has a protected area cannot be regarded as a factor which

hinders or stimulates socioeconomic development. A protected area should be viewed as one of a large number of factors that influence local development [96]. The presented results show that in most cases a key role is played by other factors than parks (central-peripheral location, and geographic and historical factors related to regional development).

The results of research studies of protected areas lead to the conclusion that the development of protected areas in European conditions is mainly stimulated by grassroots activities. Therefore, development gaps in national parks and their surroundings can be referred to the theory of territorial capital, which is regarded as a basis for the endogenous development of an area [31,32,97]. Referring to the typology of the main components of territorial capital developed by P. Brańka and T. Kudłacz [98] for rural areas, it can be stated that development gaps in communes with national parks can be attributed not only to diversified local resources (natural values and human resources) but also to differences in “relationship capital” (including local communities’ ability to cooperate, the existence of informal cooperation networks, mutual trust and openness, and “external internalized benefits” (e.g., the vicinity of urban centers, the availability of the means of transport, or trends in leisure activities). Researchers who analyzed the drivers of socioeconomic development in protected areas stress the significance of the second group of factors, referred to by P. Brańka and T. Kudłacz as “relationship capital”. They claim that one of the basic conditions of the development of such areas is the ability to establish cooperation between park management boards, local self-governments, NGOs, and inhabitants, as well as the ability to combine the interests of various entities and adapt development policies to the existing conditions [92,93].

In his analysis of a case from Norway, Hidle [93] notes that the establishment of a national park leads to strategic changes and initiates a new attitude to the development of an area, challenging the previous strategies. A national park provides new development opportunities for communes, imposing certain constraints but offering alternative possibilities. In order to take advantage of these opportunities and implement effective territorial policies, it is necessary to carry out appropriate activities in which a significant role is played by public administration (local authorities and national park management boards). These entities’ roles as initiators and coordinators in accordance with the concepts of good governance, adaptive management, and integrated development management is a condition sine qua non for implementing effective territorial policies based on cooperation networks of local public and private entities and NGOs [99,100]. The analysis of the results of studies conducted in various national parks in the context of contemporary territorial development and public management concepts can lead to the conclusion that the synergy effect resulting from socioeconomic development and the conservation of nature can be achieved in all protected areas, but it does not appear automatically, requiring consistent development policies [37,92,101,102].

Unfortunately, cooperation between institutions responsible for creating development policies at various administrative levels is not effective. This problem is stressed not only in the context of protected areas [58,59] but also at a national level. The national regional strategy 2030, one of the main documents creating regional policies in Poland, stresses the problem of inefficient cooperation between institutions and the insufficient coordination and integration of activities across sectors. The document points to the necessity of increasing the role and responsibility of local self-governments in local development activities, stimulating the economically and institutionally weakest territorial self-government entities (many of them located in peripheral regions), eliminating barriers to cooperation between self-governments, and improving relations with entrepreneurs and inhabitants [33].

“Relationship capital”, identified by Brańka and Kudłacz [98], is closely linked to a given region’s “social capital” and historical factors. Poland is characterized by very large gaps in social capital development, which is considered to be a major problem in effective local development management and in implementing participatory methods [33,103]. Simultaneously, building cooperation with park management boards is hindered by long-standing conflicts resulting from former park management policies that did not consider

the interests of inhabitants [64,69]. This problem is not only faced by Polish national parks [37].

Some other problems are the effect of the lack of good governance traditions and the resulting deficiencies in planning procedures. At a local level, the key document related to development management is a municipal development strategy, created by local authorities and consulted with other local entities and inhabitants [104]. In the case of communes with protected areas, particularly national parks, park management boards should act as key partners in developing and implementing development strategies, identifying strengths and opportunities related to the functioning of parks, and setting objectives and providing tools for combining socioeconomic development with the conservation of nature. The integration of national parks into the strategic planning of self-government entities and cooperation between local authorities and park management boards are regarded as a prerequisite for a positive impact of protected areas on local socioeconomic development [37,49]. Unfortunately, many strategies implemented by communes with parks do not give adequate attention to these issues [42,69]. Moreover, the results of research conducted by Zawilińska and Hołuj [58], and Zawilińska and Mika [59] indicate that cooperation between municipal authorities and park management boards is in most cases confined to consultations and legally required opinions of documents, or the rare cases of specific joint undertakings. However, a partnership model based on well-established cooperation in managing a given area is not implemented in any parks.

The conducted research study shows large socioeconomic development disparities among areas with national parks as well as diversified development levels within communes related to a given park. Therefore, it is necessary to coordinate activities and implement consistent policies in all communes related to a given park for the purpose of increasing benefits and narrowing spatial gaps in socioeconomic development. Research studies conducted in Poland to this day indicate that benefits resulting from the existence of national parks are mainly absorbed by communes with sound economic foundations, skilled labour force and tourism, and entrepreneurship development traditions [42,105]. In the absence of coherent policies in communes, which are administratively linked a given national park, the functioning of a park can widen socioeconomic development gaps.

In the context of planning documents for areas with national parks and cooperation between parks and communes, it should be stated that an integrating model referred to as “a dynamic innovation approach”, based on a holistic approach to national parks in combination with a socioeconomic system, does not function in Poland. As already mentioned, protection plans developed for national parks do not consider the issue of parks’ economic impact on their environment, while local self-governments develop planning documents for particular communes. No plans are developed for the entire areas of parks (or groups located in the vicinity of parks) and their surroundings, which should be treated as functional areas [46,59,69]. This problem also exists in other countries. It is presented by Calafati and Mazzoni [48] in the context of national parks in Italy. The authors note that in the areas in which economic activities and related landscape and cultural values play a vital role, the conservation of nature should be considered in a broader context of regional development.

As regards the second hypothesis and the confirmed higher level of tourism development in communes with parks than in reference areas, accompanied by diversified values of the indicator in particular communes, it can be concluded that, generally, national parks have a positive impact on tourism development, but it should be noted that the tourist function does not develop in all communes. Kulczyk-Dynowska [48] analyzed the tourist functions of Polish communes with national parks and identified the phenomenon of the existence of growth centers—one or two communes in each park in which tourism is much better developed than in neighboring communes. This phenomenon is also confirmed by the presented results of the study (Figure 6). Podawca and Pawłat-Zawrzykraj [106] also point to various levels of the tourist attractiveness of communes in national parks and present many cases of areas that do not make an effective use of their tourist potential.

Large gaps in tourism development between national parks and related communes result from the character of natural values as well as their location; the availability of the means of transport; historical factors; and, simultaneously, from the lack of planning and intervention measures aimed to make a more effective use of weaker communes' tourist potential.

Analyzing the research studies of the impact of national parks on local development, we note that tourism is regarded as the major benefit of the functioning of parks [45]. Elsasser et al. [91] refer to the case of Switzerland and state that national parks as institutions have a slight impact on the economy because a park's expenditure in the context of an entire region is not significant. The authors believe that the main benefits are derived from tourism development. A considerably greater impact of inbound tourism on parks as compared with the expenditure of park management boards is confirmed by studies conducted in the other countries of the world (e.g., [42,107,108]). In many studies the impact of parks is analyzed exclusively from the perspective of the economic effects of tourism [109–112]. Benefits resulting from inbound tourism are frequently seen as a compensation for loss opportunity costs [113].

The observed large spatial gaps in tourism development lead to the conclusion that benefits derived from tourism cannot be automatically attributed to the functioning of parks, and they do not always compensate for resource management restraints imposed by environmental regulations. This finding is confirmed by research studies conducted in other national parks, which are not popular tourist destinations or which are characterized by a very high seasonality of tourist traffic [95]. In such cases it is necessary to develop support programs based on alternative methods using a given region's unique development potential. Hirschnitz-Garbers and Stoll-Kleemann [45], having analyzed 20 cases of European protected areas, conclude that it is not appropriate to concentrate exclusively on benefits resulting from tourism. The authorities of protected areas, acting jointly with local self-governments and other stakeholders, should seek to diversify and benefit from various economic functions that do not hinder but encourage the conservation of nature, landscape, and the local cultural heritage. An example of such efforts are ecological agriculture and local products based on a national park's brand.

## 7. Conclusions, Implications for Practice and Recommendations for Future Research

On the basis of the conducted research, it can be concluded that the communes where the national parks are located are areas of development rather than stagnation. Demonstrating the generally positive influence of national parks on local development fills the research gap that has existed until now, due to which protected areas in Poland have been perceived as constraints rather than driving forces behind local development. The conclusions are also in line with the research results obtained in other countries. At the same time, it should be emphasized that great diversity of the level of socioeconomic development among the communes of particular national parks, as well as neighboring communes, lead to the conclusion that a national park cannot be automatically considered as a factor stimulating or limiting development. The socio-economic development of an area is influenced by a number of factors, a national park is only one of them and its role is not necessarily crucial. As the research has shown, the development of communes is mostly conditioned by their proximity to large urban centers. It should also be noticed that there are still socio-economic disparities between Eastern and Western Poland, as shown by the conducted research. Tourism development conditions are also of great importance for the local economies. The confirmation of the second hypothesis indicates that tourism is one of the key development drivers (as a result of a multiplier effect), which is confirmed by the correlation between tourism development and local finance indicators.

The great diversity of socio-economic development of communes, supported by literature research, leads to the conclusion that a national park changes the conditions for local development. On the one hand, it can create new opportunities and hinder the development of local economies on the other hand. The synergy effect between nature protection and economic development can be achieved, but it requires an appropriate development

policy, and it does not always happen automatically. Despite increasing attention given to the socioeconomic significance of national parks in Poland, it is hardly possible to point to any concrete effects of an integration model referred to as a dynamic innovation approach. The model presented in the global recommendations does not function in Poland yet, which is reflected, among others, in the lack of coordinated local and higher level development policies, which would engage administration services (local authorities and national park representatives) and other participants of socioeconomic life. The process is hindered by the ineffective use of the development potential of protected areas.

Therefore, it is strongly recommended that strategic and planning activities be locally implemented for all entities functionally linked to national parks, based on adequate tools allowing for supporting sustainable development in these areas. Such integrated activities would also close development gaps in communes which, on an increasing scale, lead to the polarization of economic development. This approach requires separate strategies developed on the basis of local specific conditions. Therefore, a key factor in integrated development management in the areas functionally linked to parks is the identification of local potential resources and diversification of functions, ensuring both economic and social development. This process should rely on the effective use of the areas that have become local growth centers, spreading the effects of development to communes that have not as yet benefited from the existence of national parks in their territories or surroundings. It should also be underlined that the level of socio-economic development of analyzed communes relates to geographical and historical factors, as well as local endogenous potentials. Detailed conclusions concerning socio-economic development indicators for particular national parks and its neighborhood would be interesting but would require additional research on endogenous and external development factors for each part. The research should be continued in subsequent years on the basis of specific socioeconomic development data at a local level, obtained from the 2021 national census. Future research studies are likely to provide new insights into the situation of communes and on-going socioeconomic processes, being a basis to improve development policies and a more effective use of existing development potentials, as well as for building social support for the functioning of national parks.

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