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Contents

Preface	9
Beata Bal-Domańska: Convergence of Central and Eastern European regions – spatial aspect.....	11
Barbara Dańska-Borsiak: The determinants of migration outflows from Polish sub-regions in both internal movement and abroad – identification and comparison.....	22
Anna Golejewska: Rethinking regional competitiveness. The role of productivity.....	33
Małgorzata Golińska-Pieszyńska: Intellectual capital as an important element of knowledge management.....	43
Piotr Hajduga: Special economic zones in the Lower Silesia region as a regional development stimulator during the crisis	56
Petr Hlaváček: Analysis of the development processes of the city of Ústí nad Labem as an example of the social and economic transformation of cities in the Czech Republic.....	66
Anna Jasińska-Biliczak, Jan Buleca: Participation of economic self-government in the process of the promotion of entrepreneurship – case study of Poland, Germany and Slovakia.....	78
Małgorzata Karczewska: Diversity of the gross expenditure on R&D in GDP by sources of funds in Poland against the background of the European Union	89
Artur J. Koźuch, Janusz Sasak, Kamilla Noworól: Target costing and participatory budget in Territorial Self-Government Units.....	97
Alina Kulczyk-Dynowska: National park as an element fostering the sustainable development of the region – the example of the Tatra municipalities.....	108
Iwona Ładysz: The regional dimension of economic security in the age of globalisation using the example of the Lower Silesian Voivodship	118
Krzysztof Malik: Smart specialisation and Key Enabling Technologies in the New Regional Development Policy	128
Štefan Marsina, Pavol Oravský: Utilization of geothermal energy as a renewable source.....	141
Anna Mazurek-Kusiak, Julia Wojciechowska-Solis: Noticeability and effectiveness of tourism promotion in Lublin province	149
Grygorii Monastyrskyyi, Tetyana Monastyrska: Modernization of local self-government in Ukraine.....	160
Alicja Olejnik: Prospects and frontiers of Multidimensional Panel Spatial Autoregressive Models	170

Pavol Oravský, Štefan Marsina: Infrastructure of energetics and its diversification	180
Alina Piątyszek-Pych: The cluster development policy in Poland	190
Zbigniew Piepiora: Occurrence of natural disasters in Africa and international cooperation in the field of counteracting their effects	200
Renata Pisarek: The importance of passenger air transport and high-speed rail for regional development.....	210
Małgorzata Rogowska: The quality of public space in the development of urban areas.....	223
Joanna Szafran: Public-private partnership in Poland and the European Union	231
Ewelina Szczech: Is there a creative city in Poland? Defining and measuring the concept in Poland	242
Andrzej Sztando: Twelve rules for the construction of planning documents prepared by self-government units	252
Maciej Turala: Institutional capacity in Polish communes. Strategic, financial and spatial planning dimension	264
Alla Vasina: Management of the investment potential of Ukraine's regions in the process of regional structural policy realization	275
Svitlana Veleshchuk: Strategic development of the region in the context of the branding concept.....	285
Marcin Bogdański, Wioletta Wierzbicka: Socio-economic potential of Polish voivodship cities.....	295
Marcelina Zapotoczna, Joanna Cymerman: Application of selected synthetic measures in the assessment of the level of satisfied housing needs in Poland.....	306

Summaries

Beata Bal-Domańska: Konwergencja regionów (NUTS-2) Europy Środkowo-Wschodniej – aspekt przestrzenny	21
Barbara Dańska-Borsiak: Determinanty krajowych i zagranicznych odpływów migracyjnych z podregionów – identyfikacja i porównanie	31
Anna Golejewska: Rozważania na temat konkurencyjności regionalnej. Rola produktywności.....	42
Małgorzata Golińska-Pieszyńska: Kapitał intelektualny jako ważny element zarządzania wiedzą.....	55
Piotr Hajduga: Specjalne strefy ekonomiczne na Dolnym Śląsku jako stimulator rozwoju regionalnego w dobie kryzysu	65

Petr Hlaváček: Analiza procesów rozwojowych miasta Ústí nad Labem jako przykład społecznych i ekonomicznych transformacji zachodzących w miastach Republiki Czeskiej	77
Anna Jasińska-Biliczak, Jan Buleca: Partycypacja samorządu gospodarczego w procesie wspierania przedsiębiorczości – analiza przypadku Polski, Niemiec i Słowacji	87
Małgorzata Karczewska: Zróżnicowanie udziału wydatków na B+R w PKB w Polsce według źródeł finansowania na tle krajów Unii Europejskiej	96
Artur J. Kożuch, Janusz Sasak, Kamilla Noworól: Rachunek kosztów docelowych a budżet partycypacyjny w JST.....	107
Alina Kulczyk-Dynowska: Park narodowy jako element wspierający równowagę rozwoju regionu – przykład gmin tatrzańskich	117
Iwona Ładysz: Regionalny wymiar bezpieczeństwa ekonomicznego w dobie globalizacji na przykładzie województwa dolnośląskiego.....	127
Krzysztof Malik: Specjalizacje inteligentne i technologie wiodące w Nowej Polityce Rozwoju Regionalnego	140
Štefan Marsina, Pavol Oravský: Utylizacja energii geotermalnej jako źródła odnawialnego.....	148
Anna Mazurek-Kusiak, Julia Wojciechowska-Solis: Zauważalność i skuteczność promocji turystyki w województwie lubelskim	159
Grygorii Monastyrskyi, Tetyana Monastyrska: Modernizacja samorządu lokalnego na Ukrainie	169
Alicja Olejnik: Perspektywy i ograniczenia panelowego wielowymiarowego autoregresyjnego modelu przestrzennego	179
Pavol Oravský, Štefan Marsina: Infrastruktura energii elektrycznej i jej dywersyfikacja.....	189
Alina Piątyszek-Pych: Polityka rozwoju klastrów w Polsce	199
Zbigniew Piepiora: Występowanie katastrof naturalnych w Afryce i międzynarodowa współpraca w zakresie przeciwdziałania ich skutkom	209
Renata Pisarek: Znaczenie pasażerskiego transportu lotniczego i kolei dużych prędkości dla rozwoju regionalnego	222
Małgorzata Rogowska: Jakość przestrzeni publicznej w rozwoju aglomeracji miejskich.....	230
Joanna Szafran: Partnerstwo publiczno-prywatne w Polsce i w Unii Europejskiej.....	241
Ewelina Szczech: Czy w Polsce istnieje miasto kreatywne? Próba definicji i pomiaru zjawiska w Polsce	251
Andrzej Sztando: Dwanaście zasad budowy dokumentów planistycznych jednostek samorządu terytorialnego.....	263
Maciej Turała: Sprawność instytucjonalna polskich gmin. Wymiar planowania strategicznego, finansowego i przestrzennego	274

Alla Vasina: Zarządzanie potencjałem inwestycyjnym regionów Ukrainy w realizacji regionalnej polityki strukturalnej	284
Svitlana Veleshchuk: Strategia rozwoju regionu w kontekście koncepcji branding.....	294
Marcin Bogdański, Wioletta Wierzbicka: Potencjał społeczno-gospodarczy miast wojewódzkich w Polsce.....	305
Marcelina Zapotoczna, Joanna Cymerman: Wykorzystanie wybranych miar syntetycznych do oceny zaspokojenia potrzeb mieszkaniowych w Polsce	316

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NATIONAL PARK AS AN ELEMENT FOSTERING THE SUSTAINABLE DEVELOPMENT OF THE REGION – THE EXAMPLE OF THE TATRA MUNICIPALITIES

Summary: The article deals with the issue of regional development and the use of protected areas in the process of management – their value and role in space as such. The need to address the mutual macrosystem of economy-society-environment served as the beginning for the implementation of the principles of eco-development and the simultaneous analysis of the economic, ecological and social aspects of all economic processes. This has also led to changes within the process of modelling regional development. The analysis of the role of national parks in space has been enhanced through the empirical example of the Tatra National Park and the Tatra municipalities.

Keywords: protected areas, eco-development, ecological education, regional and local development.

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1. Introduction

Regional development as a category is subject to permanent transformations. It is a process which evolves mostly as a result of changes in the economy, the development of knowledge, technological progress, as well as changes in the definition of prosperity and the expectations of local and regional communities, especially regarding the way their members perceive the determinants responsible for the quality of life. The ubiquitous idea of sustainable development involves formulating a brand new role for the natural environment and working towards the simultaneous realisation of economic, social and ecological goals. It is inseparably related to space – including the use of ecosystem resources – and employing a long-term perspective regarding the consequences of human activity. National parks are elements of space in any region. The economic potential of each park is restricted through requirements resulting from the obligation to protect the most valuable elements of nature. Parks are commonly viewed as static areas guarded by statutory restrictions regarding the use of terrain, yet this image is seriously lacking. National parks are not only an area-

based form of environmental protection, but also an organisational unit maintaining its own budget, realising its own investments, providing a variety of services, managing the area under its authority, and – as a result – influencing human activity both within the parks' border and in neighbouring areas.

The aim of this article is to show the consequences related to the existence and activity of national parks, which are essential in fostering the sustainable development of a region. In order to fulfil this goal, an analysis of the subject literature dealing with the concept of regional development and the process of ensuring sustainable development has been conducted, with the use of data from the Central Statistical Office and source data from the Tatra National Park.

2. Regional development in the context of sustainable development

Regional development refers to both social and economic issues related to a given territory. It manifests itself in extending regional economic potential, in increasing competition with regard to other areas and upgrading the life quality of its inhabitants. While analysing definitions of regional development presented in professional literature, major components, decisive about regional development level, may be distinguished. Among them the following may be listed: regional human capital created by regional inhabitants; regional ecosystem and space; technical and technological progress; infrastructure management level and the regional economy.

The only indisputable issue in the discussion of regional development is the fact that regional development requires capital. With reference to the capital division method typical for ecological economics, two types of capital may be distinguished: capital resulting from human activity and capital provided by nature. "Anthropogenic capital established by a human being covers capital goods, financial resources, human capital or human knowledge (information) but also, in a sense, social relations (social capital). (...) Natural capital refers to all components and elements of the natural environment which are indispensable in supporting a human being's biological existence and the overall civilization (including the economy) [Czaja and Becla 2007, p. 61].

A full understanding of the role played by natural capital in regional development is facilitated by the division of regional development factors into those located inside and outside a given region. Among the factors stimulating endogenous development a crucial role is played by the local ecosystem, the implementation and value of which is influenced by: "components and resources of natural environment, level of environment pollution and devastation, ecological infrastructure development potential and ecological awareness" [Brol 2006, p. 16].

Depending on whether the sustainable development theory is accepted or rejected, natural capital may be enriched or damaged by anthropogenic capital. The advantage of the sustainable development theory thus becomes its universal nature

allowing for its implementation in any dimension of management – at the level of global, national, regional and local economy. The currently promoted, long-term perspective and multidimensional character of regional development also supports the necessity of implementing sustainable development principles in stimulating regional development, which manifests itself in “political, economic, cultural, technological and environmental aspects present in such development. Sustainable development requires not only the harmonious cooperation of the listed above dimensions, but also maintaining the strategic advantage by the given region and planning its future in the inter-generation perspective” [Klasik 2002, p. 12]. A region which keeps developing in line with the sustainable development theory aims at the cohesive accomplishment of goals representing three levels:

- ecological level (among others: atmosphere protection, preserving biodiversity, sustainable implementation of renewable and non-renewable resources, providing healthy conditions for human existence);
- economic level (among others: economic stability, meeting basic needs by offering sustainable products, cooperation between economic organisms);
- socio-cultural level (among others: following democratic standards, social safety, managing conflicts, health care and human life quality protection) [Rogall 2010, p. 47].

Natural environment represents the system of connected vessels – therefore the phrase used to describe it is: “think globally, act locally”. The local community should support, to the utmost, the implementation of sustainable development with social capital playing the role of an indirect factor stimulating transformations. [Evans, Joas, Sundback and Theobald 2004, pp.18-20]. It is worth investing in ecology oriented education in order to take advantage of, and also strengthen, the existing community relations – the modification of social capital by means of educational activities presents attributes typical for evolution and therefore stands a bigger chance of winning overall acceptance and support. An opportunity for supplying the local community with information on issues referring to corporate social responsibility presents another aspect of the background for sustainable development introduction obtained in this way [Jonker, Stark and Tewes 2011, p.11]. Sustainable development represents the processes referring to all aspects of human life – therefore the successful implementation of this concept requires long-lasting operations spread over time.

3. National park – its role within a given space

The category of a national park is recognizable all over the world – this nature conservation form was certainly popularized by the oldest national park worldwide, Yellowstone Park in the USA. Polish legislation, apart from national parks, also provides for other nature conservation forms, such as: nature reserves, landscape parks, protected landscape areas, Nature 2000 areas, nature monuments,

documentation stations, ecological grounds, nature and landscape complexes and also plants, animals and mushrooms species preservation [Article 6, point 1 of the Act dated 16th April 2004 on nature conservation (Journal of Laws 2004 no. 92, item 880, with later amendments). National parks, however, constitute the most important form of nature conservation areas in the territory of Poland. In accordance with legislation provisions, a national park area must not be smaller than 1000 hectares and has to cover an area distinctive because of special natural, scientific, social, cultural and educational values. The reason for which national parks are established is the need to protect the overall nature and landscape values in a given area. The above intention is carried out by striving to maintain biodiversity, as well as the protection of resources, the creation and components of inanimate areas, and also by regenerating distorted habitats and restoring the proper condition of nature's resources and components.

From the perspective of regional economic development, it is crucial that the area covered by a national park is provided only in a way which does not exert any adverse influence on the nature within the park's borders. Establishing the above condition is the direct consequence of nature conservation requirements and indirectly results from changes in the perception of space. Having considered space limitations, it has become indispensable to manage it in a well thought-out manner and work out long-term directions for planning it. With reference to protected areas, among others, the Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) may be applied as an auxiliary method. This allows for the quick specification of priorities in activities aimed at the studied space accompanied by the possibility of making comparisons with a different protected area [Stoll-Kleemann 2010, pp. 377-382].

23 national parks have been established in the area of Poland and cover, in the highest form of nature conservation, as little as 1% of the country's area (the overall area of national parks in Poland is 316 748 hectares). This confirms the unique character of national parks areas, including their tourist attractiveness.

As has already been mentioned above, the leading task of national parks is focused on nature conservation. In national parks this not only consists in defining orders and prohibitions regulating visitors' behaviour within the boundaries of protected areas – the legislator indicates specifically that environment protection goals are carried out, among others, by: conducting educational, information oriented and promotional activities (Article 3, point 5 of the Act dated 16th April 2004 on nature conservation, Journal of Laws 2004 no. 92, item 880, with later amendments). The involvement of national parks in ecological education results in the fact that they do not exist just as an authentic fragment of regional space, but also by means of the knowledge that they constitute some part of national conscience. All the projects aimed at promoting pro-ecological attitudes represent the only method for eliminating a social values system focused on unsustainable consumption which results from a low level of ecological awareness. Additionally, these activities allow for changing the attitude

that individual actions exert a marginal influence on global issues. Ecological education carried out as an on-going programme facilitates the gradual deactivation of habits conflicting with the requirements of nature conservation. It is worth emphasizing that just passing on knowledge is not sufficient – community members also have to be encouraged to choose and follow behaviour in line with appropriate indications. In the above presented perspective, ecological education performed in national parks is combined, to some extent, with ecological marketing.

The popularity of national parks, not always in its positive sense, results from spatial conflicts occurring, most often, between their nature conservation and tourist oriented functions. The anthropopressure power is confirmed by the number of tourists visiting national parks – for example the Tatra National Park is annually visited by about 2,5 million people. Owing to different indications regarding space management in line with nature conservation requirements, as well as instructions put forward in accordance with tourism development stipulations it seems that these conflicts are unavoidable, in particular if it becomes a commonly shared awareness that tourism means for the environment not just physical land occupation for the purposes of tourism infrastructure facilities, but also the resulting landscape degradation, air and surface waters pollution, soil degradation, noise and in consequence threats to biodiversity.

Meanwhile the idea of sustainable development refers to all areas of human activity – tourism included. The spreading of sustainable development principles by means of ecological education may change (and indeed changes) the patterns of consumption also within the framework of tourism services. This happens due to the fact that a tourist is just a consumer and like any other consumer becomes susceptible to certain forms of influence, such as: price, earned income, quality, fashion, major trends in lifestyle, advertising, etc. Sustainable development in tourism has become even more significant since many areas in which tourism constitutes the basic source of income have reached their natural environment degradation level, which discourages tourists from visiting them. Due to an over-extensive interest and absence of skills in taking advantage of space the factor of competitive advantage has been completely mishandled there, which results in tourism's disappearance and the devastation of tourism oriented infrastructure. The above discussed situation cannot occur in any national park area – it is ruled out by the legislation in force which regulates the usage of protected areas.

4. The activity of the Tatra National Park and the sustainable development of the Tatra powiat (county) municipalities

The Tatra National Park (TNP) is considered one of the oldest and largest national parks in Poland. It was founded in 1954 by virtue of a regulation of the Council of Ministers (Journal of Laws 1995, no. 4, item 23). Despite it having been established

almost 60 years ago, its borders have not been subject to significant change-initially the area of the Park equalled 21 400 hectares, with the regulation of the Council of Members from April 1 2003 regarding the Tatra National Park (Journal of Laws 2003, no. 65, item 599, currently in force) indicating that the TNP area equals 21.164 hectares.

The Tatras are the only high mountain area in Poland. The TNP contributes to the economic development of the Tatra powiat (county) municipalities mainly through modifying the factors determining the possibility for the realisation of functions related to tourism. This function plays a major role in the development of municipalities connected with the Park through their territory, i.e. the Kościelisko, Zakopane, Poronin, Bukowina Tatrzańska municipalities, as well as the Biały Dunajec municipality which is located in their vicinity. The Defert indicator has been shown in Table 1 in order to characterise the tourist function in the Tatra municipalities – additionally pointing out the importance of the Park's activity which modifies it. The indicator in question shows the number of overnighting tourists per km² of each area, and thus it includes a spatial reference. The indicator has been estimated for both the municipalities in question and for areas used for the sake of comparison, i.e. the małopolski region and Poland as such. The decision regarding the choice of the research period was guided by the intention to represent the development of the tourist function from a long-term perspective – thus the year of the accession of Poland into the European Union has been chosen as the starting point for the research.

Table 1. The Defert indicator for the Tatra powiat (county) municipalities, the małopolski region and Poland in the years 2004-2012

Area/Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Commune Zakopane	4 121	4 245	4 433	4 497	4 730	4 167	4 272	4 594	5 254
Commune Kościelisko	207	227	232	199	149	208	208	266	309
Commune Poronin	124	130	126	124	123	137	143	224	383
Commune Bukowina Tatrzańska	282	326	346	358	362	381	347	526	898
Commune Biały Dunajec	111	100	102	84	111	114	52	33	180
The małopolski region	152	164	173	186	179	179	189	207	229
POLAND	50	53	56	61	63	62	65	69	72

Source: own elaboration using CSO data.

The Defert indicator in the research period for each Tatra 'powiat' community was lower than the value calculated for the małopolski region only in the case of the Biały Dunajec commune (in the entire research period), the Poronin commune (between 2004-2010) and, incidentally, the Kościelisko commune (in 2008). The Biały Dunajec commune achieved lower results when compared to the entire country twice in 2010 and in 2011. The unquestionable leader when it comes to realising the tourist function in the entire research period is the Zakopane commune.

In order to clearly show the elements within the activity of the Tatra National Park which are significant from the point of view of implementing the theory of sustainable development, the author believes one should distinguish between two groups of activities: activities related to ecological education and activities related to TNP space.

An important element when it comes to ecological education in the TNP is a range of services offered by the Environmental Education Centre in Zakopane, which organises practical courses, exhibitions, competitions etc. The TPN's didactic activities are constantly growing. In 2004 the local museum was visited by five thousand people, while the Park organised 262 didactic events [Environmental Protection 2005]. In 2011 the museum was visited by 146 thousand people and the number of didactic events grew to 666 [Environmental Protection 2012]. TNP employees form an Environmental Circle and broadcast programmes providing information about the Park in cooperation with the Alex local radio station. Both the above-mentioned activities are addressed mostly to the residents of Tatra communes, while broader audiences are reached through publications. Depending on demand, a dozen or more items are published (the circulation of e.g. a single edition equals about 1500-3000 copies). The publications are prepared in accordance with the theme of popularising science and pursue the idea of a complex and trans-border perception of the Tatra mountains. The newsletters, folders, concise book publications, the *Tatry* quarterly and the post-conference materials on the Tatras combine environmental subjects with issues related to history, culture, tradition and art in the entire region. Four didactic routes have been delineated as part of the educational activity within the Park. Ecological education is aimed at providing information and changing the approach and motivation of the public.

The set of actions aimed at modifying elements of space within the TNP is very complex. Three areas of activity have been distinguished for the sake of order: those dealing with infrastructure, those related to forest and non-forest ecosystems and those focusing on economic functions.

Activities related to the infrastructure include creating, managing and maintaining infrastructure facilities. The 275 km long tourist routes are the most significant element of the TNP infrastructure. Activities related to their maintenance include: marking, maintaining safety gear (such as ladders, chains etc.), maintaining bridges and culverts, preventing surface corrosion, placing reference poles on the routes for orientation in the winter season, cleaning and setting up sanitary cubicles.

Additionally, the TNP is responsible for delineating ski routes with the use of poles and securing areas susceptible to erosion with nonwoven geotextiles. It is worth pointing out that it is the Polskie Koleje Liniowe (Polish Cableways) that is responsible for the maintenance of the ski runs. It is essential that there is a complete snowmaking restriction within the TNP. Since entering the TNP requires an entry fee, seven entry gates have been set up (in Łysa Polana, Dolina Jaworzynki, Goryczkowa, Kalatówki, Dolina Białego, Dolina Strążyska, Dolina Kościeliska) which are opened all year round, with a number of places available for the purchasing of tickets during the season (Wierch Poroniec, Dolina Filipki, Sucha Woda, Cyrhla, Dolina Olczyńska, Nosal, Dolina Małej Łąki, Staników Żleb). The TNP decides upon the rules behind the use of buildings and other tourist infrastructure facilities located in its area. The most important facilities in this group are eight hostels made available by the Polskie Towarzystwo Turystyczno-Krajoznawcze (Polish Tourist and Sightseeing Society).

The second group, i.e. activity related to forest and non-forest ecosystems, includes actions concerned with managing the forest, i.e. silviculture and forest protection, as well as maintaining meadows and clearings. The TNP constantly performs the regulation of the species composition and the spatial structure of lower mountain forest sections transformed by humans – working towards eliminating spruce monocultures and increasing participation of fir and beech trees. Maintaining the non-forest state of meadows and clearings requires mowing (manual or mechanical). The actions described above directly influence the retaining of tourist attractions (e.g. crocus habitats) and allow for the restoration of the desired state within the ecosystems.

Activities dealing with economic functions are related to monitoring the tourist function, managing the harvesting of timber and cultural sheep grazing. The 24 hour Eco-counter equipment is used for monitoring the tourist function. The Eco-counters allow for counting the number of people on tourist routes. They cost about 10 000 PLN each, which is why establishing an entire monitoring system required a large financial investment. However the data retrieved by the system is very important when it comes to managing the protected area, e.g. delineating didactic routes, camping sites and similar areas aimed at modifying the tourist flow and other actions related to the previously described tourist infrastructure. Timber harvesting involves spruce exclusively. Each year about 40 000 m³ of timber is harvested by the TNP in areas owned by the State Treasury, with an assortment of large-size wood being dominant. Spruce logging supports the reconstruction of the wood stand structure and is also a source of income for the Park – in 2012 it brought in about 6343 PLN of revenue. Cultural sheep grazing is conducted on the basis of a contract between the head shepherd and the TNP, with regulations concerning not only the use of meadows but also indicating the species of animals, introducing obligations regarding the retaining of customs and traditions (attire, dialect). Cultural grazing is currently performed by seven head shepherds with a total of 1500 sheep in an area of 120 hectares. The economic functions described above require constant control

by TNP employees – this is aimed firstly at preventing any negative impact on the environment and secondly at supporting the processes of sustainable development for the entire area in question.

It needs to be stressed that the division used in the study is only a method of making it easier to represent the tasks undertaken by the TNP – it is not an exclusive division, nor can it serve as a basis for the fragmentary perception of the terrain or the Park's activities. The consequences of the above-mentioned actions are apparent not only when it comes to environmental protection, but also in the context of tourist flow which functionally binds the area of the Park with the remaining municipalities and the Slovak part of the Tatras. TNP activity makes it possible for the simultaneous realisation of ecological, economic and social goals. Summing up the influence of the TNP on the economic processes occurring in the Tatra 'powiat' municipalities, it is worth pointing out its scale of activity: the TNP created 26 097 PLN worth of income for the year 2012, with 13 124 PLN of income being subject to the Corporate Income Tax. Expenditure in 2012 equalled 22 956 PLN, out of which 10 700 PLN was subject to CIT tax deductible expenses. Due to organisational changes within national parks in recent years – e.g. the shutting down of auxiliary enterprises and changes in the organisational-legal form from a budget entity to a state legal person – the data gathered from previous years is inexpedient. Since TNP tasks are not subject to change and are independent from the organisational-legal form, the information showcasing the scale of activity in 2012 is insufficient to confirm that the Park is a significant member of economic life and can influence the ensuring of sustainable development processes in the Tatra municipalities.

5. Conclusion

Regional development theories have evolved throughout the ages, just like the approach towards the role, use and protection of the natural environment in the process of management. The existence of national parks should be explored by evaluating space not only in the context of ensuring its legal protection, but also by retaining its role as an element of local and regional layout. The park is not an alien organism – it remains part of the municipality and the 'powiat' (county) where certain economic functions are being carried out. Despite their relatively small area, national parks influence the functioning of neighbouring territories – mostly through their constant and long-term modification of the principles of terrain use, as well as infrastructure investment fostering tourism and ecological education. National parks are recognised world-wide as areas of protection and are thus legally equipped with instruments used to promote the theory of sustainable development. Ecological education is a basis for representing and accepting alternative methods of management. Also, the proper preparation of space for tourist flow is fundamental for the development of sustainable tourism.

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PARK NARODOWY JAKO ELEMENT WSPIERAJĄCY RÓWNOWAŻENIE ROZWOJU REGIONU – PRZYKŁAD GMIN TATRZAŃSKICH

Streszczenie: Artykuł porusza kwestię rozwoju regionalnego oraz wykorzystywania obszarów chronionych w procesie gospodarowania – ich wartości i roli w ogólnej przestrzeni. Konieczność łącznego rozpatrywania makrosystemu gospodarka-społeczeństwo-środowisko stanowiła początek wdrażania zasad ekorozwoju i jednoczesnego analizowania aspektów ekonomicznych, ekologicznych i społecznych wszelkich procesów gospodarczych. Doprowadziło to również do zmian w zakresie modelowania rozwoju regionalnego. Analizę roli parków narodowych w przestrzeni wzbogacono empirycznym przykładem Tatrzańskiego Parku Narodowego i gmin tatrzańskich.

Słowa kluczowe: obszary chronione, ekorozwój, edukacja ekologiczna, rozwój regionalny i lokalny.