

# Protected areas vs. regional development based on the example of Poland

**Author:** Alina Kulczyk-Dynowska

## Abstract:

The paper presents an attempt to prove that covering a certain area by the forms of nature protection does not mean halting the processes occurring in it and responsible for its socio-economic development. This is very important, because in spite of technical and civilization progress manifested by changes in transport, logistics, innovations in communication processes and other factors depreciating the importance of localization for production processes, natural resources – as an endogenous factor – still play the significant role in regional development.

The paper offers the characteristics of regional development mechanisms, the idea of sustainable development, the analysis of legislation referring to nature conservation in force in Poland in the period 1934-2013 and regional studies covering the years 2004-2012. As the result of conducted analyses the thesis regarding the negative impact of the area forms of nature protection on regional development should be rejected.

**Keywords:** Regional development, Regional data, Natural resources, Sustainability

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## Introduction

Economic growth and development are inherently related to the production of goods and rendering services requiring the usage of production factors traditionally covering labour, capital and – the earth understood as the entire environment and spatial values. Maintaining adequate proportions of development structure, taking into account both economic and environmental interests, as well as adopting a long term perspective for the assessment of the effects resulting from undertaken activities or omissions, represent the only method ensuring the sustainability of processes occurring not only in regions, but also in the entire national economies. The establishment of protected areas is one of the components aimed at natural resources protection. Covering a particular area by legal

protection is associated with limitations in taking advantage of it and may – especially with the participation of ecologically uneducated public – give rise to certain spatial conflicts. It may also inform the local population that the surrounding ecosystem is quite unique and therefore enhance the direction of regional development towards maintaining natural values and achieving material wealth. The emergence of groups representing both supporters and opponents of the area forms of nature protection gives hope for an impulse towards organized actions taken up by the local community. It is of particular significance in the countries of the former Eastern block where during the period of socialist system local initiatives, the formulation of collective systems, as well as any entrepreneurial activities, were of marginal importance.

The objective of the article is to present the process of the area protection forms establishment in Poland in the context of regional development. Due to the fact that such development is, to a large extent, focused on the desire to implement the idea of sustainable development the paper attempts to illustrate that the functioning of protected areas, constituting the component of social, economic and environmental goals of sustainability, does not mean halting the regional development processes.

In order to carry out the set objective the underlying literature reference sources were reviewed regarding the concept of sustainable development and the regional development mechanisms. The most important legal acts, regulating nature conservation in Poland, were discussed. Statistical data provided by the Central Statistical Office and collected for Polish voivodeships were used at the stage of regional studies, as well as the report prepared by the Ministry of Regional Development were analyzed. The data collected by Local Data Bank were of particular significance. The above mentioned research activities allowed for characterizing the spatial distribution of protected areas and the economic situation of the analyzed regions.

Regional studies were conducted in the period 2004-2012. The beginning of research period falls in the year of Polish accession to the European Union structures. The characteristics of legal acts referring to nature conservation cover the much longer period of time – due to the strong relations of attitudes to nature and human mentality being formed for a long time it was considered appropriate to review all laws on environmental protection in force in Poland. Having accepted the above standpoint the research period covering the analysis of all adequate legislation was defined as 1934-2013.

#### **Area forms of nature protection in Poland – the past and present**

The area forms of nature protection are related to changes in space usage. They can be associated with usage limitations, injunctions, prohibitions, regulations restricting the

development of regional economic life, or – on the contrary – with impulses functioning as guidelines for economic processes in the region and emphasizing its unique nature. At this stage the importance of ecological education in the process of sustainable development concept implementation should be emphasized – individual people should simply accept it. However, such acceptance cannot be imposed by means of an order or any sort of legislation. It can be only accomplished in the course of mental changes and supplementing knowledge, which requires a certain amount of time.

In Poland the traditions of nature protection go back to the times of King Bolesław Chrobry's reign when the population of beavers was covered by protection. Over the next centuries different activities, aimed at the protection of particular species or areas, were also taken up (ŻARSKA 2011: 22). The first complex law, referring to the problem of nature protection, was enacted in 1934. It is worth emphasizing that the time of passing the subsequent versions of Nature Conservation Act was related to the crucial events of historical importance – the second version of the discussed Act was enacted after the end of World War II, the third after systemic transition and the current one in the year of Polish accession to the European Union structures. Obviously, the above mentioned Acts were subject to the ongoing and numerous updates – currently the consolidated text of the Act dated 16<sup>th</sup> April 2004 is in force.

The Act of 10<sup>th</sup> March 1935 on nature conservation (Journal of Laws No. 31, item 274) was a relatively short legal act consisting of only 34 articles. The content of the discussed law illustrates that already at that time the protection of unique nature forms was associated with public interest dictated by scientific, aesthetic, historical or even souvenir type of considerations. It is vital, that the Act provided for such forms as national parks. In its Art. 9 the legislator specified that the Council of Ministers, following its resolution, can establish a national park covering at least 300 ha in the areas featuring landscapes particularly beautiful and rich in natural curiosities, where nature conservation cannot

be limited to particular objects, but should evenly refer to their clusters.

The presentation of nature conservation definition should be regarded as the characteristic feature of Nature Conservation Act dated 7<sup>th</sup> April 1949. This is quite significant since in the contemporary literature reference sources an ongoing discussion is observed about the importance of nature conservation concept – particularly in the context of its relations with the concept of environment protection. The legislator, in the content of Art. 1 of the discussed Act, defined that environment protection means preserving, restitution and proper usage of natural resources and the forms of animate and inanimate nature. The provision from the previous legal act stating that nature conservation is of public interest remained, however, the catalogue was extended by health and social considerations. It is – in a sense – the proof for noticing relations between the quality of human life and the quality of environment. It is worth noticing that it was already in 1949 when the legislator noticed the need for ecological education – under the discussed Act the Minister of Education was obliged to disseminate the rule of nature conservation not only at all education levels (including the education for adults), but also with reference to the entire society.

Nature Conservation Act dated 16<sup>th</sup> October 1991 constituted an attempt of incorporating Western tendencies by Polish legislation referring to natural environment and the idea of eco-development. The definition of nature protection was changed – in the context of the discussed Act it referred to the preservation, proper usage and renovation of nature resources and components, in particular flora and fauna wildlife, as well as natural complexes and ecosystems. The objectives of nature protection were specified in detail with the following listed among them: maintaining ecological processes and the stability of ecosystems, preserving biodiversity and geological heritage, ensuring the continuity of species and ecosystems, forming adequate human attitudes towards nature, as well as restoring nature resources and components to their proper state. Nature protection was

additionally recognized as part of the national environmental policy. Expanding the Act to 65 articles indicates the perception of the need towards the precise definition of activities aimed at the protection of ecosystem resources. The legislator committed all citizens, state authorities and territorial self-government, as well as organizational units and also legal and natural persons to protect nature by means of the passed Art. 3. The catalogue of the area forms of nature protection was extended – since 1991 national parks (min. area 1000 ha), nature reserves, landscape parks, the areas of protected landscape and also individual protection in the form of nature monuments, documentation stands, ecological land, as well as landscape and natural complexes. It was defined that the national system of protected areas is created by the most important forms of nature protection forms, i.e. national parks, nature reserves, landscape parks and the areas of protected landscape.

Following the enactment of Nature Conservation Act dated 16<sup>th</sup> April 2004 (Journal of Laws No. 92, item 880) the definition of nature conservation was subject to another one, in fact traditional, alteration. The most important component of the new definition was introducing the phrase indicating the need for sustainable usage and restoration of resources, creations and elements of nature. The volume of the Act was extended to 162 articles. Under the Nature Conservation Act dated 2004 Polish legislation provided for the following nature protection forms: national parks, nature reserves, landscape parks, the areas of protected landscape, Nature 2000 areas, nature monuments, documentation stands, ecological land, nature and landscape complexes and the protection of plants, animals and mushrooms species. This status has been in force till today.

The current forms of nature protection can be divided into three groups: area protection forms, object protection forms and species protection forms. Due to the aspect of impact on space management only the forms of area protection will be considered in further analyses, i.e. mainly national parks, nature

reserves landscape parks, the areas of protected landscape and Nature 2000 areas.

A national park represents the highest legal form of nature protection in Poland. Such park covers the area of min. 1000 ha featuring specific natural, scientific, social, cultural and educational qualities. The establishment or extension of a national park area, just like in case of nature reserves, represents a public objective in the understanding of the Act dated 21<sup>st</sup> August 1997 on Real Estate (Journal of Laws 2004 No. 261, item 2603, with later amendments). The overriding reason for national parks establishment is the desire to protect the entire nature and the landscape forms in a given area. The areas of national parks, currently in the total number of 23, can be made available only in the manner which does not affect negatively the wildlife found in the area of the park. It should be indicated that recently certain organizational changes occurred regarding the functioning of national parks – starting from the 1<sup>st</sup> of January 2012 national parks have become the state legal entities performing independent financial activities.

Nature reserve can be represented by the areas preserved in a natural state, or only slightly changed, ecosystems, natural refuges and habitats, as well as plant habitats, animal habitats and mushroom habitats and also the creations and components of inanimate nature distinguished by the particular natural, scientific, cultural or landscape values. The reserve is different from the previously discussed nature protection forms by, among others, such features as: optional nature of buffer zone, the absence of minimum area and the lack of organizational independence and therefore also financial one.

Landscape parks are established following the resolution of the regional parliament due to their natural, historical, cultural and landscape values. It is worth emphasizing that farming and forest land, as well as other real estate covered by the landscape park borders can be of economic use. The scale of impact exerted by the local community and local authorities is characteristic for a landscape park. The establishment of a landscape park, changing its borders or its total liquidation requires adequate decisions by the local municipal

council. Additionally, the legislator offers independence to the authority responsible for park establishment in terms of specifying prohibitions of activities in the area under protection and only indicates the suggestions of particular prohibitions to be introduced in the area of a landscape park.

A protection plan is prepared for a national park, a nature reserve and a landscape park. The assessment of socio-economic determinants and the opinion about the spatial management status represent the characteristic components of the protection plan. Such plan can be divided into two major parts: the diagnostic one presenting the existing situation and the operational one indicating nature conservation concepts, the specific protection tasks and methods for the elimination of the existing hazards. The legislator offered local community an opportunity to participate in the creation of a conservation plan and therefore to co-decide about a given area usage. For example, the protection plan prepared for a national park requires opinions issued by the adequate, local municipal councils. Protection plans for all the above discussed there forms of nature conservation are prepared for the period of 20 years. Accepting such time perspective draws attention to the fact that the phenomena occurring in nature present different pace than the one characteristic for economic processes.

The areas of protected landscape constitute the relatively limited, in its restrictiveness, form of nature conservation. Following the legal definition they cover the areas distinctive in terms of their landscape and offering different ecosystems, valuable regarding the possibility of meeting the needs related to tourism and relaxation, or playing the role of ecological passages. The establishment of a protected area has the largest impact on spatial planning. It is characterized by the absence of significant limitations for human activity in economic processes and only the, so-called, burdensome industry sector is excluded in this case. The idea behind the functioning of such protection form is maintaining the extensive areas of landscape typical for a particular region. The protected area represents the form of nature protection

subject to the influence of local communities – it can be specified following the resolution passed by the regional parliament. It is only suggested, by the adequate legislation, in the form of a catalogue listing prohibitions which can be imposed in the protected area.

The network of Nature 2000 areas is the element of an international desire to protect nature. The system of areas covered by Nature 2000 results from the formation of processes occurring in ecosystems by taking into account their continuity. Nature 2000 consists of the areas established for the special protection of birds and the special protection of habitats. The network can also cover a part or all other types of area forms of nature protection. The project of Nature 2000 area list is being prepared in line with the EU guidelines – it is worth mentioning that these efforts involve not only the Ministry responsible for environmental problems, but also the Ministries in charge with such issues as: rural areas development, farming and water management. Nature 2000 network functions – similarly to national parks, landscape parks and nature reserves – based on the 20-year conservation plan.

The analysis of the discussed legislation, enacted in the course of almost eighty years, allows for noticing the evolution in nature conservation definitions. This fact represents the consistent confirmation of transformations, in the perception of the discussed process, which occurred in the period under analysis. Quite probably – along with the alterations in natural environment and changes in the level of development – this definition will be subject to further adjustments. National parks represent the oldest and also the most important form of nature protection, in terms of the area, in Poland – it was already in 1934 when the legislator specified the conditions for their establishment and their functioning rules. It is also interesting that the need for ecological education was recognized by the legislator starting from 1949 – the implementation of this provision was a different issue the consequences of which are still valid.

### **Sustainable development – the idea of a human being and a region functioning**

A region plays diverse functions – it can be identified with the tool of administrative division, however, it is mainly subject to developmental mechanisms. Regional capacity towards transformations is manifested by the creation of developmental concepts – in the course of time not only numerous innovative approaches to regional processes were prepared but the previously existing ones were modified. As the result of new approaches to a region the following theories, among others, were created: New Trade Theory, New Growth Theory and New Economic Geography (MAIER 2012: 93-94). In spite of the changes in the perception of forces responsible for regional development it is space, location or environment which still occupy important positions in the group of endogenous theories. The development of research on regional growth mechanisms resulted in this category being analyzed in the more and more extended perspective and the increasingly extended period of time. It was already in the 90s when the literature reference sources indicated, as the core of the problem, finding responses to the question what should be produced by regional economy and for whom, what should be exchanged or used to achieve adequate conditions indispensable for a long-term growth (SAUERBORN 1996: 21-22).

The idea of sustainable development is commonly recognized as necessary not just at the level of national economies development, but also at the level of regions, local systems, particular enterprises and agricultural holdings they consist of. The contemporary local communities influence the development direction of their territory more and more willingly and consciously. As the result the level of regional autonomy keeps increasing. In spite of the selection of diverse developmental directions all regions should be united by the desire to obtain sustainable development. The concept of sustainable development is not a new one – in German literature it was already mentioned in the 18<sup>th</sup> century together with the description of rules for running the forest management. H. Rogall

draws attention to the need for better clarification of the discussed concept. One of the methods is to comprehend the sustainability issues in three dimensions: ecological, economic and social (ROGALL 2010: 40-43). From the perspective of the presented article objective the transformations in the approach towards natural environment are the most important ones – the need for accepting a long-term perspective and the broadly understood effects of all human activities.

It is a human being who decides about the manner of a given territory development. The attitudes represented by particular individuals towards environmental problems depend on – less or more conscious – adoption of the philosophy of anthropocentrism or biocentrism. Following the first approach nature is referred to in an instrumental way. In case of the second one it is the value in itself while a human being represents one of its elements and not necessarily the most important one (CZAJA and FIEDOR 2010: 154-156). The desire for obtaining regional sustainable development requires not only rejecting the anthropocentrism, but also accepting the nature-centrism. Therefore, ecological education becomes the indispensable component of sustainable development. Such education does not represent the tool for influencing the society – it should be carried out in the manner facilitating the alterations of human individual attitudes at every stage of their lives. Education is not an incidental activity – it is a long lasting, costly and difficult to perform process involving not only the central authorities, but also local structure and NGOs. The raised problem is significant enough for UNESCO to declare the years 2005-2014 as the decade of education for sustainable development. The National Strategy of Ecological Education was published in Poland in 2001. Authors divided the strategy ecological education into four phases in accordance with the stages of human life: pre-school education, primary and secondary schools, tertiary education and education for adults. Not only the central authorities but also self-government ones were engaged in the implementation of the strategy assumptions. While ecological education for

children and youth can be included in the curriculum minimum, taught within the framework of the existing education system, the activities focused on adults require the separate channel for information transfer. Authors decided that with the strategy reference to adults two types of activities can be performed – indirect and direct actions. The indirect ones are conducted by involving entire families in the processes addressed to kids within the framework of education system. Among the indirect activities social participation was planned as the leading one and consisting in involving particular individuals in the decision making processes referring to their environment (The National Strategy of Ecological Education). Unfortunately, in spite of the above mentioned Strategy implementation as well as the much earlier, also already mentioned, statutory provision originating from 1949 and referring to the need of ecological education, in the opinion of E. Lorek and J. Gierczycka serious deficiencies are still being observed in Poland in the discussed subject matter and manifested by, among others, small number of university courses offering complex knowledge about sustainable development (LOREK and GIERCZYCKA 2010: 258-260)

### **Regional studies**

Following the criterion of administrative division Poland is divided into 16 voivodeships. The identification of a voivodeship with a region is not ideal from the perspective of research covering the area forms of nature protection. The criterion of administrative division is an artificial one and more subject to political influences than indications resulting from natural factors and the processes occurring in ecosystems. However, due to the method of statistical data collection such division is the only acceptable one. As it has already been observed, empirical studies were subject to analyzing problems referring to the protected areas and the socio-economic situation in the regions. The research covered the period 2004-2012. Due to the significance of limitations in using space covered by the particular types of area protection the conducted research focused on

detailed analysis of the area of national parks, nature reserves, landscape parks, protected landscape areas and Nature 2000 areas. The analysis covered the above indicated areas in each year of the studied period – for clarity the tables presented below illustrate data for outlier periods with major changes referred to in the comments.

The similarities, in terms of economic limitations reading space usage, resulted in the joint presentation of national parks and nature reserves in Table 1. Less restrictive forms of nature protection in a given area, i.e.

landscape parks and the areas of protected landscape are presented in Table 2. Data referring to Nature 2000 areas are shown in Table 3.

The following formula was applied in the calculation of the growth rate regarding all of the above mentioned area forms of nature protection:

The data from the first year subject to observation were accepted as the base period ( $x_0$ ), the data from the last year of observation as the studied period ( $x_1$ ) and the results were rounded to two decimal places.

Table 1. National parks and nature reserves in 2004 and 2012.

No.	Voivodeship and country	National parks			Nature reserves		
		Area in ha		Dynamics %	Area in ha		Dynamics %
		2004	2012		2004	2012	
1	Dolnośląskie	11 920,2	11 920,5	0,00	10 339,7	10 503,2	1,58
2	Kujawsko-Pomorskie	-	-	-	17 375,3	9 489,9	-45,38
3	Lubelskie	18 245,1	18 247,4	0,01	11 549,5	11 862,9	2,71
4	Lubuskie	13 606,4	13 642,8	0,27	3 334,0	3 907,8	17,21
5	Łódzkie	72,4	68,3	-5,66	7 323,8	7 440,1	1,59
6	Małopolskie	38 080,8	38 036,1	-0,12	3 024,1	3 349,5	10,76
7	Mazowieckie	38 476,1	38 476,1	0,00	17 670,0	18 057,0	2,19
8	Opolskie	-	-	-	783,2	928,1	18,50
9	Podkarpackie	46 636,2	46 741,1	0,22	10 733,1	11 114,6	3,55
10	Podlaskie	92 076,5	92 169,9	0,10	22 924,4	23 755,5	3,63
11	Pomorskie	26 370,9	26 185,9	-0,70	6 807,0	8 784,4	29,05
12	Śląskie	-	-	-	3 724,9	4 251,9	14,15
13	Świętokrzyskie	7 626,4	7 626,4	0,00	2 845,4	3 819,9	34,25
14	Warmińsko-Mazurskie	-	-	-	29 817,3	31 255,0	4,82
15	Wielkopolskie	7 961,7	7 975,0	0,17	5 761,3	4 117,0	-28,54
16	Zachodnio-Pomorskie	16 332,8	13 529,9	-17,16	8 422,2	12 885,9	53,00
17	Poland	317 405,5	314 619,4	-0,88	162 435,2	165 522,7	1,90

Source: Author's compilation based on data from the Central Statistical Office (Local Data Bank)

Only slight changes were noticed in the area of national parks. They mainly resulted not as much from the physical change of their borders but the measurement accuracy during the conducted field inventories (mainly based on information from the Geographic Information System GIS). The significant – amounting to almost 3 thousand ha – decrease in the area of national parks in Zachodnio-Pomorskie voivodeship results from not taking into account the statistical data referring to the area of external marine waters since 2008. Due to the absence of a separate plot of land Wolin National Park

stopped running the records of areas outside land registry.

Nature reserves were subject to dynamic changes – basically the enlargement of areas covered by this form of conservation is observed. Only in Kujawsko-Pomorskie and Wielkopolskie voivodeships the opposite phenomenon was observed. In both cases the drastic area reduction occurred only incidentally in 2009 and was connected with the areas of Nadgoplański Millennium Park. Based on the information received from the

Regional Directorate of Environment Protection in Bydgoszcz it can be stated that the drop in the area covered by the discussed form of nature conservation does not mean abandoning these areas protection, but the desire to put the existing legal situation in order and facilitate management of the naturally valuable area. The above mentioned landscape park located along the borders of these voivodeships covers Lake Gopło and its surroundings. Owing to the ecosystem value

the lake and its closest surroundings were, in the past, covered by a few conservation forms, i.e. nature reserves, the above mentioned landscape park, Nature 2000 areas established both under the Birds Directive and the Habitats Directive. The difficulties in exercising proper supervision over the area were intensified by the division of the area which constituted the natural unity between the two voivodeships.

Table 2. Landscape parks and the area of protected landscape in 2004 and 2012.

No.	Voivodeship and country	Landscape parks			Areas of protected landscape		
		Area in ha		Dynamics %	Area in ha		Dynamics %
		2004	2012		2004	2012	
1	Dolnośląskie	207 610,9	206 320,9	-0,62	136 627,8	138 948,5	1,70
2	Kujawsko-Pomorskie	232 762,8	232 762,8	0,00	338 504,2	334 124,2	-1,29
3	Lubelskie	241 184,2	241 182,0	0,00	303 678,6	301 970,8	-0,56
4	Lubuskie	76 915,9	77 167,5	0,33	440 411,4	438 453,4	-0,44
5	Łódzkie	97 945,2	98 268,3	0,33	187 480,1	246 434,8	31,45
6	Małopolskie	177 954,4	178 224,7	0,15	676 758,3	573 080,0	-15,32
7	Mazowieckie	173 297,0	173 297,0	0,00	835 699,3	835 111,3	-0,07
8	Opolskie	62 590,5	62 590,5	0,00	191 402,7	192 039,1	0,33
9	Podkarpackie	279 750,9	279 652,7	-0,04	520 735,6	466 411,0	-10,43
10	Podlaskie	88 084,5	88 084,5	0,00	462 717,3	462 715,3	0,00
11	Pomorskie	167 865,2	167 855,3	-0,01	397 909,1	393 720,0	-1,05
12	Śląskie	229 325,1	229 669,0	0,15	36 132,0	36 987,3	2,37
13	Świętokrzyskie	128 876,1	128 876,1	0,00	588 420,9	617 957,4	5,02
14	Warmińsko-Mazurskie	145 425,4	144 931,4	-0,34	949 563,2	956 266,5	0,71
15	Wielkopolskie	175 129,6	179 376,5	2,43	737 574,7	755 672,6	2,45
16	Zachodnio-Pomorskie	118 974,9	118 786,6	-0,16	325 613,4	328 256,6	0,81
17	Poland	2 603 692,6	2 607 045,8	0,13	7 129 228,6	7 078 148,8	-0,72

Source: Author's compilation based on data from the Central Statistical Office (Local Data Bank)

In the studied period the area of landscape parks was subject to slight changes only. Larger differences were observed in case of the areas of protected landscape – the unchanged situation was recorded only in one region. It is not possible to define the trend characteristic for all voivodeships since both significant increases (Łódzkie voivodeship) and major decreases (Małopolskie and

Podkarpackie voivodeships) of the protected landscape area were recorded.

The period of studies focused on Nature 2000 was reduced – when they were still in progress - due to the missing data for 2012 and the absence of the discussed form of area protection in 2004. It has to be emphasized that the Area Nature 2000 can cover by its range a part or all of its areas and objects

representing other forms of nature. The data referring to Nature 2000 and provided by the Local Data Bank do not include the information about the areas located on the sea. In the entire studied period and in all voivodeships the extension of the discussed nature conservation form is observed. This is confirmed by the importance of Polish ecosystems in the international network of protected areas.

Due to the different area of the analyzed regions it is founded to present not only the

number of ha covered by the legal protection, but also the total share of legally protected areas in the area of a given region. It has to be indicated that the Local Data Bank, while presenting the percentage share of the legally protected areas in the total area, applies the rule of collecting data facilitating the elimination of calculating the same area covered by different forms of protection. The data presented in Table 4 do not include information about Nature 2000 areas.

Table 3. Nature 2000 areas in ha in 2005 and 2011.

No.	Voivodeship and country	Special protection area for birds			Special protection area of habitats		
		Area in ha		Dynamics %	Area in ha		Dynamics %
		2005	2011		2005	2011	
1	Dolnośląskie	80 751,0	292 104,8	261,74	37 569,0	353 196,5	840,13
2	Kujawsko-Pomorskie	51 230,0	157 791,5	208,01	-	82 828,6	x
3	Lubelskie	200 895,0	335 843,4	67,17	28 088,0	163 375,2	481,65
4	Lubuskie	33 169,0	294 227,7	787,06	29 365,0	188 536,5	542,04
5	Łódzkie	23 737,0	38 156,8	60,75	29 180,0	53 588,4	83,65
6	Małopolskie	40 418,0	133 665,4	230,71	41 184,0	149 492,3	262,99
7	Mazowieckie	288 091,0	426 728,9	48,12	94 184,0	193 068,0	104,99
8	Opolskie	-	14 161,1	x	5 236,0	27 175,4	419,01
9	Podkarpackie	171 983,0	507 774,0	195,25	127 243,0	344 492,5	170,74
10	Podlaskie	484 844,0	579 402,3	19,50	239 333,0	544 840,7	127,65
11	Pomorskie	156 973,0	363 938,1	131,85	66 781,0	169 460,1	153,75
12	Śląskie	24 816,0	62 409,8	151,49	3 777,0	91 466,2	2 321,66
13	Świętokrzyskie	15 214,0	21 982,3	44,49	49 647,0	156 075,3	214,37
14	Warmińsko-Mazurskie	504 803,0	575 821,8	14,07	68 353,0	256 622,0	275,44
15	Wielkopolskie	135 373,0	425 333,6	214,19	154 471,0	238 306,5	54,27
16	Zachodnio-Pomorskie	232 981,0	692 854,0	197,39	201 465,0	420 306,2	108,62
17	Poland	2 445 278,0	4 922 195,5	101,29	1 175 876,0	3 432 830,4	191,94

Source: Author's compilation based on data from the Central Statistical Office (Local Data Bank)

**Table 4. The percentage share of legally protected areas in the total area in 2004 and 2011**

No.	Voivodeship and cuntry	2004	2011	Difference
1	Dolnośląskie	18,10	18,60	0,50
2	Kujawsko-Pomorskie	32,40	31,80	-0,60
3	Lubelskie	22,80	22,70	-0,10
4	Lubuskie	39,30	38,90	-0,40
5	Łódzkie	16,40	19,70	3,30
6	Małopolskie	58,90	52,10	-6,80
7	Mazowieckie	29,60	29,70	0,10
8	Opolskie	27,10	27,20	0,10
9	Podkarpackie	47,50	44,70	-2,80
10	Podlaskie	31,90	32,00	0,10
11	Pomorskie	32,60	32,70	0,10
12	Śląskie	22,00	22,10	0,10
13	Świętokrzyskie	61,90	64,50	2,60
14	Warmińsko-Mazurskie	46,20	46,70	0,50
15	Wielkopolskie	31,00	31,80	0,80
16	Zachodnio-Pomorskie	20,70	21,10	0,40
17	Poland	32,52	32,46	-0,06

The largest, even though not significant, changes in the share of the area covered by legal protection in the total area refer to Małopolskie voivodeship (the decrease by 6,8%), Podkarpackie (the decrease by 2.8%), Łódzkie (the increase by 3.3%) and Świętokrzyskie (the increase by 2.6%). The analysis of data indicates the relative stability of protected area in a given voivodeship, as well as an extensive diversification of the protected area level in particular voivodeships – in 2004 the lowest value was recorded in Łódzkie voivodeship (16.4%) and the highest in Świętokrzyskie voivodeship (61.9%). In 2012 the lowest share of protected areas in the total area was noticed in Dolnośląskie voivodeship (18.6%). The position of Świętokrzyskie voivodeship, as the leader in terms of the area covered by the area forms of nature protection, was strengthened (64.5%).

On completing the study referring to the area forms of nature protection it is worth emphasizing that the reports prepared by the Ministry of Regional Development indicate that the state of natural environment in Poland, in recent years, has significantly improved. It is caused by the changes resulting from economic transformation and these related to the EU accession, as well as the adjustment of domestic regulations to the EU legislation (REPORT POLAND 2011: 103)

Economic development is spatially uneven. Statistical data collected by the Central Statistical Office do confirm this as well as the generally available, on the website of the Ministry of Regional Development and cyclically issued, reports such as: “Socio-economic situation in Poland” and “Economy-Society-Regions”. They evidently show that the significant concentration of production potential in a few economically strongest voivodeships, also having the largest contribution to the gross domestic product (GDP), is characteristic for Poland. The following voivodeships have been playing the leading role in this matter: Mazowieckie, Śląskie, Wielkopolskie and Dolnośląskie. The stability is also true for an unfavourable situation – the weakest position is traditionally occupied by Lubelskie, Podkarpackie and Podlaskie voivodeships (REPORT REGIONAL DEVELOPMENT IN POLAND 2009: 8) The above observations are confirmed by the analysis of data referring to GDP per capita in the period 2004-2010. For the purposes of clarity Table 5 presents the data for the outlier periods only. The data presented in Table 5 illustrate that Polish regions are significantly different from each other in terms of the generated GDP level. Concerns are raised by the

strengthening interregional contrasts – the differences between rich and poor regions are increasing. Such situation requires firm actions to be taken or even the re-evaluation of the existing developmental concepts.

Table 5. Gross domestic product current prices per 1 inhabitant (Poland = 100%)

No.	Voivodeship	2004 in %	2010 in %
1	Dolnośląskie	101,1	112,5
2	Kujawsko-Pomorskie	88,9	83,9
3	Lubelskie	69,3	67,6
4	Lubuskie	88,6	84,5
5	Łódzkie	91,9	92,1
6	Małopolskie	85,5	84,9
7	Mazowieckie	153,7	162,7
8	Opolskie	85,1	79,5
9	Podkarpackie	70,0	67,3
10	Podlaskie	74,3	72,7
11	Pomorskie	98,0	96,0
12	Śląskie	112,2	107,0
13	Świętokrzyskie	77,2	75,8
14	Warmińsko-Mazurskie	77,1	73,4
15	Wielkopolskie	107,0	104,1
16	Zachodnio-Pomorskie	91,4	87,0
17	POLAND	100	100

Source: Author's compilation based on data from the Central Statistical Office (Local Data Bank)

Among the economically strongest and the weakest groups of voivodeships occurs the diversified level of the area covered by legal protection (compare Tab. 4 and Tab. 5.). The lowest level of the area covered by legal

protection occurred in łódzkie and Dolnośląskie voivodeships in the studies period of time. The analysis of GDP values clearly indicates that there is no straight interdependence between the high level of the given area legal protection coverage and an economic weakness of a region or – vice versa – between the low level of a particular territory legal protection and high GDP per capita values obtained by this region.

Social activity represents an important factor responsible for regional development and deciding about its future. The level of entrepreneurship, the skill for social capital generation and the related ability to notice regional advantages are mutually interdependent. In order to characterize the socio-economic activity of regional communities the number of foundations, associations, social organizations, entities listed in the Official Company Register and individuals running a business were subject to research.

While calculating the growth rate in Tab. 6 and Tab. 7 the formula presented in equation 1 was applied. Analogously to the previous calculations for the base period ( $x_0$ ) the data for the first year of observation were used, for the analyzed period ( $x_1$ ) the data from the last year of observation and the results were rounded to two decimal places.

Table 6. Number of foundations, associations and social organizations in 2004 and 2012.

No.	Voivodeship and country	Foundations			Associations and social organizations		
		2004	2012	Dynamics in %	2004	2012	Dynamics in %
1	Dolnośląskie	513	1 312	155,75	5 028,0	8 044,0	59,98
2	Kujawsko-Pomorskie	268	555	107,09	3 226,0	5 095,0	57,94
3	Lubelskie	289	619	114,19	4 243,0	6 052,0	42,63
4	Lubuskie	105	225	114,29	1 840,0	2 909,0	58,10
5	Łódzkie	402	845	110,20	4 324,0	6 422,0	48,52
6	Małopolskie	664	1 306	96,69	5 929,0	8 590,0	44,88
7	Mazowieckie	3 096	5 531	78,65	9 450,0	13 871,0	46,78
8	Opolskie	63	153	142,86	1 771,0	2 806,0	58,44
9	Podkarpackie	160	306	91,25	3 743,0	6 104,0	63,08
10	Podlaskie	116	287	147,41	2 393,0	3 125,0	30,59
11	Pomorskie	487	981	101,44	4 069,0	5 881,0	44,53
12	Śląskie	588	1 085	84,52	6 274,0	9 062,0	44,44
13	Świętokrzyskie	118	236	100,00	2 290,0	3 294,0	43,84
14	Warmińsko-Mazurskie	162	318	96,30	2 868,0	4 432,0	54,53
15	Wielkopolskie	485	1 011	108,45	6 303,0	9 782,0	55,20
16	Zachodnio-Pomorskie	208	449	115,87	2 822,0	4 830,0	71,16
17	Poland	7 724	15 219	97,04	66 573	100 299	50,66

Source: Author's compilation based on data from the Central Statistical Office (Local Data Bank)

The data indicate that there is no regularity consisting in the same intensity of foundations and associations occurrence in the studied regions. It is also vital that the foundations' activities are strictly related to the person of the founder and the assets indispensable to establish a foundation and carry out its goals – this can serve as the explanation of the foundations' popularity in the economically strong voivodeships such as: Mazowieckie, Dolnośląskie or Wielkopolskie. Associations present greater activity manifested by a group

of people deciding to establish this form of organized activities – larger importance of social work performed by the association members allows for reducing the functioning costs and therefore minimizing capital needs. In the context of social capital construction the most important fact is that the number of entities representing both groups has significantly risen. There is no relation (restraining or supporting) between the share of protected area in the total area and the analyzed characteristics.

Table 7. The entities listed in the Official Company Register and natural persons running a business – data for 2004 and 2011

No.	Voivodeship	Entities listed in the Official Company Register per 10 thousand population			Natural persons running a business per 100 people in working age		
		Number of entities		Dynamics in %	Number of people		Dynamics in %
		2004	2011		2004	2011	
1	Dolnośląskie	1 052	1 123	6,75	12	12	0,00
2	Kujawsko-Pomorskie	895	879	-1,79	11	10	-9,09
3	Lubelskie	684	746	9,06	9	9	0,00
4	Lubuskie	981	1 021	4,08	11	11	0,00
5	Łódzkie	946	902	-4,65	12	11	-8,33
6	Małopolskie	886	991	11,85	11	12	9,09
7	Mazowieckie	1 138	1 277	12,21	13	14	7,69
8	Opolskie	841	962	14,39	10	11	10,00
9	Podkarpackie	665	710	6,77	9	9	0,00
10	Podlaskie	757	764	0,92	10	9	-10,00
11	Pomorskie	1 017	1 131	11,21	12	13	8,33
12	Śląskie	913	958	4,93	11	11	0,00
13	Świętokrzyskie	800	829	3,63	10	10	0,00
14	Warmińsko-Mazurskie	762	807	5,91	9	9	0,00
15	Wielkopolskie	994	1 090	9,66	12	13	8,33
16	Zachodnio-Pomorskie	1 192	1 246	4,53	14	14	0,00
17	Poland	937	1 004	7,15	11	11	0,00

Source: Author's compilation based on data from the Central Statistical Office (Local Data Bank)

Based on the collected data it can be concluded that the drop in the number of businesses listed in the Official Company Register per 10 thousand population was recorded only in two cases (Kujawsko-Pomorskie and Łódzkie voivodeships). Over 9% growth in the discussed subject matter is valuable since it was observed in one of the economically weakest voivodeships – Lubelskie. The number of people running a business calculated per 100 people in working age did not change in half of the voivodeships, it grew in 5 of them and the drop was recorded in three analyzed regions. Concerns are raised by the negative growth rate of the number of people running businesses in Podlaskie voivodeship due to the already mentioned unfavourable situation referring to GDP generation.

Similarly to the previously conducted analyses, also in case of the above presented characteristics describing regions the statement about the negative impact of the areas covered by legal protection, regarding the discussed characteristics, is not true. Małopolskie and Łódzkie voivodeships

represent the noteworthy examples. In the first case over 52% of the area is covered by legal protection and, at the same time, the region is characterized by almost 12% growth rate in the number of entities listed in the Official Company Register and over 9% increase in the number of people running a business per 100 persons in working age in the analyzed period. In Łódzkie voivodeship, featuring larger share of protected areas in the total area only from Dolnośląskie voivodeship, the largest drop of entities listed in the Official Company Register was recorded at the simultaneous decline in the value of the second analyzed measure.

## Conclusions

Regional development represents a complex process involving both space and the community inhabiting it. Space characteristics

can result from natural determinants, but may also present the effect of transformations caused by a human being – his/her conscious or unconscious impact, as well as refraining from taking up certain actions and therefore also limiting its economic usage by means of establishing the area forms of nature protection.

The focus on Poland as the research area resulted from the specific nature of its geopolitical location – its territory characteristics and its socio-economic system. Poland covers the naturally diversified area constituting – due to its size and location – an important component of the European natural environment. Polish territory is the crossing area for numerous ecological passages, which strengthens the significance of the discussed networks of protected areas and their impact power on the processes occurring in ecosystems located all over the continent. As the result of the above facts the sustainable development of Polish regions is important from the perspective of international interests.

It has to be emphasized that along with the passing time it is not only space which keeps changing but also a human being. Just like in case of spatial changes human mentality transformations are also difficult, however, quite possible. One of the elements of such alterations is the legislation defining the regulations for natural resources management. Polish accession to the European Union structures in 2004 was accompanied by the adjustment of Polish law to the EU standards, also including environment protection and nature protection issues. Since then it can be assumed that the accepted strategy for natural resources management in Poland has been stable. The possibility of natural and spatial conflicts occurrence between the developmental programmes and the protected areas is

observed in many governmental documents – among others in the National Development Strategy 2020. It has to be indicated that spatial conflicts are perceived as a problem, but not as a barrier. A barrier functions as a brake for developmental processes, while a problem can most frequently be solved, e.g. by the knowledgeable space management based on the assessment of environmental impacts. (NATIONAL DEVELOPMENT STRATEGY 2020, P. 131)

Polish society, for years, used to be accustomed to the current generally rejected attitude to nature. The above observation encourages to the presentation, as often as possible, of the arguments counteraction the equation “protected area = backward area”. The finite character of natural resources, the limited capacity of the environment, as well as the fact of covering some of the space by the area forms of nature protection modify the direction of regional development without excluding it. The collected data characterizing sixteen Polish regions clearly indicate the need for rejecting the thesis about the negative impact of the area forms of nature protection on regional development.

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## **Obszary chronione a rozwój regionalny na przykładzie Polski**

### **Abstrakt:**

W artykule podjęto próbę udowodnienia, iż objęcie powierzchni obszarowymi formami ochrony przyrody nie hamuje zachodzących w niej procesów składających się na rozwój społeczno-gospodarczy. Jest to ważne zagadnienie, gdyż mimo postępu technicznego i cywilizacyjnego przejawiającego się poprzez zmiany w zakresie transportu, logistyki, innowacje w procesach komunikacji i inne czynniki deprecjonujące znaczenie lokalizacji dla procesów produkcji, zasoby naturalne – jako czynnik endogeniczny – wciąż pełnią istotną rolę w rozwoju regionów.

Artykuł zawiera charakterystykę mechanizmu rozwoju regionalnego, idei trwałego i zrównoważonego rozwoju, analizę aktów prawnych dotyczących ochrony przyrody obowiązujących w Polsce w latach 1934-2013 oraz studia regionalne dla okresu 2004-2012.

W wyniku przeprowadzonych badań należy odrzucić tezę mówiącą o negatywnym wpływie obszarowych form ochrony przyrody na rozwój regionu.

**Słowa kluczowe:** region, zasoby naturalne, rozwój zrównoważony i trwały