

## **Exploring the economic impact of national parks on the local economy. Functional approach in the context of Poland's transition economy**

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The article presents the methodological assumptions in functional approach for exploring the economic impact of national parks on the local economy. The original model of systemic analysis proposed and discussed in the article allows the broad spectrum of direct and indirect economic relations of national parks with their immediate spatial surrounding to be analysed. The discussion on the economic aspects of national parks' operation relates to the specific conditions of Poland's transition economy. The factors determining the economic function of a national park in the local economy include legal regulations which specify the powers of the park's managing body and regulate the park's behaviour on the local market; the attractiveness of the park's location as a tourist destination; the scale of growth and commercialisation of tourism. Also important is the local social and economic context in which the national parks are embedded. Endogenous and exogenous determinants of the operation of Polish national parks determine the dynamic nature of their local economic relations.

**Key Words:** *national parks, economic impact, local development, Poland, methodology.*

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### **The economic role of national parks as a research question**

The evolution of functional relations between national parks and their immediate spatial surrounding continues to be a source of numerous new research problems. It is a subject of much discussion in today's scientific

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literature, particularly in terms of combining nature conservation with the development of tourism and the local economy, and the evolution of national parks' relations with their social and economic environment (Borrini-Feyerabend et al. 2013; Getzner 2010a; Mose, Weixlbaumer 2007; Philips 2003). Those subjects reflect the new paradigm of spatial nature conservation forms, putting particular emphasis on the development of social functions of protected areas and building positive relations between the managers of the protected areas and the local communities (Dudley 2008; Philips 2003). One of the key challenges for researchers is diagnosing national parks' economic role in the local economy. Although this subject has been discussed in the international literature since the 1990s, it has yet to arrive at a clear methodological conceptualisation.

The current academic debate on economic aspects of protected areas follows two research trends, now increasingly grouped together under the umbrella term “ecosystem services” (Costanza et al. 1997; Getzner 2010b; Palomo et al. 2013; Považan et al. 2014; Solon 2008). One of the two trends relates to the economic valuation of legally protected natural environment; the other relates to the economic impact of protected areas on the local (regional, national) economy. Under the new paradigm of protected areas' operation, researchers' interests also focus on social aspects of the management of national parks.

#### *Economic valuation of protected areas*

Economic valuation of natural areas is usually carried out in order to respond to specific social needs or economic requirements (e.g. for investment projects), in the context of new regulations to be introduced (e.g. new protected areas to be created) or following a deterioration of the environment in a specific area (Philips 1998). Comprehensive economic valuation of protected areas as public assets aims at identifying their Total Economic Value (TEV) (Dumitraş et al. 2011; Zawilińska 2014; Żylicz 2000, 2012). In the TEV concept, various categories of economic value of natural environment are distinguished.

One of those categories is “use values”, relating to direct or indirect active use of the natural environment by consumers (direct/indirect use values). On the other hand, “non-use values” are not related to the current use of the environment by the present generation. The total economic value of protected areas is the sum of use values and non-use values. The TEV concept is a theoretical construct of a holistic nature.

The methodology it proposes is complex and extensive, but it shows the ambiguity of the issue of total economic valuation of a protected area. The applicability of this concept is debatable as it is not practicable to identify and measure the complete spectrum of present and future use and non-use benefits (Dixon, Sherman 1990; Pearce, Moran 1994; Żylicz 2000, 2012). Because of high research costs and methodological problems, the research is usually limited to valuation of specific goods for specific purposes (e.g. identifying the value of a national park for tourism), assessment of economic effects of actions undertaken or planned to be undertaken in a location, and assessment of the impact of protected areas on the regional economy. In most research, only direct use values are taken into consideration, being the easiest to estimate.

Another example among comprehensive approaches and methods for protected areas' valuation is the Travel Cost Method (TCM) used for valuating natural areas mostly for tourism and leisure. In the broadest terms, this method identifies the economic value of a given natural asset through the cost of a visitor's travel and stay in the destination, including the time cost of reaching the destination. The time cost is estimated on the basis of lost advantages (lost revenue). Another example is the Hedonic Prices Method (HPM). It allows the impact of the environment goods and services on the prices of related market goods and services (e.g. real properties) to be valued and expressed in monetary terms.

TCM and HPM are based on an observation of prices on markets of goods related to a specific non-market good. However, finding such good is not always possible. In such cases, valuation is based on hypothetical markets, i.e. ones which would be conceivable if the non-market good in question was marketable (Żylicz 2012). The most frequent method based on this approach is the contingent valuation method (CVM).

In this method, potential users of the non-market good are asked what maximum amount they would be willing to pay for having that good delivered to them (Willingness To Pay, WTP) or what minimum compensation they would accept for losing that good (Willingness To Accept, WTA) (Bateman, Langford 1997; Jeżowski 2002; Żylicz 2012). WTP is mostly used for estimating the value of pro-environment projects or ecological benefits whereas WTA is used for estimating the value of ecological losses due to environment deterioration and loss of renewable and non-renewable natural capital (Jeżowski 2009). However, some academic circles remain highly sceptical about the CVM method, claiming that the applicability of research findings obtained thereby is limited. Results obtained through CVM are largely affected by the procedures used (e.g. sample selection, interviewing methods) and respondents' awareness.

The most doubtful is the assumption inherent in CVM that a good is worth as much as people are willing to pay for it. Besides method of valuation of natural areas, other methods often used allow the economic effects of actions taken in specific locations (e.g. pro-environment actions) to be valued. The most frequently used methods are those based on Cost-Benefit Analysis (CBA) (Dixon, Sherman 1990).

Even this brief overview of methods of economic valuation of protected areas demonstrates the significant theoretical and methodological complexity of the issue. It is mainly due to the fact that protected areas involve a broad spectrum of values, most of which are not marketable. Notwithstanding the methodological doubts, research on the economic value of natural areas is highly relevant for public awareness of the role which the natural environment plays in economic development. Increased public understanding of these issues helps build public support for nature conservation. Research findings help make decisions concerning both the management of protected areas and the planning efforts for the creation of new ones.

#### *Economic impact of protected areas*

The economic influence of national parks on the local, regional and national economy in various countries and regions worldwide is usually perceived in terms

of the economic effects of tourism (Byström, Müller 2014; Eagles et al. 2000; Eagles, McCool 2002; Getzner 2003; Huhtala 2007; Mayer et al. 2010). The benefits of growing inbound tourism are often seen as compensation for lost potential benefits and opportunities.

The means to measure the economic effects, including multiplier effects, generated by tourists visiting the parks included econometric models (for instance in Canada: „Economic Impact Model for Parks”; in USA: „Visitor Spending Effects” model), recording of tourists' own individual spending in diaries distributed among them as well as the assessment of their willingness to pay for environmental values (Cullinane et al. 2014, Driml, McLennan 2010; *Economic Benefits...* 2009; *Economic Impact...* 2011; Fredman 2008; Hjerpe, Kim 2007; Huhtala 2007; Job 2008; Mayer et al. 2010; McDonald, Wilks 1986; Stynes 2010; Stynes et al. 2000; Walpole, Goodwin 2000).

Authors conducting research in European national parks, while being aware of economic effects of tourism, point out that North American research models should not be uncritically replicated in Europe. In line with the principle of free access to natural values, most national parks in Europe offer free or relatively low-priced admission to their grounds and use of their facilities (Mayer, Job 2014). In general, tourism in European national parks is less commercialised than in the US and in many European regions national parks are seldom visited by tourists. Where admission is free or entry fees are seasonal or only charged in selected locations, it is essentially difficult to estimate the actual number of visitors, which is necessary for the calculation of total visitor spending (Job 2008, Woltering 2012, Mayer, Job 2014).

There have also been attempts at a broader assessment of national parks' economic role, taking into account, in addition to visitors' spending, flows of goods and services resulting from the park managers' spending, shifts in employment and wages, income raised by local entrepreneurs, and the amounts of taxes paid by national parks to the local authorities. Such quantitative analyses are usually aimed at demonstrating the combined economic effect of several national parks or the influence of a specific national park on the economy of a region or a country (Mayer, Job 2014). Such studies do not reveal local interconnections between national parks and the actual distribution of benefits, which is crucial for identifying the way in which the national park is embedded in its local economy.

The research methodology was based mostly on measuring the visitors' spending within the park and qualitative surveys among local residents and entrepreneurs (Oberholzer et al. 2010; Saayman, Saayman 2006). Any comprehensive assessment also requires data to be obtained from national parks' managing bodies, as well as secondary data from public statistics.

The magnitude of economic effects of national parks' operation is assessed using input-output models based on matrices of inter-sector flows. They follow the assumption that relations observed in the national scale may be applied on the level of enterprises in a specific area. However, this methodology can only be used in selected countries as it requires the availability of public statistics on an appropriate level of development. Research on the economic impact of national parks follows various methodologies and consequently results obtained by different analysts are not comparable. The type of results depends on assumptions made, data sources used, ways of obtaining data, and calculation methods.

The findings of research conducted to date in selected national parks of North America, Australia, South Africa and in European countries (Austria, Germany, Switzerland and Scandinavian) show a generally positive impact of the national parks on their local economies. Besides tourism, other factors shaping the national parks' economic role included: the park's location, its managers' competencies, the management model, and the cultural, social and economic context.

It was emphasised on many occasions in the analyses that the magnitude of economic benefits from the national parks' operation tends to grow with the development of cooperation and interactions between the park and its social and economic surrounding (local authorities, entrepreneurs, associations, etc.) (Borrini-Feyerabend et al. 2004; Byström, Müller 2014; Getzner 2003; Getzner 2010a). This has been confirmed by observations and research conducted to date in Poland, which have shown that the economic impact of the national parks on their local economy goes far beyond the impact of the money spent by the visiting tourists (Bołtromiuk 2010; Zawilińska, Mika 2013).

#### *Social dimension of the management of protected areas*

In the social dimension, past attempts at an interpretation of national parks' functioning in the local economy were based on a variety of theoretical concepts. These ranged from ecosystem services concept, national park attraction system (Leiper 1990; Wall-Reinius, Fredman 2007), path dependency of the evolutionary economic geography, the concept of path creation ideas (Bramwell, Coxa 2009), collaboration theory (Jamal, Stronza 2009; Śliwa-Martinez 2015), adaptive eco-management, governance theory, institutional analysis, social capital, network theories, to multi-theoretical and post-disciplinary research approaches (Borrini-Feyerabend et al. 2013; Getzner et al. 2010; Laing et al. 2009).

However, these approaches do not offer an exhaustive solution of the issue discussed herein. First, they refer to selected aspects of protected areas' operation, such as tourism, cooperation management, or reaching agreements and elimination of social conflicts. Second, crucially, most of them were developed in Western cultures, where national parks operate in relatively stable conditions in terms of legal relations, ownership patterns, and market economy, without the experience of the communist era.

Poland, on the other hand, continues to be a transition economy and consequently the presence and operation of protected areas are still associated with social and political tensions on the local level. There are growing expectations of various social and business groups, related to the growth of national parks' economic significance. This makes it necessary to develop a comprehensive method of assessing national parks' economic role on the local economy level. In this situation, any research approach must necessarily cover a broad range of issues to be evaluated and include different aspects of economic relations if it is to become a useful tool with which to provide stakeholders with reliable information and help build positive relations between national park managers and local authorities. With the above assumption, this article aims at presenting the theoretical framework for exploring the broad range of economic impacts of national parks on the local economy in the conditions of the Polish economy.

## **Methodology**

In this article, we put forward an original approach to the problem of assessing national parks' impact on the local economy of their immediate surrounding. It covers the broadest possible range of impacts, not limited to tourism but including also the operation of the park's managing body as a local market player and an employer. The immediate surrounding of a national park is understood as the communes (*gmina*, basic level local administration units) hosting the legally protected areas of the national park.

The social and economic development of those communes is directly affected by the national park's existence, operation, and management. When constructing the theoretical and methodological basis for exploring national parks' economic impact on their local economies, we referred to the concept of relations, well established in geography research. Using the concept of economic relations as the starting point, we defined the concept of the national park's economic function in the local economy and used it as the theoretical basis for the analysis.

Economic relations of national parks have a functional nature and transgress the park's boundaries. Therefore, a systemic approach was used for the operational purposes. The concept of the national park's local economic system, proposed in the article, covers a broad range of economic relations between the national park and its immediate spatial surrounding. The proposed empirical analysis covers not only the direction of the economic relations but also their content and magnitude. Also taken into consideration is the impact of external and internal environments on the functioning of the system. Those external and internal environments constitute the context of the development of the national park's economic function. Also discussed is the issue of sources of information and ways of obtaining it.

## **The role of the context and socio-economic transition**

Currently there are 23 national parks in Poland, with a total area of 3,146.2 km<sup>2</sup>; 15 of them are IUCN Category II. Some of the parks are recognised internationally: one is a UNESCO World Heritage site, nine have been entered in the UNESCO World Network of Biosphere Reserves, and areas within seven parks are protected under the Ramsar Convention.

All Polish national parks are also European Union-designated Natura 2000 areas. Polish national parks are relatively small compared with the global network of national parks. The average area of national parks in Poland is 13,800 hectares, and 13 out of the total 23 parks are smaller than 10,000 hectares. The economic impact of national parks on their local economy in the situation of social and economic transition is a new and underexplored subject. In Poland, the development of this research field was significantly hampered, in methodological terms, by a dynamic nature of national parks' operation within the context of economic transition, under way for the last 25 years.

The word "dynamic" is not used here to mean a change of the natural value represented by areas protected within national parks, as the high regime of their protection, introduced as early as in 1949 in nature conservation act, has not changed. Rather, it emphasises the importance of the evolution of legal and

organisational circumstances bearing on the national parks' operation and social functions, and the evolving local context of the parks, along with the resulting functional relations of the parks with their immediate spatial surrounding.

The context in which Polish national parks operate plays a crucial role. It is precisely the combination of external and internal conditions that shapes the dynamic nature of economic relations of national parks. The key factors currently determining the dynamic nature of Polish national parks' operation include:

- (a) changes of the legal status and financing modalities of national parks as a result of legislation changes between 2010 and 2012;
- (b) the fact that part of the grounds within the national parks are private and their legal status is often not definitively regulated, which results in frequent conflicts between private landowners (including forest owners) and park managers;
- (c) expectations that national parks should, in addition to protecting natural values, stimulate the local social and economic development; these expectations are voiced mostly by local authorities and residents, who usually perceive nature protection areas in terms of their own lost benefits;
- (d) functional changes in rural areas in Poland, related to suburbanisation, economic processes occurring in the interface between the core and the peripheries, development of tourism, and rapid growth of second homes.

Under the new law in force since 2012, national parks in Poland are public entities which may autonomously manage their own funds and conduct business operations which need not be strictly associated with nature conservation. The rules for financing the national parks' operation changed too, although the system of State budget subsidies was retained. The recent legislation changes have created conditions for the development of a new model of national parks' local economic relations based on market mechanisms, e.g. the parks can now expand the range of services which they purchase from external providers. Even the initial period of national parks' operation in the new organisational and legal conditions (2012–2015) showed that the main factor stimulating their economic activity is the possibility to apply directly for and obtain resources from the EU funds.

Given the relatively small area of national parks in Poland, the issues of their operation necessarily transgress their boundaries. On the one hand, national parks are subject to pressures; on the other, they exert their own influence, hampering or stimulating a variety of social and economic occurrences and processes in their local and regional surrounding. This, in turn, means that the local social and economic context in which the parks are embedded must be taken into special consideration when analysing economic relations. In the Polish national parks, the impact of local context is not uniform (Hibszter 2013; Królikowska 2007). It is relatively strong for national parks located in mountain areas, e.g. Tatra NP, Pieniny NP and parks in the Western Beskids (Babia Góra NP and Gorce NP), which are under pressure due to the expansion of settlements, business and tourism, as well as social conflicts concerning private land located within the parks.

The very tensions between, on the one side, the local communities and authorities representing them and, on the other, the national park managers are another serious argument in favour of adopting a broad perspective on the

economic function of national parks in the local development. A large part of the Polish society have a fixed view of national parks as entities which restrict the freedom of business (Hibszer 2013; Zawilińska, Mika 2013).

Most of Polish national parks were established between 1947 and 1989. In the centralised economy of the communist system, national parks were created without any consultation with the local residents. Private land was often incorporated in the national parks; its owners were expropriated or were given the possibility to sell their land to the State. However, as small amounts were offered for the sale, and also given the traditionally strong emotional attachment of Polish rural residents to their fathers' land, such transactions were not commonly accepted by the landowners (Terlecka, Górecki 1998).

Nature protection and the associated land management principles were imposed on the residents, restricting their opportunities for local development. Protected areas were not welcome by local communities and the introduction of legal protection was not followed by education. Consequently, the local communities' reluctance or even hostility towards national parks was often caused by their limited awareness of the concept and principles of nature conservation (Domański, Partyka 1992).

The economic role of national parks as an element of the local social and economic system still goes largely unnoticed. Another factor shaping the conditions in which some of Polish national parks operate are functional transformations of rural areas. Processes related to a decline in traditional agriculture, suburbanisation, development of tourism and rapid growth of second homes have a strong impact on the direction and speed of functional changes of parks' buffer zones. These functional changes occur at a particularly rapid pace in rural areas of the Polish Carpathians. Since the 1990s a complex social and economic transformation process has taken place in this area, due to a gradual decline of agriculture, which, along with forestry, was the core of the area's economy in the 20th century.

Similar processes have occurred in the Sudetes and around the main cities. Large cities and especially metropolitan areas are the centres of economic growth in Poland today (Parysek 2005; Zborowski 2005). They are the source of new economic relations and business links evolving in the core-peripheries relation and of the new and expanding suburban settlement zones. Areas adjacent to national parks, as "pleasure peripheries", are particularly attractive as locations for second homes. Seven of Polish national parks are located in areas subject to the direct impact of suburban zones. The national parks' relations in such a dynamic environment are variable and multidirectional.

Hence, the fundamentals and methodological assumptions for economic research of the national parks' relations with their hosting social, territorial systems must be defined through complex research approach and multi-layered analysis. Only in-depth local research may demonstrate the scale of the impact that the context exerts on the development of the national parks' economic function. An analysis from the local perspective may show the extent to which economic relations of the parks are influenced, for instance, by physical geographical features, national borders, cultural diversity and the resulting economic traditions, as well as the social capital of individuals and non-economic interactions resulting from social relations.



## **The concept of the national park's economic function**

To solve the research problem presented herein, it is vital to define the economic role of the national park within the local economy. This function is defined by the economic relations established by the park. Research conducted to date points to a potentially broad scope of economic relations between national parks and their adjacent areas. Those relations can be either direct or indirect.

The interpretation of economic relations, which is crucially important for the economic conceptualisation of the national park's functions, can be either broad (including both direct and indirect relations) or narrow (only including direct relations). In this study, we have made the assumption that the economic function of the national park is defined by the entirety of its direct and indirect relations which generate economic value. Such a broad interpretation of the national parks' economic relations was chosen for the fact that economic benefits are also raised indirectly in the areas beyond the parks' borders by the local communities, business operators and public institutions thanks to the national parks' proximity. Direct relations include cash flows relating e.g. to transactions made by the park management, its investment projects, jobs, grants and subsidies received and taxes.

The national park performs its economic function directly towards its related territorial social systems in the following ways:

- it offers jobs for the local community;
- it purchases from the local entrepreneurs and other people the goods and services which are necessary for its operation as a protected area and as an institution, e.g. for its conservation effort, organisation work, and technical work;
- it develops tourism (including education) within its borders in interaction with the local economy;
- it sells materials (e.g. wood), which contributes to the development of other business sectors (e.g. manufacture of wood products or craft).

The indirect relations concern the resources which result from the park's natural value and comprise tangible resources (e.g. forests) and intangible resources (e.g. symbolic values), related to the social and cultural domain. There are various potential forms of indirect economic influence of national parks. The identification and assessment of each of those forms can be a research issue. For instance, the development of certain types of agriculture, known as sustainable agriculture, is largely dependent on the qualitative factor, directly resulting from the value of the national park's natural environment. Also, in the context of growing suburbanisation, the existence of a national park makes the neighbouring rural areas an attractive location for tourism and second homes (Mika, Petko 2015), which drives up the prices of real properties in the local market and stimulates demand for certain services. Furthermore, thanks to the proximity of a national park, local authorities and institutions may apply for and receive funds from various sources for projects described as “ecological”.

Consequently, the indirect economic function of the national park is defined by its natural values in their intangible aspect, as a factor stimulating economic activity and an increase in the economic value of the areas beyond the park's borders, e.g. through:

- a potential boost of demand for real property in the park's vicinity;

- development of agriculture labelled as “environmentally clean”;
- raising funds from external sources by local entities such as local authorities, associations, or cultural institutions, thanks to the national park's existence.

### **National park's local economic system**

National parks have relations of various directions and intensity with the territorial social and economic systems in which they are embedded. Any practical exploration of such a complex research problem requires a systemic approach. It is a tested research tool which has been used for analysing various aspects of national parks' operation (cf. e.g. Voll, Luthe 2014).

Economic relations of a national park may be seen as the constituting factor of its local economic system. Given the possible relation directions, the following elements have been assumed as components of such a system:

- (a) the national park's natural resources (values);
- (b) the managing institution of the national park;
- (c) the visitors;
- (d) the local businesses, which include the park's counterparties as well as other service providers, e.g. those serving visitors;
- (e) the local authorities;
- (f) the local community, i.e. the residents of villages hosting the national park within its borders.

The scheme and directions of economic relations between the components, thus specified, of the “national park's local economic system” is presented in Figure 1. These relations have their particular content which manifests itself in economic values. In particular:

- Relation R1 between the national park's natural resources and the park's managing body consists of flows of funds from the central government budget and earmarked funds for nature conservation, broadly understood, in the form of grants and subsidies, and funds received from the central government budget and the European Union programs to cover the operational expenses of the park's managing body.
- In Relation R2 between the park's managing body and the local community, and Relation R4 between the local businesses and the local community, the economic value consists of the jobs and the related cash flows.
- Relation R3 between the park's managing body and the local businesses comprises all commercial transactions between them, i.e. the purchase or sale of goods or services.
- Relation R5 between the park's managing body and the local authorities consists of cash flows from taxes (e.g. forest tax), and other fees paid by the national park to the local budget.
- In Relation R6 between the visitors and the park's managing body and Relation R7 between the visitors and the local businesses, the economic value consists of broadly understood visitors' spending on the entry fees into the park and on the purchase of services and goods on the site.

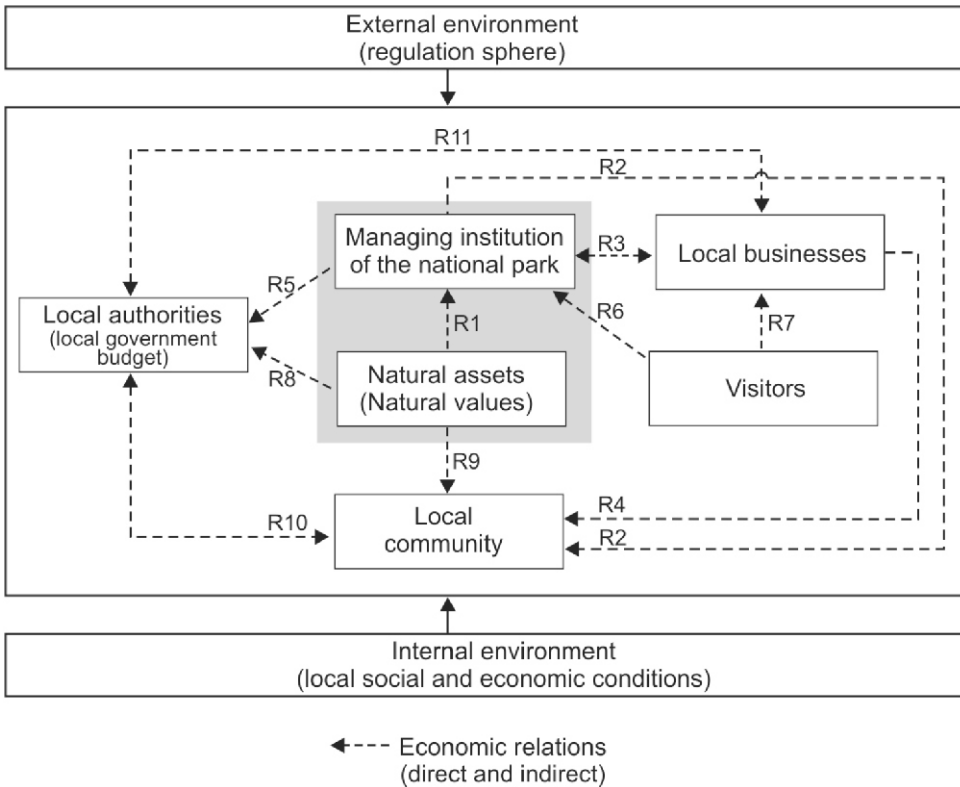


Figure 1. The national park's local economic system and its external and internal environments.

Source: own work.

- Relation R8 between the park's natural resources and the local authorities consists of funds obtained by the local budget from external sources as compensation or grants relating to the existence of a national park within the local government area.
- Relation R9 between the park's natural resources and the local community consists of the revenue of the local residents from the direct or indirect economic use of the resources existing within the park (e.g. keeping of sheep or horses, the sale of wood).

This model is complemented by economic relations between the local communities and local businesses on the one side and the local authorities on the other (R10, R11). They include, among others: local taxes paid to the local budgets by persons and operators who conduct business linked to the national park's operation, and financial assistance (preferential funds) obtained by local governments for eco-friendly investments (grants or loans from the National Fund for Environmental Protection and Water Management), benefiting the local communities or business operators.

The systemic approach also allows the role of the context to be taken into consideration in the assessment of the functioning of the national park's economic system. By reference to the systems theory, the local social and economic conditions may be regarded as the internal environment of the system, whereas the regulation sphere is the external environment.

## **Methodological challenges and dilemmas**

The concept of a local economic system of a national park which we propose in this study is intended to identify and assess those quantitative and qualitative features represented by a national park which carry or induce economic value within the park and in its surrounding.

The research questions, aiming at a comprehensive assessment of this issue, should lead to identifying:

- (a) flows of monetary economic values;
- (b) quantitative and qualitative factors shaping the economic relations, particularly those flowing from the system's internal environment;
- (c) the direction, scale, stability or variability of economic relations.

However, this approach carries certain methodological problems and limitations. It is not always practicable to express all economic relations of a national park in monetary terms. This is particularly true for indirect relations, whose value can only be estimated. Another problematic issue is the selection of operational variables describing the systemic interconnections in indirect relations. Such a selection must be made on a case-by-case basis and based on a profound identification of the local circumstances.

Economic relations of national parks are not limited to their immediate surrounding. Therefore, it is necessary to identify the extent to which they are embedded in their local social and economic system and to recognise the factors which establish and maintain those relations. The narrow local scale of the research makes it very difficult to recognise the scale of multiplier effects (whether direct, indirect, or induced) generated by the national park in the local economy.

The extent to which a national park is embedded in the local economy may be measured through variables such as: the number of jobs made available by the park for the local residents, the number of the park's business partners originating from the local business community, and the scale and directions of the related cash flows resulting from commercial transactions. Those cash flows, in turn, generate jobs in the local businesses dealing with the park.

Another issue is to identify to what extent the park is embedded economically as a result of the development of tourism (number of tourist arrivals, number and category of tourist facilities). It is relatively easy to answer this question by analysing visitors' spending within the park; on the other hand, the assessment of how strongly the park's natural assets attract visitors to the park's surrounding area is a much more complex research problem. The research conducted to date shows clearly that some tourists visit localities adjacent to national parks because those parks are an attractive tourist destination.

This is the case particularly in the mountain regions of the Carpathians and the Sudetes. In order to diagnose the park's influence to the development of tourism in its surrounding, qualitative research would have to be carried out on the structure of tourists' motivations and functional links between tourist facilities and the park's area. The key question in this context is: how many jobs exist in the local tourist services sector thanks to the proximity of the national park? Answering this question requires quantitative and qualitative research among accommodation and catering providers and operators of tourist attractions, in their broad sense.

## **Conclusions and recommendations**

The economic impact of a national park is determined by the national government's nature conservation policy on the one hand and the attractiveness of the park's area and surrounding as a tourist destination on the other. The scope and models of national parks' operation in various countries differ due to variations in legal regulations, protection regimes, and specific local circumstances. Hence, it is important to emphasise that the discussions presented in this study relate to the specific conditions of the Polish economy.

The impact of social and economic transformation on the operation of national parks in Poland is due to the legislation process in the domain of management of legally protected areas being not yet complete. Enhancing the parks' economic operation will require an adjustment of the currently applicable legal regulations to market economy conditions. Furthermore, national parks are significantly hampered in their management efforts by the unregulated legal status of part of the land under protection. Ownership relations in some of the parks (such as Tatra National Park) date back to the 19th century (forest cooperatives).

Simultaneously, there is a profound social change process underway in Poland. It generates a growing social demand for, and pressure on, natural assets. The increasing demand for "green values" provokes physical urbanisation of areas immediately surrounding the national parks and results in growing numbers of visitors in the national parks (12 million people visited Polish national parks in 2012; source: Polish Ministry of the Environment). In such circumstances, the influence of the context on the evolution of national parks' economic relations must certainly be emphasised.

National parks are a special category of areas, which – along with their nature conservation function – have important endogenous and exogenous social functions. The parks' special status is underscored by their legal status as public entities, determining their management model and market behaviour. Developing of economic functions by national parks in the local economy is easier when their management is decentralised and the park managers are freer to choose ways of building relations with business operators. This is the model that should be followed in adopting Poland's nature conservation legislation and in administrative decision-making. The operation of national parks is, socially, a highly sensitive issue. Therefore, in order to enhance the economic effectiveness of national parks' operation, difficult policy decisions will have to be made.

The economic role of national parks grows with the commercialisation of tourism. The attractiveness of a national park and its surrounding areas as a tourist destination is determined not only by its natural assets but also by how and to what extent they are made available to the public. Legal protection of natural values restricts investment for tourism in national parks in Poland. Therefore, innovative organisational solutions should be adopted and tourism investments should be made in the areas adjacent to the national parks in order to make protected areas a significant part of the system which allows local communities to obtain economic benefits from the development of tourism.

To achieve this, local authorities, tourist businesses and national park managers need to cooperate. It turns out, in the light of research by Śliwa-Martinez (2015), that the factor currently having the strongest potential of initiating cooperation for

the development of tourism in protected areas throughout the Carpathians is the financial instruments in place under the European Union policies and international agreements. Thanks to the possibility of raising funds from those sources, numerous obstacles and reluctance towards such cooperation, which have seemed insurmountable for years, can now be overcome.

The proposed concept of the national park's economic function does not allow the total economic value of national parks to be assessed but it situates itself in the trend of research of national parks' impact on the local economy. The model, outlined herein, for diagnosing the economic impact of national parks on the local economy covers a broad range of relations. It allows different aspects of the parks' operation involving economic value to be interlinked. The key advantage of the presented approach is that, through its use, the economic role of a national park can be diagnosed in a small (local) spatial scale and reliable data can be obtained. This is particularly relevant where there are tensions between local authorities and the managing bodies of national parks, and meaningful arguments have to be found for the discussion on the social role of protected areas.

Based on the concept of relations and systemic analysis, the proposed methodological approach allows the economic impact of national parks to be analysed in various spatial scales, whereby it contributes to research in geography (economic geography, tourism geography). Nevertheless, the solution, as discussed in the article, to the research problem is largely universal and can be used in analyses beyond the domain of geography. Relation approach can relatively easily be modified and adapted to various social, economic, and legal circumstances of national parks' operation. The environment in which Polish national parks operate, as described in the article, only emphasises the complexity of the issue of national parks' economic function in the context of continuing transition processes.

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