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## The perspectives of the development of tourism in the areas of geoparks in Poland

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### Abstract

Poland has exceptional geotouristic values. There are geoparks there, which create great touristic values of the country and they also create the chance for regional values of the geological heritage to stay alive. The main aim of the investigations was to introduce the possibilities of the development of tourism in the areas of geoparks in Poland as well as to get the information on the subject of geoparks awareness and the possibility of their use in the development of tourism in the region, moreover, to introduce new job opportunities and work places in the residents' views. The range of the research included the directions of transformations of the existing touristic management and use of the investigated geoparks in the residents' views as well as the authorities' activities in order to modify the existing touristic products due to the geoparks promotion and the improvement of their competitiveness in the development of tourism. The spatial range of the research associated with the areas of geoparks included the southern and central areas of the country especially regarding the regions that were rich in geological values. The observations and notations of the touristic movement, moreover, the survey investigations were conducted. The analysis of conditioning in the sphere of geotourism development in the nature reserves in the southern Poland showed that there are really great possibilities of tourism development.

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*Keywords:* geoparks, the functions of the geopark, touristic products, the economic development

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### 1. Introduction

Tourism plays a very significant role in the economical development of the current world and the great chance for the further development should be perceived in the rapidly increasing geotourism. In Europe the so-called European geoparks are being created, which, according to UNESCO criteria are the examples of how to create a global network of geoparks. In the European Geoparks, there are the geological positions of the exceptional scientific importance, moreover, rare, or of great aesthetic, scenic and educational values. All European geoparks are connected to the network, which is to introduce the exchange of experiences between its individual members,

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to present the places of the importance due to their geological values in the whole Europe, as well as to promote and support the protection of the geological heritage. The documentation posts and nature reserves can function as individual entities, however, when they are connected to the regional network based on the common (mutual) theme, subsequently, the effectiveness of their touristic, educational and protective impacts significantly increase. Such network in case of the geological area is called 'geopark'. The network acts in favour of the idea of the sustainable development and it should be created and supported by the authorities and local communities [2]. At present, there are about 500 of the protected areas according to the definition of the geopark in the world. In Europe, however, there are 33 of such areas.

### *1.1. The values of geoparks in Poland*

Poland has exceptional geotouristic values that are good for the geotourism development. There are geological reserves and landscape parks there, which appear to be great touristic values of the country. They also give the chance for national and regional values of the geological heritage to stay alive and create the remarkable landscape. In Poland, similarly to other countries, some of nature reserves and landscape parks are the most appropriate areas for such protected regions. Moreover, they include vast areas of exceptional importance for the scientific disciplines connected with the Earth and at the same time more available (open to the public) than other protected areas, in order to be used by tourism and in the educational processes. In 2009, one from the ten organized geoparks in Poland, namely Muskau Bend Landscape Park located on the Polish and German border was included in the national network of geoparks. It is the first area in the world of this kind that involved the area that was glacia- tectonically disturbed during the Pleistocene glaciations and transformed by the underground and open-pit mining industries mining, associated with the brown coal seams.

The suggested geoparks in Poland according to their criteria include nine areas (arranged and designed) legally protected (Table 1).

## **2. Research aims**

The main aim of the investigations was to introduce the possibilities of the development of geotourism in the areas of the nature reserves and landscape parks included in the system of geoparks in Poland as well as to get the information on the subject of geoparks awareness and the possibility of their use in the development of geotourism in the region, moreover, to introduce new job opportunities and work places in the (local) residents' views, where the created geoparks were located. For that reason the diagnostic research could be conducted (namely, the questionnaire survey) in the southern Poland in 2009

The questionnaire survey included four theme groups:

- attitudes of the local people towards the development of the tourism in the area of geoparks;
- characteristics of the touristic movement in the area of geoparks;
- knowledge concerning the existence of the geoparks;
- the role of geoparks in tourism and the economical development of the region.

## **3. Research range and methods**

The range of the research included the directions of transformations of the existing touristic management and use of the investigated geoparks in the residents' views as well as the activities to modify the existing touristic products by the promotion of geoparks and the increase of their competitiveness in the tourism. Development. The spatial range of the research connected with the areas of geoparks involved the southern areas of Poland. The field investigations were conducted by the researches from Pedagogical University in Cracow. The observations and notations of the touristic movement as well as the survey investigations were conducted. The questionnaire referred to three groups of subject matters, i.e., attitudes of the local community towards the geotourism development, the characteristics of the touristic movement in the geoparks areas and the touristic management identified by the local community. The questionnaire of the inquiry was used as the research tool and it consisted of 19 closed and open questions.

Table 1. The list of the arranged geoparks in Poland

No <sup>o</sup>	Name of the geopark	Area of the existence	Touristic values of geoparks
1.	Jurassic Geopark	(The area of the Jurassic Landscape Parks assembles in the Śląskie and Małopolskie provinces; Ojców Landscape Park and arranged National Jurassic Park	It is the typical upland, where we can find the characteristic rock, monadnocks that create different forms and shapes. This area is well-known in Poland for tourism connected with climbing. The ruins of the medieval castles are one of the most popular tourist attractions of the Kraków-Czestochowa Upland; One of the greatest values of the Jurassic region is the greatest number of the appearance of caves in the country, furthermore, they are available for tourists.
2.	The Geopark of the Kamienna Valley	(The Natural Park of the North Edging of The Świętokrzyskie Mountains)	The valley of the Kamienna River it is the area of the exceptional value on the European scale, or even on a world scale. There are geological pits, in which rocks represent the Mesozoic Era and the Quaternary period, moreover, there are precious, hidden paleontological, mineralogical, and tectonic objects as well as discoveries of dinosaur traces from the Jurassic period on a global scale.
3.	The Pieniny Geopark	(The Polish and Slovak Border The National Parks of Pieniny and The Arranged Landscape Park of Małe Pieniny)	The Pieniny Mountains can be found as the distinctiveness and peculiarity of some kind due to their formation and of the tectonics of the lithosphere plates, moreover, the sedimentation in the depths of the ocean, life in the oceans, as well as fossils, tectonics, volcanism, river gorges, mining, rock and mineral resources, mineral water, hot springs, Karst, the elements of mineralogy, petrography, and exotic.
4.	The Geopark of the Wieliczka Salt Mine	(The Salt Mine in Wieliczka near Cracow)	One of the oldest salt mines in the world (more than 700-year-old one). The old mine excavations and the original mining machinery make the very good impression on tourists. They are show the difficulty of miner's working in the past as well as they also indicate the level of the development in the sphere of Polish mining industry. The salt extracted from the mine is of the Miocene origin.
5.	The Geopark of Śląża	(The Area of Ślążański Landscape Park)	The most valuable elements to the natural landscape together with the varied land relief and varied geological structure, furthermore, natural and historical values, many places of outstanding urban planning and a very long history, numerous palaces with the remarkable urban values and very long history with precious sacral buildings, palace complexes and manor houses surrounded by parks.
6.	The Geopark of Śnieżnik Kłodzki	(The Polish and Czech Border Area:: Śnieżnicki Landscape Park and nature reserve Kralicky Śnieżnik)	The richness of morphological forms that are present just below summits and their the leveling of the surfaces, deeply cut in valleys of streams, waterfalls, picturesque rocks, blocks of rocks on the slopes and some tops; In some Karst areas, there are Karst sinkholes (swallets), ponors, reokrens Karst, dry valleys and caves;
7.	The Geopark of Intra-Sudetic Trough (Basin)	(The Polish and Czech Border Area: Landscape Park of Wałbrzyskie Mountains and Chraniana Kraina Oblasty Broumovsko).	Considering the geological aspects, the geopark - it is the central part of the Intra-Sudetic depression, structured by the use of Permian vulcanites and their tuffs and sandstones, conglomerates, mudstones (also called mudrocks) including also siltstones (Lower/ Early Permian), as well as sandstones, shale and Zechstein limestone (Upper / Late Permian). The Permian volcanic rocks are hard, resistant to weathering, in the morphology of the land surface, they are indicated as mountains. The maintenance of the fortified castles in the mountains is associated with the existence of the old trade routes.
8.	The Świętokrzyski Geopark	(The Kielce Geopark and the neighbouring administrative districts)	In the relatively small area, we can find the gathering of various geological phenomena here (Karst, tectonics, mineralization, the paleontological positions, the classical profiles concerning the aspects of stratigraphy,) and numerous traces of mining heritage, the traditions of the metal ore mining (copper, lead, iron).

Source: Personal sources

### 3.1. The characteristics of the target group (respondents)

The investigation involved 2,560 people, namely, 52.3 % of women and 47.7% of men. The most significant

number of the respondents lived in the country (33%) as well as towns not bigger than 20,000 of inhabitants (20%) and more than 200,000 of inhabitants (30%), moreover, the respondents that also referred to the great number of inhabitants represented towns with over 50,000 of residents (15%). The remaining number was related to people living in the cities with the population between 50,000 and 100,000 of inhabitants. The most noteworthy group of the respondents represented young people and those middle-aged ones, namely from 18 up to 55 years old ones (62%). The most insignificant number of the respondents referred to the group of people older than 56, however there were not any examples of the respondents that were over 65 years old. This group of the respondents, nevertheless, reluctantly answered the questions. Furthermore, people that took part in the questionnaire graduated from University with Bachelor's degree (30%) Master's degree (25%) and higher degree of the professional kind (10%). The remaining group graduated from high schools, secondary schools and primary schools.

#### 4. Research results and their analysis

The first question in the questionnaire was associated with the knowledge related to geoparks. The respondents were asked about the definition of the geopark and they were to name the functions of geoparks. Having the knowledge about geoparks was asserted by 56% of the asked. Additionally, 34% of the respondents stated that they had no knowledge on the subject of geoparks existence in Poland. However, only 18% of the respondents could provide the definition of the geopark (Fig. 1).

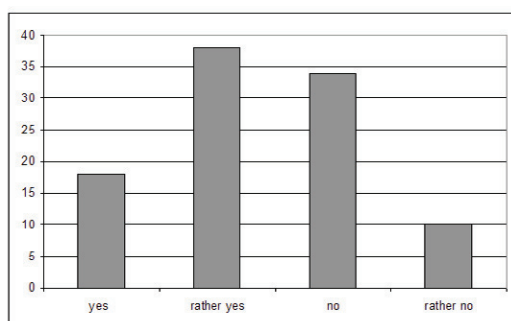


Fig. 1. The knowledge of the definition of the geopark-

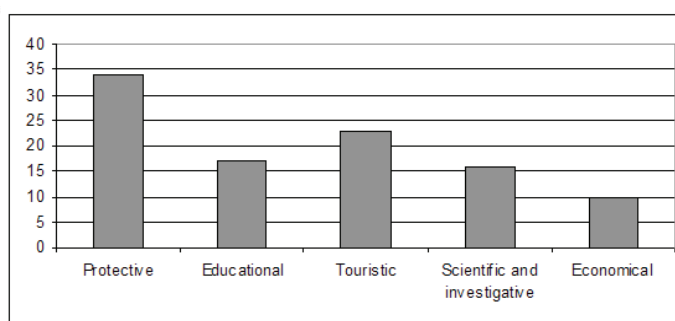


Fig. 2. The functions of the geopark

Considering the functions of geoparks, the respondents taking part in the questionnaire most often referred to the following functions: 34% indicated protective function, 17% educational function, 23% touristic function, 16% scientific and research functions, and only 10% specified the function in the sphere of the economical development of the region (Fig. 2).

Further questions corresponded to the earlier-mentioned ones, the respondents had to name geoparks that they knew in Poland and in the region of their living. As far as the knowledge of the areas belonging to geoparks in Poland, the responds were very varied.

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The majority of answers was ambiguous - rather yes (33% for Polish geoparks and 28% for those in their region), rather no (44% for geoparks in Poland and 36% for those in their region Polish and 36% for the region). Only 15% of respondents knew the areas of geoparks in Poland, and just 12% could indicate them for their own region (Fig. 3).

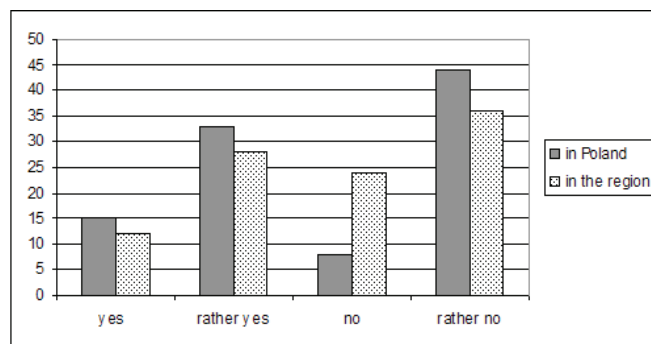


Fig. 3. The knowledge of geoparks by the respondents

The respondents were also asked to identify the geoparks that were most attractive in Poland in terms of touristic values. According to the ranking, the asked named the following geoparks: the Geopark of the Wieliczka Salt Mine (87%), the Jurassic Geopark (71%), the Świętokrzyski Geopark (68%), the Pieniny Geopark (63%), the Geopark of the Kamienna Valley (46%), Geopark Niecki Śródsudeckiej (43%), the Muskau Bend Geopark (35%), the the Ślęza Geopark (27%), the Geopark of Śnieżnik Kłodzki (19%) (Fig. 4).

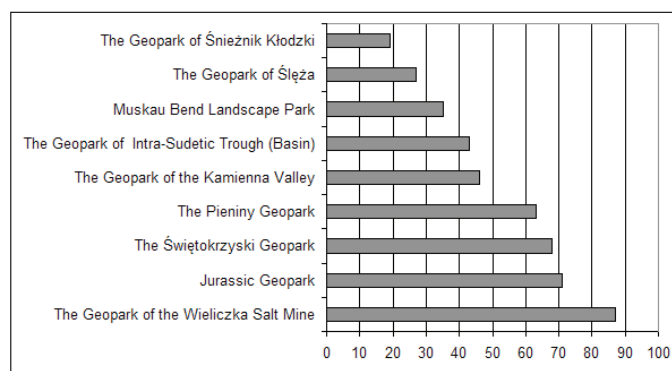


Fig. 4. The most attractive geoparks in Poland

The diagnostic investigations indicated that the primary sources of information about geoparks appeared to be the following: Internet (73%), guidebooks (20%) and only 6% specified the scientific publications. The respondents' state of knowledge considering the geoparks was also evaluated. The respondents clearly affirmed that their knowledge dealing with geoparks that existed in Poland was relatively low (75%). In case of the region the answers were more varied, as they acknowledged that that they were very familiar with geoparks in their region (19%), and just familiar (12%). Furthermore, the rest of the respondents admitted that their knowledge about geoparks was little (40%) and very little (35%). In the next question the respondents were asked to name their favourite places of tourism and recreation as well as to provide the criteria that make them choose such destinations. The attractive areas of tourism and recreation in the Świętokrzyski region are the following ones: the Świętokrzyski Geoparks with the Kadzielnia, Wietrznia and Paradise Cave Reserves (38%), as the second the Geopark of the Kamienna Valley with the Bałtów Jurassic Park appeared (25%), as the third they mentioned the areas that were not geoparks at all, i.e. the City Park (15%) and the Stadion Leśny (11%). In the Małopolska Region, the most attractive tourist and recreation areas occurred to be the Jurassic Geopark (34%), the Geopark of Wieliczka Salt Mine (36%) and the Pieniny Geopark (31%). Moreover, the Ślęza Geopark (37%), the Geopark of Intra-Sudetic Trough (Basin) (33%), the Muskau Bend Geopark (21%), and the Geopark of Śnieżnik Kłodzki (9%) were considered to be the attractive places in order to deal with active tourism and recreation in the Sudetes. The decisive factors, which could make the tourists decide to choose the a specific kind of tourism and recreation are the following: excellent conditions for the recreation (32%), the place worth getting to know (monuments) (29%), the possibility of being close to the nature (24%), the possibility of active tourism (19%), the

low cost of staying and entertainment opportunities (15%). Unfortunately, only 9% of the respondents indicated the ability to get to know the inanimate nature, that is, the geological structures as well as geological phenomena and processes (Fig. 5).

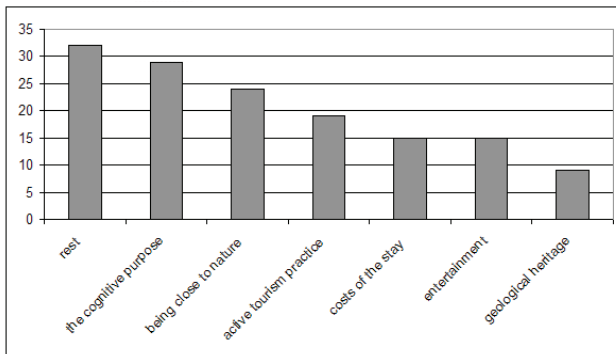


Fig. 5. The criteria of geoparks' attractiveness

One of the essential issues regarded in the research was to estimate the touristic values of geoparks (national parks, nature reserves, landscape parks) important for the local community in the development of tourism. The outcomes allowed us to estimate the impact of the existing geoparks and their values on the development of tourism in Poland. According to more than 58% of the respondents, geoparks in Poland had significant and very significant touristic values, which could contribute to the development of tourism in their area.

The touristic values of geoparks were assessed according to the 6-degree scale, where 6 was the highest in the estimation. Such high estimation was indicated by 30% of respondents, while 37% referred to 5, 26% made reference to 4, and less than 7% related to 3 (Fig. 6).

Therefore, it can be stated that geoparks in Poland are characterized by high touristic values.

The next question concerned the economic possibilities of development, the promotion of the region in tourism development as well as the role and the importance of geoparks for the residents of the particular regions. The respondents could see the economic opportunities for the region due to its geotourism, unfortunately, in a limited number. Only 33% responded that there were definitely possibilities of improvement of the local economics, nearly 26% of the respondents were rather certain about it, and more than 40% could not see the chance of economic development of their region as a result of the geotourism (Fig. 7).

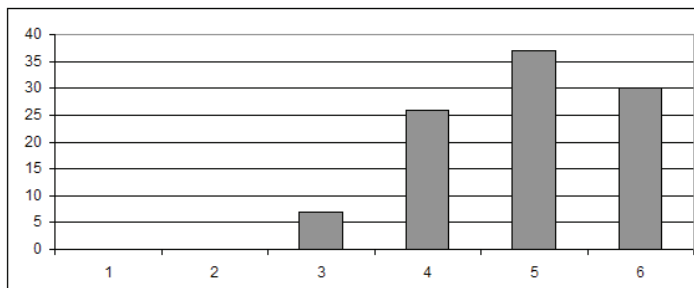


Fig. 6. The estimation of the touristic values of geoparks-

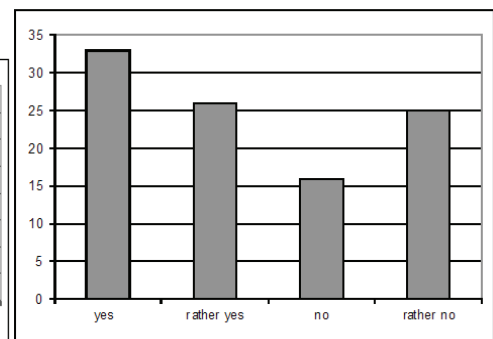


Fig. 7. The economic development in the area of geoparks.

According to the respondents the most important things to be considered to develop the regional economy thanks to the geotourism are: the promotion of the activities in favour of the environmental protection (20%), the creation of a new touristic product in the region (20%), the preservation of the geological heritage (17%), the establishment of the center of the Earth Science for students, for academics and enthusiasts (15%). Unfortunately, it could be observed that the residents of the region did not recognize the possibilities of creating the new workplaces (13%) and the economical improvement of the region (15%) due to the development of the geotourism (Fig. 8).

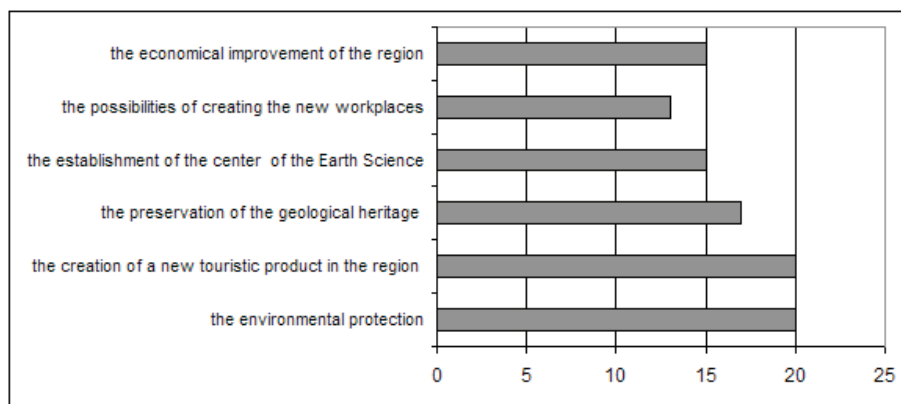


Fig. 8 Actions in favour of regional development in the area of geoparks

The next research questions were related to the perception of the geoparks as touristic objects. The particular attention was paid to the touristic movement in geoparks and its impact on the natural environment. The respondents were also asked to evaluate the level of the tourism infrastructure in the areas of geoparks. The respondents believed that geotourism had no harmful effects on the environment (90%). The study community was convinced that the development of various forms of active tourism in the areas of geoparks did not influence their environment in the negative way (85%) as well as the fact of conducting classes for students and the youth had also no destructive effects (80%). With regard to the tourism infrastructure in the areas of around geoparks, the many respondents disapproved of the accommodations, the quality of providing food and services, and the communication together with other accompanying services.

#### 4.1. *The analysis of tourism development in geoparks*

The analysis of conditioning in the sphere of tourism development in the geoparks presented that there were really great possibilities of tourism development. The analysis of touristic absorbency demonstrated that in some geoparks, for example, nowadays, it was used only in the range from 10 % to 20%. Tourism apart from the protective functions should create the leading social and economic function of the administrative districts connected with those areas and it should become the ‘propeller’ in case of the economical development of those regions. In the discussed geoparks of southern Poland a wide range of touristic movement forms appeared. There were both forms corresponding to the character of the particular protected areas as well as those being opposite to the specified aims of the protection. In the geoparks, there were primarily the seasonal and qualified kinds of tourism, namely, walking, cycling, as well as forms of sightseeing and everyday and seasonal holiday types of rest. The major tourism market considering the analyzed geoparks referred to the regions of Małopolska and Świętokrzyskie along with the districts neighbouring those provinces. However, reflecting on the kind of geopark, the significant number appeared in case of the residents from large cities, such as: Cracow, Katowice, and Warsaw, which often resulted from the closeness of geoparks. The touristic activity of visitors from the northern and central parts of Poland should be improved in order to enable a better develop in tourism in geoparks.

The conducted investigations show that the existing touristic products related to these areas in their neighborhoods require the modification in relation to the potential possibilities of the development. It is not only associated with the preparation of such objects to make longer the touristic season, but also to adapt to the modern trends in the sphere of the development of Polish and international tourism.

#### 4.2. *The perspectives of development*

The development of tourism in the Polish geoparks will cause a number of important changes in these areas. Apart from the transformations in the touristic space, such changes will occur mainly in the social and economical spheres. These changes are directly reflected in the establishment of new as well as - which is very important - protracting the existing workplaces in these areas. The realization of the touristic investments and the revitalization of the areas left untouched after mining industry can contribute to the process of creating new



workplaces. In order to develop the tourism in the area of geoparks the following directions associated with the appropriate adaptation of these areas to act as tourist attractions can be defined:

- There should be the investigations carried out in every of the analyzed geoparks in the way that was presented in this paper, however, to a much greater degree of details. Such research should indicate the intended possibilities of the development in the sphere of this form of economical activity in geoparks, and consequently should allow the significant social and economical development of the local population.
- The study shows that for each of the geoparks the programmes of tourism functioning should be worked out. They should be considered together with the specific programme of the tourist management as well as the concept of creating a tourist product since in many cases the plans of geopark protection present such issues only in very general terms. It is now especially important due to the need of the verification plans of these areas protection.
- The programmes of tourism functioning in the areas of geoparks should be initiated by the local authorities and the administrative authorities considering the possibility to use the EU funds.
- The development of tourism in geoparks that are not excluded from the economical activities is one of the ways of improving the conditions of living in the local community;
- The educational and protecting activities conducted in the area of geoparks significantly influence the idea of the sustainable development and, therefore, they should be developed and supported by the authorities and local communities.

## 5. Discussion

In Poland, the arrangement of geoparks already in the initial stage comes across the difficulties due to numerous reasons. First of all, there is little information dealing with the possibility of a special promotion of geology and geotourism in the areas protected by the national law. The purposes, definitions, criteria and functions of the geopark are not known or misinterpreted. Furthermore, or perhaps even mainly, there is lack of the local initiatives in order to undertake the necessary efforts to organize the geopark management and the preparation of the conclusions according to the instructions of the UNESCO regulations. The organizations and interested groups of people are unnecessarily discouraged by the lack of adequate regulations and the exclusion of the category "Geopark" in the Act on Protection of Nature. The establishment and functioning of the networks of geoparks, the UNESCO bases on the similar principles as the MAB Biosphere Reserves and other areas included in the international conventions and agreements. It is, therefore, an act of recognizing the rank of more than countrywide level, i.e., for the national protected area marked by the special geological heritage values.

## 6. Conclusions

Interest in the tourism development. Such interest could be detected by the need of investing in tourism development, moreover, by the wish for creating various kinds of touristic products. The local society was aware of the fact that the tourism should be not only the additional source of income but also their work place. The southern part of Poland as well as the residents of the administrative districts neighbouring the protected areas are the basic touristic regions for the analyzed geoparks and the protected areas. On the basis of the conducted research in the geoparks in Małopolski, Świętokrzyski, and Dolnośląski regions, it can be established that the following matters should be the main aims of tourism development in these areas:

- Further development of the qualified tourism forms – according to the hitherto existing directions of the use and the management of geoparks, moreover, the further potential development of such forms;
- Intensive development of touristic infrastructure both in the range of geoparks as well as in their neighbourhood;
- 3. Regional authorities' activities in order to create a new touristic product.

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