

## ATTEMPT TO EVALUATE THE DIFFERENTIATION OF THE ATTRACTIVENESS OF SELECTED ELEMENTS OF THE TOURIST STRUCTURE OF CARPATHIAN STATUTORY SPAS

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### Keywords:

- Polish Carpathian spas
- tourist attractiveness
- infrastructure
- values
- diversity

### Abstract:

**Background:** The subject of following deliberations is 12 foothill and mountain Polish statutory spas of the Carpathian Mountains, located in the 6th bioclimatic zone under. **Material and methods:** Point classes methods were used to the evaluation of tourism potential of Carpathian spas, which are objective in terms of the grouping techniques, but are subject to subjective evaluation in the selection criteria. In the evaluation of tourism potential of spas this method was applied in spite of above objections – specific point values were assigned to selected features within studied individual, in this case spa. **Results:** The multi-functionality and diversity of Carpathian resorts causes that people come to them for curative, prophylactic and therapeutic purposes, as well as tourist. These objectives should develop and operate in coupled system, mutually penetrate and complement each other. **Conclusions:** It is hard to compare studied spas according to the uniform scheme; each of them has other advantages, within analyzed elements of the tourist potential, which distinguish it from other towns. However, in spite of internal diversity, the potential which Carpathian spas have enables to state that there can be fully implemented and developed tourist function.

### INTRODUCTION

The operation of Spas depends on many environmental and economic factors, as well as on legal conditions and demand for services, which develop prophylactic, therapeutic, and tourist services in addition to classical medicinal benefits. Two main functions are developed in Carpathian spas – treatment and tourist. Both these functions aren't competitive, but properly adapted, as well as cautiously exploiting the natural, cultural and existing infrastructure potential of the given spa can support each other.

Clients of the spa are: health resort visitors, whose main purpose is health care, tourists and customers of spa, who are focused on tourism and prevention [Gmyrek-Gołąb 2010]. However, it does not mean that persons, whose medical condition requires spa treatment, do not rest and relax.

The curative treatment is inseparable from tourist attractions which the health resort provides: change of the environment, sports, tourist trips, cultural events to a large scope support the success of treatment. The tourists while coming there for tourist purposes, staying in the Spa area, willingly use of traditional and modern health treatments.

Currently no type of tourism omits spas. They become e.g. known winter sports stations, but they also aim for constant development of the qualified, congressional, cultural tourism, etc.

Tourist attractiveness of the given area results from widely understood tourist values, natural and anthropogenic environment, tourist facilities and communication accessibility [Gmyrek-Gołąb 2010]. Tourism potential is a complex phenomenon and should be considered comprehensively.

The multi-functionality and diversity of the Carpathian resorts causes that people come to them for curative, prophylactic and therapeutic purposes, as well as tourist. These objectives should develop and operate in coupled system, mutually penetrate and complement each other.

## **MATERIAL AND METHODS**

The subject of following deliberations is 12 foothill and mountain Polish statutory spas area of the Carpathian Mountains. In accordance with the Act on Health Resort Medical Care of 2005, the spa is an area on which spa health care is conducted, allocated in order to use and protect its area of natural raw materials. In case of meeting requirements, above mentioned, the health resort status is granted to the area.

They are: Iwonicz Zdrój (Iwonicz), Krynica Zdrój (Krynica), Muszyna, Piwniczna Zdrój (Piwniczna), Polańczyk, Rabka Zdrój (Rabka), Rymanów Zdrój (Rymanów), Szczawnica, Ustroń, Wapienne, Wysowa, Żegiestów Zdrój (Żegiestów); located in the 6<sup>th</sup> bioclimatic zone [Kozłowska-Szczęsna et al. 2002].

Based on the research concerning physical and geographical division of Poland [Balon et al. 1995], where the Carpathian region is also included in the foothills, it is possible also to include three Polish statutory spas: Goczałkowice Zdrój, Swoszowice, and Wieliczka. However, these three spas differ fundamentally than analyzed among others hypsometry due to regarded lowland [Gmyrek-Gołąb 2010], climate which is clearly less simulative from the rest of the Carpathian areas, and in case of Wieliczka, the microclimate of salt mine, where in fact the salt mine is a spa resort. Therefore they were not included among typical Carpathian spas.

Point classes methods were used to the evaluation of tourism potential of Carpathian spas, which are objective in terms of the grouping techniques, but are subject to subjective evaluation in the selection criteria. In the evaluation of tourism potential of spas this method was applied in spite of above objections – specific point values were assigned to selected features within studied individual, in this case spa.

Due to the diversity of indexed elements, the selection of scale could not be even in all cases. The heximal, quaternary and ternary numeral systems were applied in the study, as well as two-stage scoring – results were shown in Tables.

Such a diverse scoring may cause some problems in the data analysis; however in order to eliminate this methodological inconvenience, the individual features weren't subject to analyze, but groups of features for the given spa, which weren't directly compared.

Material for development of the valorization included data in current strategies or local development plans of individual spa municipalities, data from the Central Statistical Office in 2006-2012 years. In the article were also used information from the guides, as well as design works and monographs.

## **TOURISM VALUES AND INFRASTRUCTURE OF CARPATIAN SPAS**

Carpathian statutory spas constitute almost ¼ of health resorts in Poland. One of conditions in Poland to obtain the status by the Spa is to have natural curative raw materials [Ustawa o lecznictwie uzdrowiskowym, ... 2005], which includes healing waters, healing peats called therapeutic peats and medicinal gases.

Natural conditions are while elements, which in different degrees affect the usability of the given area from its tourist function point of view. The most important is landform, climate, hydrographical relations, as well as plant and animal world [Gmyrek-Gołąb 2010].

The associated infrastructure includes all sport and recreational equipment located on the tourism reception areas, which allows for various forms of tourism and recreation e.g. skiing, water sports or spending the free time in a form of fun or entertainment. Associated infrastructure equipment often creates an additional tourist value of the town [Lijewski et al. 1998].

Tourism potential of the given area, in addition to the environmental and cultural values, constitutes the tourist infrastructure, which is a prerequisite for development and tourism concentration in the given region.

### 1. Natural curative raw materials and health values

The Carpathians is a region particularly rich in balneological raw materials. Carpathian spas have chloride-sodium waters: Rabka, Iwonicz, Rymanów, Ustroń; bicarbonate waters: Krynica, Muszyna, Rymanów, Iwonicz, Szczawnica, Wysowa, Żegiestów, Piwniczna, Polańczyk; as well as sulphidic and hydrosulphuric waters: Wapienne [Ponikowska 2001]. Moreover, some of them are exploiting peloids deposits: Ustroń Krynica, Piwniczna, Wysowa, Iwonicz and Wapienne.

Many spas are conducting the productive activity – bottling mineral waters or producing so-called “by-products” [Karwan 1989], these include Iwonicz – producing Iwonicz healing salt, cosmetic-therapeutic salt and therapeutic mud, Ustroń producing bath salts and Krynica – Zuber therapeutic mass.

**Table 1.** Diversity of selected curative raw materials in the Polish Carpathian spas (2014 year)

Name of the Spa / natural curative raw materials	Iwonicz Zdrój	Krynica Zdrój	Muszyna	Piwniczna Zdrój	Polańczyk	Rabka Zdrój	Rymanów Zdrój	Szczawnica	Ustroń	Wapienne	Wysowa Zdrój	Żegiestów Zdrój
Therapeutic mineral waters	2	1	1	1	1	1	2	1	1	1	1	1
Therapeutic mud	1	1		1			1		1	1	1	
Gases		1										
By-products	1	1							1			
<b>Total points</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>

Source: Own elaboration

Iwonicz and Krynica (4 points), as well as Rymanów and Ustroń (3 points) are characterized by the largest diversity of curative raw materials (Table 1). However, the smallest diversity includes Muszyna, Polańczyk, Rabka, Szczawnica, Żegiestów (1 points). This is due to the fact that these spas provide only therapeutic mineral waters.

Equipment related to treatments has a greater role in the spas as specific tourist destinations. Each Carpathian spa, except Polańczyk, has a spa house, and all with exception of Wapienne have a spa park.

### 2. Natural values

In areas with rich and varied land, there are very favorable conditions for development of different tourism forms. Significant are such values as changeability of the landscape, but

also the aesthetic values. The more diversified landscape, all the more is desired by potential tourists.

Most of Carpathian spas have a favorable position, from the tourism point of view, with regard to surface waters – rivers, streams or lakes. However, only 5 out of 12 Carpathian spas has predispositions to water sports – Polańczyk, Muszyna, Piwniczna, Szczawnica and Żegiestów.

A large impact on the orography and climatic relations has the position relative to the sea level. Not only descent heights and altitudes, but also the form of area, (e.g. lowland location of the spa) and spatial resolution affect its attractiveness.

Flora is an important element of natural values, which in case of health resort has an essential role. For example, the percentage of forests in the Carpathian spas ranges from 16% to 66%. The highest percentage of forest land in the Spa is characterized by Wysowa (66%) and Krynica (61%), in turn the smallest Wapienne (14%) and Polańczyk (16%).

An additional tourist advantage of spas is their location in the immediate vicinity of protected areas. Tourist walking routes on protected areas, along with educational and natural routes, as well as observation points, enrich the tourist offer of spas.

Three spas are in the vicinity of national parks: Rabka – Gorczański National Park, Szczawnica – Pieniński National Park, and Wapienne – Magurski National Park. Within the borders or in the vicinity of Popradzki Landscape Park, are such health resorts as: Krynica, Piwniczna, Szczawnica, Żegiestów and Muszyna. However, the areas of Nature 2000 are located on the area of almost all spas, except Polańczyk and Ustroń.

In relation to natural values, it is possible to say about optimum periods of using them e.g. period of using the downhill skiing, in vast majority of Carpathian spas is 60 days, only in Iwonicz, Rymanów and Polańczyk – 40 days, and in Wapienne only 20 days. Analyzing the period of bathing season (in rivers), it was showed that it lasted in all spas 50 days [Lijewski et al. 1998].

**Table 2.** Diversity of selected natural values in the Polish Carpathian spas (2014 year)

Name of the Spa / natural values	Iwonicz Zdrój	Krynica Zdrój	Muszyna	Piwniczna Zdrój	Polańczyk	Rabka Zdrój	Rymanów Zdrój	Szczawnica	Ustroń	Wapienne	Wysowa Zdrój	Żegiestów Zdrój
Terrain – altitude	1	3	2	1	1	2	1	2	1	1	2	2
Terrain – relative heghit	1	3	2	2	0	2	0	3	3	0	0	1
Position of the spa	1	0	0	0	1	1	0	1	1	0	0	1
Border of the Spa district	1	1	1	1	2	1	1	2	1	1	1	1
Surface waters	1	1	1	1	2	1	1	1	1	1	1	1
Afforestation	2	5	4	4	2	3	2	4	4	1	5	3
Parks and green spaces	4	1	1	1	1	2	2	1	3	0	1	1
Protected areas	1	2	1	2	1	2	1	3	1	2	1	2
Summer landscape values	2	2	2	2	1	2	3	2	2	2	2	2
Winter landscape values	1	2	2	1	2	2	1	2	3	1	2	2
<b>Total points</b>	<b>15</b>	<b>20</b>	<b>16</b>	<b>15</b>	<b>13</b>	<b>18</b>	<b>12</b>	<b>21</b>	<b>20</b>	<b>9</b>	<b>15</b>	<b>16</b>

Source: Own elaboration

Szczawnica (21 points), Krynica (20), Ustroń (19) and Rabka (18) are characterized by the largest diversity, and the smallest includes Wapienne (9 points) (Table 2).

### 3. Cultural values

Cultural values in addition to natural values also comprise the tourist attractiveness.

Carpathian spas have rich resources of material culture, such as the characteristic, especially for older towns, historic architecture or monuments being a local legacy and museums of the regional culture heritage, as well as variety of tourist and cultural events.

Out of discussed spas, only four spas: Krynica, Muszyna, Piwniczna and Rabka are organizing the international events, which for years are written down into traditions and stories of spas, in other towns numerous festivals and events are held of smaller reach.

In the Spa offer very important are material objects of the popular folk culture, such as open-air museums, museums or smaller units e.g. museum chambers.

The half of towns has museums or museum chambers. The most of them (3 objects) are located in Rabka and Ustrón.

Not only the number of monuments, but also the rank and diversity of objects decide about the town importance. In Sękowa – 5 km away from Wapienne, there is a church of St Filip and Jakub from the 16<sup>th</sup> century, listed in the UNESCO World Heritage site.

Studied spas are also characterized by a richness of sacred architecture and religious sites; there are both churches and numerous Orthodox churches. The rich historical past of the region is also associated with numerous places of memory related to the fighting, which took place during World War I and II.

It is possible to visit Orthodox churches in five Carpathian spas in Krynica, Wapienne Wysowa and in Żegiestów.

Most of Carpathian spas is in towns with the centuries-old tradition, therefore Iwonicz, Krynica, Piwniczna, Muszyna, Rabka, Rymanów, Szczawnica, Wysowa and Żegiestów have wooden buildings mainly from the 19<sup>th</sup> century, are these are above all spa houses, villas or tenements. In addition to wooden buildings, additional attractions are ruins of castles in Muszyna, palace in Iwonicz and manor house in Rymanów.

**Table 3.** Diversity of selected cultural values of the Polish Carpathian spas (2014 year)

Name of the Spa / cultural values	Iwonicz Zdrój	Krynica Zdrój	Muszyna	Piwniczna Zdrój	Polańczyk	Rabka Zdrój	Rymanów Zdrój	Szczawnica	Ustrón	Wapienne	Wysowa Zdrój	Żegiestów Zdrój
Museums in spas	0	2	2	1	0	2	0	2	2	0	0	0
Church monuments (ancient churches, cemeteries, churches, chapels)	2	3	3	2	2	2	3	2	2	3	4	3
Secular monuments (buildings appearing, castles (castle ruins), palaces)	2	1	3	1	0	1	2	1	1	0	0	1
<b>Total points</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>4</b>

Source: Own elaboration

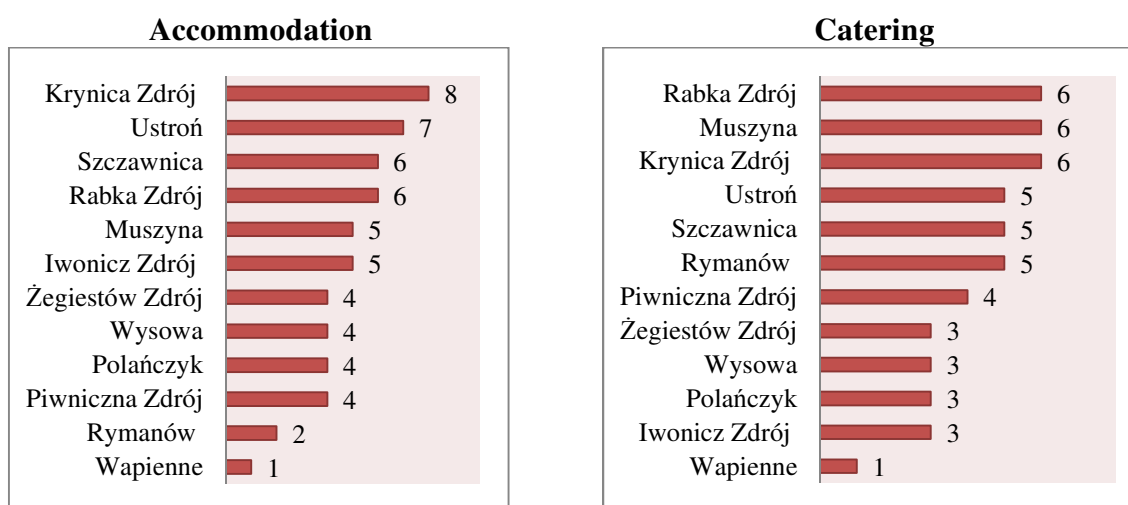
In conclusion, the diversity of selected groups of cultural values such as: museums, sacrum monuments, which included among others: ancient churches, cemeteries, churches and chapels; and secular monuments, which included among others: wooden buildings appearing in spas, castles (castle ruins) and palaces, their general score ranges between 2 and 8 points (Table 3). Muszyna (8) and Zdrój (6) are characterized by the largest diversity of cultural values. However, the smallest diversity includes Polańczyk (2) and Wapienne (3).

In addition to the historic buildings, they have all sorts of cultural facilities that can make the stay in the Spa for tourists and visitors more attractive. Analyzing the public institutions and cultural objects, each spa with exception of Wapienne has cinemas, libraries, bandstands, and the half additionally amphitheaters.

#### 4. Accommodation and catering infrastructure

Both spa centers and tourist accommodation establishment are included in the tourist accommodation of spas. However, considering the tourist attractiveness it is necessary to pay attention above all to the diversification of tourist accommodation.

Zdrój (8) and Ustroń (7) are characterized by the largest diversity of tourist accommodation, and the smallest Wapienne (1) and Rymanów (2). In remaining spas this scoring ranges from 4 to 6 (Figure 1).



**Figure 1.** Summary of the diversity of selected tourist accommodation and caterings in the Carpathian spas (2012 year)

Source: Own elaboration

Also the appropriate catering, next to the accommodation, is an essential condition for the tourism development.

The most diversified catering (Figure 1) have such spas as Rabka, Muszyna and Krynica (6 points), as well as Ustroń, Szczawnica and Rymanów (5 points). The smallest diversified has Wapienne (1 points), there is only a restaurant. Remaining spas obtained 3 or 4 points. Noteworthy is the fact that Polańczyk as the only Carpathian spa offers taverns to tourists and health resort visitors.

#### 5. Associated infrastructure

The main elements of tourist area development are hiking trails, both walking, horseback, bike, ski and water, as well as educational routes or fitness trail. That's why well-developed network of trails predisposes the spa areas for various forms of tourism.

For example, Iwonicz is located on Pope's Route, Wooden Architecture Route and Oil Trail; Krynica on Pope's Route; Polańczyk on Water Trail of the Solina and Myczkowskie Lake; Rabka on Tourist Rail Route through the Carpathians; Rymanów on Wooden Architecture Route, Chassidic Route, Pope's Route and Carpathian Churches Route; Ustroń on Silesia Spas Route, Industrial Monuments Route of the Silesian Voivodeship and Carpathian Road; and Wysowa on the Łemkowska Orthodox Church Route.

Some of the Carpathian spas provide a possibility of water sports. Polańczyk has the best predispositions, because of its location on the Solina Lake it is possible among others

sailing, windsurfing, canoeing. However, in Muszyna, Piwniczna, Szczawnica and Żegiestów it is possible to organize e.g. rafting.

The Carpathian spas by virtue of their location have predispositions for winter tourism. Each of them, with exception of Wapienne, has ski-lifts and ski-runs, and some even cable cars e.g. in Krynica or Szczawnica they are also available in the summer for tourists. In the winter season, in many towns it is possible to use such attractions as skating rinks, toboggan runs or cross-country skiing trails.

Tourists and health resort visitors in most of the spa can enjoy attractive sports-recreational activities, such as, such as: outdoor pools, swimming pools, sports halls, sports courts and tennis courts.

Some of the Carpathian spas have untypical attractions, which distinguish them out of other; e.g. Krynica has cable car to the Parkowa Mountain, Piwniczna can offer tourists rafting down the Poprad Valley, and Szczawnica rafting down the Dunajec River; however Rabka – “Rabkoland” – Family Amusement Park with the area of over 2 ha. Polańczyk offers, due to its location on the Solina Lake, numerous equipment rentals and harbors.

**Table 4.** Diversity of selected associated infrastructure of the Polish Carpathian spas (2014 year)

Name of the Spa / associated base	Iwonicz Zdrój	Krynica Zdrój	Muszyna	Piwniczna Zdrój	Polańczyk	Rabka Zdrój	Rymanów Zdrój	Szczawnica	Ustroń	Wapienne	Wysowa Zdrój	Żegiestów Zdrój
Diversification of routes	3	4	3	2	4	3	3	3	3	2	4	1
Predisposition to water sports	0	0	1	1	2	0	0	1	0	0	0	1
Skiing	1	3	1	3	1	1	1	1	2	0	1	1
Winter sports facilities	0	3	1	2	1	3	0	3	2	0	0	0
Sports and leisure facilities	5	5	5	3	2	5	4	4	3	3	3	1
Additional infrastructure		1		1	1	1		1			1	
<b>Total points</b>	<b>11</b>	<b>16</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>13</b>	<b>8</b>	<b>13</b>	<b>10</b>	<b>5</b>	<b>9</b>	<b>4</b>

Source: Own elaboration

The largest diversity of associated infrastructure (Table 4) has such spas as Krynica (16 points), Szczawnica and Rabka (13 points); whereas the smallest has Żegiestów (4 points) and Wapienne (5 points).

## 6. Communication accessibility

The transport in tourism has a primary importance in meeting needs. It enables to get to the spa, but also moving within the visited region.

All Carpathian spas are situated by the local and national roads. Additionally, Rabka is located 3 km from the express road in construction.

Means of transport in the tourism is mass communication road of the Polish Long-Distance Bus Service and minibuses (large number of private carriers and uneven service quality, made impossible to carry out the analysis of this type of communication).

Analyzing the position in relation to the Polish Long-Distance Bus Service, own stations have such spas as: Krynica, Piwniczna, Rabka, Szczawnica and Ustroń, and the remaining spas have bus stops.

When it comes to the Polish State Railways – the half of discussed spas has own railway stations – Krynica, Muszyna, Piwniczna, Rabka, Ustroń and Żegiestów.

**Table 5.** Communication accessibility of the Carpathian spas (2014 year)

Name of the Spa / communication accessibility	Iwonicz Zdrój	Krynica Zdrój	Muszyzna	Piwniczna Zdrój	Polańczyk	Rabka Zdrój	Rymanów Zdrój	Szczawnica	Ustroń	Wapienne	Wysowa Zdrój	Żegiestów Zdrój
Road transport	2	2	1	2	1	2	0	0	1	0	0	1
Rail transport	1	3	3	3	2	3	1	2	3	1	0	3
Bus transport	0	'	0	1	0	1	0	1	1	0	0	0
<b>Total points</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>4</b>

Source: Own elaboration

The most favorable position relative to wheeled roads, the Polish Long-Distance Bus Service and the Polish State Railways have Krynica, Piwniczna and Rabka (6 points), next Żegiestów, Ustroń and Muszyzna (4 points), the least in terms of availability are: Wysowa (0 points), Wapienne and Rymanów (1 points), remaining spas have received an average score – 3 points (Table 5).

## CONCLUSIONS

Different motives of arrival to spas cause the appearance of different client groups (e.g. health resort visitors or tourists), who have different expectations toward the destination. Therefore, it is important to create attractive tourist products based on the existing potential of values and infrastructures of spas.

Tourism, and consequently development of tourist function in spas is a dynamic phenomenon. The social needs and expectations changes, and health awareness of the society grows.

The Polish Carpathians from at least two centuries became an important tourist area of Poland, and hence the subject of research on tourism. The main cause is mountain value of this area, arousing particular tourist interest [Ptaszycka-Jackowska 2007]. Various forms of tourism can be carried out in the Carpathian statutory spas, both natural and anthropogenic values support it, as well as tourist infrastructure. Tourists can benefit from the recovery of psychophysical force and rest, enjoy qualified (ski, water, bicycle etc.), cultural, congressional tourism, and some spas thanks to the border location also perform the transit (Muszyzna, Piwniczna) or communication function (Rabka).

The Carpathian spas are mutually diversified; each of them has different than other tourist values or infrastructure elements, which constitute its strong point.

Analyzing selected elements comprising the tourism potential of spas, it is possible to notice that there are no towns which in all groups take the first or last place. Each spa has different values than others.

According to Kruczek [2012], Carpathian spas are not only a place of treatment or care for beauty, but also multi-functional tourist resorts. Integration of advantages, development of services and infrastructures allows for all-year-round operation of the spas, thanks to maintaining year-round therapeutic function, at the top of holiday and sports-recreational in the summer and winter season [Kruczek 2010].

The strategic and planning documents of analyzed spas indicate that the local authorities through various investment activities try to make their tourist assets available, and large emphasis is also paid to promotion and development of tourist infrastructure, which thanks to the fact that spas are the multi-functional towns, can be used by both tourists and health resort visitors.



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