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Assessment of Health Resort Potential of The Region Based on Perm Krai.

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ABSTRACT

The market of health resort services is developing thanks to the supporting factors, which together form a functioning health resort system. The basis for the activities of the health resort organizations is natural and curative resources, which are the basis for the provision of medical and health services. In addition to them, the infrastructure, institutional, recreational, historical and cultural sites, as well as human resources, are the important elements of the health resorts. All this together forms a health resort potential of a therapeutic and recreational area. The article presents a description of the health resort clusters of Perm Krai. The assessment of the health resort potential is based on qualitative and quantitative characteristics, taking into account the grade method.

Keywords: health resort potential, resort, scoring, integral index, tourism.

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INTRODUCTION

The degree of knowledge and the problem investigation level. The assessment of the health resort potential was carried out by many scientists in different therapeutic areas using certain procedures. Here are some examples of work that will help to characterize the problem of the study from different sides.

The study and description of the tourist and recreational potential of the Udmurt Republic was performed by M.A. Sarancha (2011). In order to correctly estimate the tourist development of the territory the author developed a lexicographical methodology, which consisted of qualitative analysis of quantitative indicators. A survey of seven experts who assessed the tourism and recreation potential on an ordinal scale of measurement has been performed within the framework of lexicographical study.

In the assessment of the tourism and recreational potential of Nizhny Novgorod Oblast N.N. Girovka (2011) considers the methodological approaches to the allocation of tourist complexes in the areas and their recreational assessments. Recreational assessment of the structure of the area tourist complex was performed using a qualitative assessment and determination of the weighting factor of the tourist complex. The main criterion for assessment is the person's satisfaction of recreational needs presented in the basic model.

E.N. Egorova and O.V. Motrich (2010) determine the economic assessment of tourist and recreational resources as a necessary part of the potential assessment based primarily on an economic assessment of the tourist and recreational potential of the natural environment. According to the authors, in addition to the resource base the feasibility study of the effectiveness of using different areas in terms of tourism and recreation is necessary.

The method of E.N. Egorova and O.V. Motrich (2010) includes the concept of opportunity cost or loss of profits, the modeling of surrogate markets and a number of approaches: integrated, comparative, income approach, which involves the capitalization of the land rent, and the cost approach consisting in determining the cost of replacement, reproduction, recreation and movement of natural and medicinal resources.

Z.A. Trifonova and M.M. Trifonova (2010) assess the tourist potential of the Chuvash Republic on the basis of integrated indicators. The main estimation method was the introduction of an integral criterion as the sum of intermediate indexes. Its ease is in the opportunity of use to address the issues of zoning and land planning of the tourist industry in the region.

A.Yu. Gavrilov (2011) considers the problem of the tourism and recreation potential assessment in a more ambitious plan, and assesses the development of the regions tourist potential method. Through a comprehensive analysis in different regions, the major factors are determined that contribute to the promotion, and, conversely, to the reduction of the tourist area's development potential.

Yu. A. Khudenkikh (2006) assesses the tourism potential on the example of some districts of Perm Krai. The regulatory and comparative method of scoring is used based on objectivity, the use of key performance indicators, relativity and additional correction. The assessment of each score is made taking into account the additional factors, which reflect the degree of tourism and recreational resource development. It was proposed to the scientists to confirm the results obtained after the scoring using the expert estimations, but the author of the methodology notes a number of problems that may arise due to a lack of competent specialists.

Thus, as shown by theoretical analysis of some papers, the assessment of the health resorts and tourist potential of certain districts is a topical issue. Further planning of tourist and recreational area development, including the prospects for the implementation of medical and health tourism, is possible (Yalyalieva, T.V., Murzina, E.A., 2015). However, the proposed approach does not allow for a comprehensive assessment of the health resort potential of the territory and requires further development.

Characteristics of the health resort areas of Perm Krai

The health resort potential is a complex system consisting of the following components: natural curative, historical, cultural, and recreational resources, material and infrastructural facilities, organizational and administrative conditions for the organization of health-improving and recreational activities (Fig. 1).

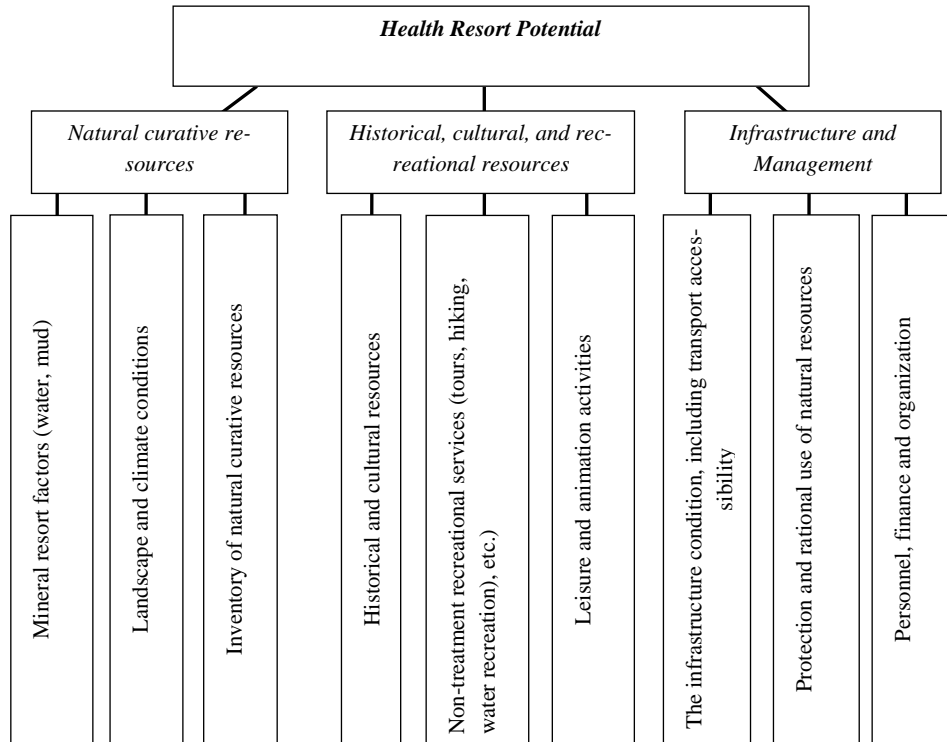


Fig. 1. Health Resort Potential (Oborin, Mingazinova, Frolova, Plotnikov Vladimirskiy, Kayachev, 2014)

Natural curative resources include two groups of factors: mineral and resort factors, which include mineral water and mud, landscape and climatic conditions of the area, a list and description of which are represented in the inventory of natural curative resources, which are the methodical basis for their use in the health improvement of the population (Pabian A., Pabian B., 2014; Jelonek D., Stepniak C. 2014)

Often they determine the full therapeutic potential of health and resort area, and cause its future development. For example, in the Perm Krai 31 types of mineral waters were explored, which have been tested and have therapeutic significance. The landscape and climatic conditions of the terrain, virtually in all parts of Perm Krai, are favorable for health resort activities.

Historical, cultural and recreational resources include a group of historical and cultural resources, services of non-therapeutic and recreational character, which include sightseeing, hiking, water recreation, leisure and animation activities, and others.

Infrastructure and management unit plays an essential role in the work of the entire health resort complex. The infrastructure of the sanatorium resort organizations includes medical units, the extraction and use of natural curative resources, household unit, recreation facilities, administrative and financial part, vehicle access and car park, etc. The units of educational and scientific organizations operate on the basis of a number of SRO.

Thus, the health resort potential combines many factors, due to which the sanatorium organizations can exist as an actively working system.

According to a study of M.S. Oborin (2014), 7 health resort clusters and two subclusters were allocated on the territory of Perm Krai.

The presented division of the Perm Krai area takes into account the results of the analysis of the various factors that have both direct and indirect effects on the development of health resort activities.

The Northern health resort cluster consists of two sub-districts. **The Northwestern sub-district** is represented by the territory of the former Komi-Permyatski Autonomous District (Gainsky, Kosinsky, Kochevskiy, Yurlinsky, Kudymkarsky, and Yusvensky Districts) and the **Northeastern sub-district**, which includes Cherdynsky and Krasnovishersky Districts. The Northwestern district has a significant number of proven, but little used healing mineral waters. The area itself has favorable microclimatic features and landscape diversity.

Zhemchuzhina Vishery sanatorium (200 seats), Severniy Ural and Cherdyn-Tour recreation centers are located in the territory of the Northeastern sub-district.

The Solikamsko-Bereznikovskiy cluster is composed of Usolsky and Solikamsky Districts, as well as the city of Berezniki. Such health and recreation resorts as Chaika, Uralkaliy, Azot, Solikamskiy Magnieviy Zavod, Ural, Lesnaya Skazka, and Rosinka spa resort are located in its territory, and the business, historical and cultural tourism is also developed. The total capacity of the resorts is 368 seats. The use of speleotherapy is developed due to Verkhnekamskoye – the world's largest deposit of mineral salts in the territory of the district. In addition, there are mineral waters of chloride-sodium composition and therapeutic muds.

The Central cluster includes Ilyinsky, Dobrienskiy, Karagayskiy, Okhansky, Permskiy, Nytvenskiy, and Krasnokamskiy Municipal Districts and the city of Perm. It is the largest health resort cluster, in whose territory the maximum number of sanatorium organizations is located. The total occupancy of more than 3,423 people in the health resorts is possible. It is composed of the district's largest resort Ust-Kachka, Demidkovo and Uralskaya Venetsiya health resorts, Vita, Bumazhnik, Atlant, Volna, Uralskiy, Almed, Rodnik, Kamkabel, Sosnoviy Bor, Lesnaya Polyana, ApiSpa, Vita, Atlant health and recreation centers, as well as the following recreation facilities: Politechnik, Burovaya Technika, Russkaya Usadba, Zhebrey, Allyur, Polazna, and Sloboda. Thanks to the central position of the territory, the microclimate has an exercising influence on the person. Kama River is the main waterway. Rich health resort and cultural and historical potential contributes to the development of tourism in the area.

The Western health resort cluster includes Sivinsky, Vereshchaginskiy, Ocherskiy and Bolshe-Sosnovskiy Districts. It is characterized by massive boreal areas, pine forests, plain and hilly landscape. The favorable temperate continental climate, the large number of water bodies, including rivers, lakes and ponds, particularly attract travelers and lovers of fishing. Ryabinka resort, which is designed for 145 people, is located in its territory. This is the area of spread of rural tourism, natural history tours, and fishing recreation.

The Gornozavodskiy cluster integrates Alexandrovskiy, Chusovoy, Lysvenskiy, and Gornozavodskoy Districts and the following cities: Kizel, Gubakha, and Gremyatskiy. The following health and recreation resorts are located in its territory: Alit, Rodnik, Tayozniy, Metafraks, Berezka, and Metallurg. The district is characterized by a variety of landforms, such as the low mountains turning into mountains. Mineral waters of various types were identified, and the deposit of therapeutic muds was found in Vilva locality. There is located the Basegi state resort as well as a developed system of specially protected natural sites. A significant number of natural monuments attract tourists, and these include Pashiyskaya and Pervomaiskaya caves, mountain rivers, through which the alloys are organized – Vilva, Koiva, Vijay, etc.

The Southeasternt (Cis-Ural) health resort cluster includes Berezovskiy, Kungurskiy, Ordinskiy, Suksunskiy, and Kishertskiy Districts. Its territory is characterized by soft micro-climatic conditions, the combination of different types of landscape areas – water-meadow, meadow, forest-steppe and forest areas. The district is rich in mineral deposits of external use waters, for example, hydrogen sulfide and bromine waters, which are widely used by the Klyuchi and Krasniy Yar resorts. Suksunskiy silt muds have a healing effect and are used for healing in many health resorts of Perm Krai and beyond its borders. The speleo-excursion, historical and cultural, event, business, and scientific tourism are widespread.

The Southern cluster combines Chastinskiy, Osinskiy, Elovskiy, Tchaikovskiy, Kuedinskiy, Bardymskiy, Chernushinskiy, Uinskiy, and Oktyabrskiy Districts. The following health resorts are functioning on its territory: Zhemchuzhina, Chaika, Kamskie Zori, Izumrud, and Zdorovye. The area has a warm and dry climate in summer time, and in winter there can be much colder than in the northern regions. The natural mineral water reserves of Osinskoye

deposit are extensively used for the treatment at the Zhemchuzhina resort. The variety of landscape areas and water facilities reconcile with the historical, cultural and ethnographic objects.

Thus, the Perm Krai territory has a high potential for the development of health resort activities. This is supported by a variety of natural curative resources, landscape and climatic features of the terrain, the presence of infrastructure and recreational facilities, natural, historical and cultural monuments.

Assessment of the health resort potential of the region based on Perm Krai

The quantity and quality assessment of the potential of each selected cluster of Perm Krai in terms of development of health resort activities was carried out within the framework of the study. Among the criteria which should be assessed, we offer the following:

- availability of existing hydromineral base;
- the possibility of using the potential resort resources;
- favorable landscape and climatic conditions of the area used in health and resort activities;
- the existing network of health resort organizations;
- the development of the health resort infrastructure;
- the availability of the tourist resources in the health resort area;
- the availability of transport infrastructure (roads of different levels), etc.

Each factor of the health resort cluster was assessed by quality and quantity, then the integral factor of significance for the development of health resort activities was assigned to it, and then the relative ratio was calculated. The methods of assessment by an integral indicator involve the following steps:

- Scoring scale development. 1 point – minimum availability; 2 points – above minimum; 3 points – medium provision; 4 points – above medium; 5 – maximum availability.
- Assessment of the health resort potential by components:
 - The natural curative resources (both used and potential ones) included the following groups – mineral drinking water and water for balneological use, therapeutic muds, the climate-friendliness and the landscaped terrain. The expert assessment of the potential by the health resort clusters is presented in Table 1.

Table 1. Assessment of natural curative resource potential in the territory of the health resort and recreational clusters

Health resort cluster	Natural curative resource				
	Mineral waters for balneological use	Mineral drinking waters	Therapeutic muds	Climatic conditions	Landscapes
Northern	3.0	1.0	1.0	2.5	4.7
Solikamsko-Bereznikovsky	3.0	2.0	1.0	3.2	3.5
Western	1.0	3.0	1.0	2.6	2.0
Central	4.1	4.0	1.0	4.5	3.5
Gonozavodsky	3.0	2.0	1.0	3.0	4.4
Southeastern	5.0	5.0	5.0	5.0	4.0
Southern	1.0	2.0	5.0	5.0	3.6

The assessment was based on the provision with various kinds of natural medicinal resources.

- The resort infrastructure includes three units: basic, supporting and auxiliary. The basic one consists of the infrastructure of extraction and use of natural medicinal resources, medicinal, recreational, scientific and research infrastructure. The auxiliary unit is represented by hospitality infrastructure, social, econom-

ic, cultural and historical, and recreational facilities, improvement, leisure and entertainment infrastructure. The supporting unit is represented by the administrative and financial, information and communication, road transport, agriculture, forestry and trade infrastructure. The assessment results are shown in Table 2.

Table 2: Assessment of the potential of the resort infrastructure of health resort areas

Health resort cluster	Resort infrastructure		
	Basic	Supporting	Auxiliary
Northern	3.0	3.0	1.4
Solikamsko-Bereznikovsky	4.2	3.5	3.5
Western	2.0	2.0	2.0
Central	5.0	4.5	5.0
Gonozavodsky	4.0	3.2	3.0
Southeastern	5.0	4.0	3.8
Southern	4.0	3.0	3.0

The authors of the article were the experts, and the approaches to assessment are presented below.

- Transport accessibility was estimated based on the district remoteness from the administrative center, as well as the main roads and railway branches, the major stations were considered.
- Staff assessment was performed by analyzing the number of doctors, nurses, attendants and administrative staff. In addition, the possibility of training of health workers at the university and tertiary education institutions was taken into account.
- Number of sanatorium resort organizations on the territory of the health resort cluster.
- The number of allocated persons was estimated taking into account the capacity indicator in the sanatorium resort organizations of the cluster.
- Recreational resources were considered from the point of view of natural sites, historical and cultural monuments, attractions of the cluster. In addition, the clusters having a large number of recreation facilities were assessed taking into account the correction factors. The assessment of recreational resources is presented in Table 3.

Table 3: Assessment of recreational resources in the health resort clusters

Health resort cluster	Recreational resources		
	Natural sites	Historical and cultural sites	Sights
Northern	5.0	5.0	4.0
Solikamsko-Bereznikovsky	3.0	4.0	3.0
Western	2.5	2.0	2.0
Central	3.5	5.0	4.5
Gonozavodsky	4.0	4.0	3.5
Southeastern	3.0	3.0	3.0
Southern	3.2	3.0	3.2

- The availability of specially protected natural reservations is an important indicator for the health resort potential because the protected areas of the unique nature form a favorable environment for treatment and rehabilitation.
- It is also important to assess the ecological status, because the industrially contaminated areas, even those rich with natural medical resources, may not fully restore and enhance human health. A clean state of the health resort area is highly valuable for the recreants.

A score was assigned to each indicator, and reflected the level of development of the resource within the health resort activities in a particular cluster.

- Calculation of average scores on the health resort area, depending on the capacity analysis results by all the components listed.
- The introduction of the correction factor, which took into account the role of the health resort factors in the development of the health resort services.
- Use of generalized assessment results to develop proposals for the use of the health potential of each cluster.

The results of the assessment of the health resort potential by the allocated areas are presented in Table 4.

Table 4. Calculation of the integral index for health resort clusters

Health resort potential criteria	health resort clusters						
	Northern	Solikamsko-Bereznikovskiy	Western	Central	Gonozavodskiy	Southeastern	Southern
Natural curative resource	3.2	3.5	2.4	4.3	3.0	4.8	3.8
Resort infrastructure	2.3	3.8	2.0	4.5	3.5	4.3	3.6
Transport accessibility	1.8	4.6	4.1	5.0	4.2	4.8	4.6
Staff	2.0	3.4	2.5	5.0	3.2	4.2	3.6
Sanatorium-resort organizations	1.0	2.5	1.0	4.8	3.2	3.6	3.6
Number of placed persons	2.0	3.0	1.5	5.0	3.5	4.5	3.0
Recreational resources	4.3	3.0	2.1	4.8	4.0	3.0	3.4
Presence of SPNR	4.7	2.5	4.3	3.0	3.5	4.0	3.5
Ecological condition	4.8	4.2	2.4	2.5	3.5	3.9	3.6
Total	2.8	3.2	2.4	4.8	3.5	4.5	4.0

CONCLUSIONS

During the assessment of health resort potential of allocated clusters of Perm Krai, it was found that the Central cluster has the largest health resort potential characterized as the "above average availability" – 4.8 points, Southeastern – 4.5 points, Southern – 4 points.

The Central health resort cluster has the greatest value of "maximum availability" of health resort potential, but there is not enough number of natural objects that can be used for relaxation and recreation. Moreover, the ecological condition of the region is worsening due to high traffic load because Perm is an administrative center of Perm Krai, and a large number of industrial enterprises make emissions of hazardous substances and have a negative impact on the composition of air, water and soil. An increase in the number of different methods of natural mineral waters use thanks to new fields, which are now potential, can be considered as promising in the Central cluster.

The Southeastern health resort cluster is developing through the Klyuchi resort, which is the oldest health resort of the Urals. Favorable environmental conditions, salubrious climate, the attractive landscapes, rich cultural and historical heritage attract tourists and vacationers. However, the low level of development of infrastructure complex, a small amount of sanatorium-resort organizations, and the insufficient number of

recreational facilities reduce the cluster attractiveness. Upgrade of infrastructure complex, an expansion of the network of sanatorium-resort organizations, increasing the number of recreational resources is necessary for intensive development of health tourism.

The Southern cluster has a unique health resort potential. A small amount of natural mineral waters, which can be used for treatment and rehabilitation, represent the problems of perspective development, but the climate of the area has a healing and exercising influence on a person. The low level of infrastructural complex and a small number of qualified personnel, a small amount of the sanatorium-resort organizations, a small number of recreational facilities and low environmental condition of the area due to the high level of industrial development of the region reduce the health resort potential of the cluster.

The indicator of "average availability" of health resort resources is characteristic for the Gornozavodsky cluster – 3.5 points, and the Solikamsko-Bereznikovskiy cluster – 3.2 points. The resort infrastructure is at the low level of development, and the region is characterized by a small number of sanatorium-resort organizations. The expansion of the sanatorium-resort organizations through the use of back-up sources of mineral waters is a perspective one, and can serve as an important impetus for the development of health tourism.

"Above the minimum" characteristics of the potential availability is observed in the Northern district – 2.8 points and Western district – 2.4 points. Poor accessibility, sparsely populated regions, adverse climatic conditions are the factors that deteriorate the possibility of development of health resort activities. The prospect of development of the area is seen in the increase in the number of sanatorium-resort organizations using local natural medicinal factors which requires the development of transport infrastructure, which will lead to improved transport accessibility SRO. The Western cluster, in the long term, should be developed, including through the development of the health resort activities based on the use of available natural resources of mineral waters.

SUMMARY

Thus, the Perm Krai Territory has a significant health resort potential. This is especially characteristic for the Central, Southeastern and Southern clusters. However, certain problems of development of health resort complex, as a whole, and the individual health centers, in particular, often require significant funding.

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