

Denis V. Nikityuk
Konstantin K. Krasovsky

Brest State University
Brest
denikityuk@gmail.com

FORMATION OF THE BREST REGIONAL TOURIST CLUSTER

KSZTAŁTOWANIE SIĘ BRZESKIEGO REGIONALNEGO KLASTRA TURYSTYCZNEGO

Zarys treści: In the article the territorial reflection of allocation of a regional cluster is considered. As a basis of the research the concept of a cluster as a branch of the geographical agglomeration was used. The technique of allocation of a regional cluster as the example of the Brest region (Belarus) is offered and approved.

Key words: tourist region, cluster, agglomeration, tourist destination, regional tourist cluster
Słowa kluczowe: region turystyczny, klaster, aglomeracja turystyczna, regionalny klaster turystyczny

Introduction

Tourism and recreation represent the integral element of the social and economic development of regions. Currently, tourism and recreation not only provide the restoration of psychophysical forces of the population and promote the increase of cross-cultural communications, but also are the independent branch of the economy providing the development of the centers, and peripheral zones of regions. Tourism and recreation act as the largest land user who uses the most valuable land resources (natural and cultural landscapes) from the ecological and economic points of view. Besides land resources, an important role is played by such factors of production of tourist services as the manpower, the capital of the region, the investment, the innovations, and also the character of the arrangement according to the main interregional and international centers of demand. The whole set of factors of production of the regional tourist product is reflected in its competitiveness. The effective form of the territorial organization of the enterprises of the industry and tourism infrastructure is necessary for the

creation or the increase of competitiveness of the regional tourist product. In the territory of The Republic of Belarus during the Soviet stage of the development the spatial organization of the enterprises of a tourist and recreational complex is considered as result of the formation of the territorial recreational system (TRS). The most important scientific works concerning the territorial organization of tourism and recreation during the Soviet and Post-Soviet periods belong to I.I. Pirozhnik (Pirozhnik 1985, 2008). TRS of Belarus had the territorial embodiment reflected in tourist and recreational division into districts. Currently, 18 tourist and recreational areas (Pirozhnik 1985, 2008) (tourist regions) are allocated in Belarus, in which internal processes of territorial differentiation of the tourist product are observed, that is caused by the emergence of intradistrict destinations. Territorial differentiation leads to emergence of the internal competitive environment and strengthening of competitive positions of the separate enterprises and their agglomerations at the regional and international market of tourist services. At present geographical agglomerations of the enterprises of tourism and recreation are a source of the competitive advantage of the region due to the economy from the measure of production (Krugman 1991; Lindqvist 2009). According to M. Porter, treat sources of competitive advantages of regions are: “the related and supporting branches”, “the conditions for factors”, “the context of the strategy and the rivalry”, “the conditions of the local demand” (Porter 2003). The competitive advantage “the related and supporting branches” under certain conditions M. Porter considers as a cluster (Porter 2006). The geographical community of an arrangement and interrelation of the enterprises on the basis of interaction act as conditions. A little differently the term “cluster” treats M. Enright, focusing attention on the spatial process of the agglomeration and the competition of the enterprises. In the concept of “a regional cluster” of M. Enright “the cluster is a geographical agglomeration of the firms working in one or several related branches of economy” (Enright 1996). In case of the tourist region the cluster of enterprising initiatives should be considered as a set of the same, or identical enterprises of the small and medium business which are competing among themselves for factors of production and product markets, but having a common goal – strengthening of the appeal of the region or the separate destination. In a situation in which within one tourist region there are some destinations, the system of relationship between the enterprises becomes more complicated due to the competition between destinations. The objectives as “the strengthening of the appeal of the region” are achieved by the implementation of joint events, the infrastructure, the investment and other projects. In this work we will consider the opportunity of the formation of the tourist regional cluster in the Brest tourist region.

The sources of competitive advantages of the region marked out by M. Porter have the territorial refraction and are expressed in factors of the placement, the territorial competition, the territorial organization of the enterprises of a tourist and recreational complex (cluster) and their consumer markets. Therefore, the cluster as a source of regional competitiveness is a derivative element of the territorial organization of a society. The regional tourist cluster represents a communication form (rivalry and/or cooperation) of a set of the enterprises of the small and medium business making the same production (services) concentrated round one consumer, scientific, industrial center in the space limited by the regional borders. The regional tourist cluster is formed in centro-peripheral system of the region as the result of a process of polarization of its

economic space, but thus forms genetic linkages with the big city (number of the population more than 100 thousand people). The big cities act as the center of demand, the territorial administration, the training and distribution of innovations.

Research technique

Separation of a regional cluster as the new form of the territorial organization of tourism and recreation is the most proved to make on the basis of results of the analysis of statistical data.

At the first stage a task is definition of a state and tendencies of development, namely the growth in the sphere of tourism and recreation of the region. The analysis of a tourist branch of the region is necessary, for which the indicators of export and import of tourist services, the number of visits, the structure of employment of the population and the volume of financial means from tourism which came to the region and their territorial differentiation are used for this concrete purpose. For the establishment of recreational selectivity of locals sociological examination was conducted.

The technique of allocation of tourist clusters is based on methodology of social and economic geography and includes the tasks presented in Figure 1. For determination of the amount of the most intensive contacts within a market zone of the big city we use an indicator of an intensity of trade streams (Fam) (from gravitational model of V. Rayleigh (Reilly 1931)).

Object	Indices
The definition of the market localization of the enterprises of tourism and recreation	<p>Localization coefficient</p> $LQ = \frac{Emp_{ij}}{Emp_{it}} + \frac{Emp_{nj}}{Emp_{nt}}$ <p>where Emp_{ij} – the number of occupied in j-sector i-region; Emp_{it} – the general number occupied in i-region; Emp_{nj} – the number of occupied in j-sector in the country in tote; Emp_{nt} – the general number of occupied in the country.</p> <p>Specialization coefficient</p> $S_y = \frac{Y_o}{Y_p}$ <p>where Y_o – the specific weight of the region in the country according to this branch; Y_p – the specific weight of the region in the country according to the whole branch.</p> <p>Coefficient of per head production</p> $\sigma_{\Delta} = \sqrt{\frac{\sum_j^m (D_j - \bar{D}) \times S_j}{\sum_j^m S_j}}$ <p>where D_j – the commodity circulation per head of the j-region; \bar{D} – the medium commodity circulation per head according to all regions; S_j – the number of the population of the j-region; m – the number of j-regions.</p>

Identification of a level of monopolization of the market of tourist services and agglomerative processes in vacation spots	Agglomerative index of Ellison-Glazer	
	$VEG_k = \frac{G_{SEG_k} - HHI}{1 - HHI}$	
	Index of spatial concentration of the region	Index of Harfindal-Hirshman
	$G_{SEG_k} = \sum_i \frac{(S_{ki} - S_i)^2}{1 - S_i^2}$	$HHI = \sum_{f=1}^{F_k} Z_{kf}^2$
	<p>where</p> <p>k – the type of economic activity;</p> <p>i – the geographical districts of the region;</p> <p>S_{ki} – the part of the type of the economic activity k of the geographical district i in the whole occupation in the type of the economic activity k in the district;</p> <p>S_i – the part of the geographical district i in the aggregate occupation in the region.</p>	<p>where</p> <p>f, k – the enterprise f related to the type of economic activity k;</p> <p>Z_{kf} – the part of the occupation of the enterprise f in the type of the economic activity K in the region.</p>

Fig. 1. A technique of the definition of the geographical localization and identification of a level of monopolization and agglomeration in vacation spots (Mirolyubova 2012)

Ryc. 1. Technika definiująca lokalizację geograficzną i identyfikującą poziom monopolizacji rynku usług turystycznych oraz procesów aglomeracyjnych w miejscach wypoczynku

The analysis of the sphere of tourism and recreation in the Brest region

Brest tourist region is a southwest part of Belarus which differs in rich natural and cultural tourist resources. Includes 8 administrative regions in the territory of which 704 thousand people live. Economic indicators of the condition of tourism in the Brest region in 2013 differ in their positive dynamics. So, export of tourist services made 18.4 million of dollars of the USA at the planned value of 15 million dollars of the USA. In comparison with 2010 the indicator grew by 1.6 times. Growth rate of export of tourist services made 141.9% at the plan of 111.5%. Specific weight of export of this type of service in a total amount of export of foreign trade of services of the Brest region in two years grew by 1.4 times to 6.8%. During a row of the last years the steady tendency of growth of the main economic indicators characterizing development of the entrance tourism is observed. It should be noted the tendencies which are observed for the last five years (the period of 2008-2013) which are connected with the increase in volume of export of tourist services by 5.3 times (from 3.5 million dollars of the USA to 18.4 million dollars of the USA) and the positive balance which increased by 9.3 times (from 1.5 million dollars of the USA to 14.0 million dollars of the USA). According to National statistical committee of Republic of Belarus the number of the foreign citizens who visited the Brest region during 2008-2013 considerably exceeded the indicators of other regions that is the confirmation of a role and a place of the region in a development of the international

tourism of Belarus. Total number of the arrived foreign visitors to the Brest region over the last 5 years (2008-2013) increased by 3 times – from 55.9 thousand people to 167.1 thousand people. The number of foreign visitors for the same period at the main units of tourist display increased by 2.6 times from 23 thousand people to 60 thousand people. The positive trend of the increase of the number of foreign tourists comprises the increase of competitiveness of a regional tourist product at the international market. However it should be noted the decrease of number of the organized tourists who visited the region in 2013 for more than 18% in relation to 2011. At the same time, the positive fact is the increase by 1.6 times of number of visits by foreign citizens. On office, tourist and private trips in 2012 the Brest region was visited by 178,060 people (45% of them visited Brest). In Figure 2 the number of the foreign tourists served by various types of the enterprises in a section of areas of the Brest region is presented.

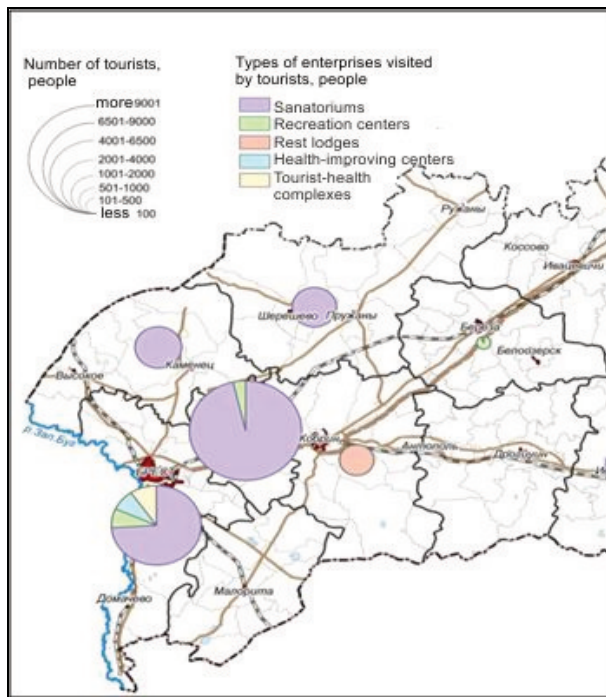


Fig. 2. The number of foreign tourists served by types of enterprises, 2013 (The data on the main indicators... 2014)

Ryc. 2. Liczba turystów zagranicznych obsługiwanych przez określone typy przedsiębiorstw, 2013 r.

Territories with competitive advantages form cones of the offer and the demand for a tourist product. In the capacity of the element which reflects the location of tourist enterprises there is “the offer curve” on graphics, which in case of formation of market space of the realization of tourist services, opens territorial structure of the tourist and recreational enterprises. We will consider the features of the distribution

of the enterprises according to the cost of stay in the limits of the allocated directions of the trips (transport segments) (Fig. 3). The composition of the cost of stay includes the placement in a double room with the basic number of services within a day.

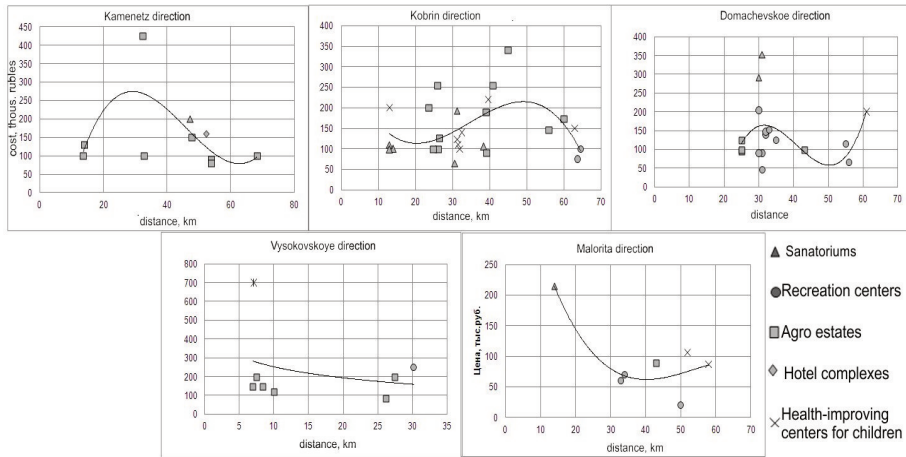


Fig. 3. The cost of the stay in the enterprises of tourism and the rest according to the direction of trips (the price for August, 2012)

Ryc. 3. Koszt pobytu w przedsiębiorstwach turystycznych, zgodnie z kierunkiem wyjazdów (cena z sierpnia 2012 r.)

On the kobrinskiy, domachevskiy and kamenetskiy directions the concentration of the enterprises and the growth of the cost of stay is observed. It confirms the existence of the territories with the developed tourist specialization on these directions, which are the centers of the attraction for the enterprises of the recreational sphere: the kamenetskiy direction (a destination – national park “Bielowiezskaya Pustcha”); the domachevskiy direction (a destination – the resort of the local value “The White Lake”); the kobrinskiy direction (a destination – a recreation area “Pine Forest”).

In a zone of a short-term rest (to 40 km) the concentration of the enterprises with the growth of the cost of stay round Brest is observed (orientation to the city infrastructure, to the demand of residents and to the city as a transport receiving node of the interregional and international tourist streams). From the analysis of schedules of the visokovskiy and maloritskiy directions of trips it is possible to establish the pointed and focal nature of the distribution of the enterprises of the industry of tourism which testifies to a competition origin stage. In a zone of the week-end rest and the holiday rest (maloritskiy and vysokovskiy directions) the natural recession of the cost of stay is observed, which is caused by the lack of tourist destination (the centers of the concentration of the tourist offer). By the consideration of schedules it is obviously possible to make a conclusion on the formation of the “offer cones” – the graphic display of the dependence of number of the tourist and recreational enterprises on the cost of stay and the distance to the central place. The cone of the offer is the reflection of the concentration of tourist services. As the centers of cones act: the residential suburbs of

Brest, Kobrin and Kaments; the resort of the local value “The White Lake”, the recreation area “The Pine Forest”, and also the national park “Bielowieszkaya Pustcha”.

An important role in the Brest region is played by the internal tourism. Following the results of 2013 the volume of the income from internal tourism grew in comparison with 2010 by 36.4 times and made 47.3 billion of BYR. It should be noted the absence of data on a place and a role of unorganized independent trips of the local population in the region. This tourist stream is hidden as it isn't considered in the official statistics. In view of current situation there is a need of the additional research of the tourist selectivity of vacation spots by the population of the region. As the type of the research the questionnaire survey was chosen, which purpose was the determination of the spatial and functional features and regularities of the recreational selectivity of residents of Brest. 300 people took part in the questionnaire survey. Men (72%) and women (28%) with the highest (38%) and specialized secondary education (62%) who are married (90%) and have children under 18 years (71%) acted as respondents. The number of respondents at the age of 25-34 years made 53%, 45-54 years – 25%, 18-24 years – 14% and 35-44 years – 8%. Thus, mainly active, financially independent residents of Brest acted as respondents.

In the statistical model of the recreational selectivity of the short-term rest, both in summer, and in winter seasons the greatest number of the population prefers having a rest within the city limits. Especially it is accurately expressed during the winter period (Table 1).

Table 1

Structure of the recreational selectivity of vacation spots of residents of Brest, in %

Tabela 1

Struktura miejsc wypoczynku mieszkańców Brześćcia w %

Vacation spots	The short-term		during holiday
	in summer time	in winter time	
Rest within the city	33	69	26
In the country in a natural landscape (unorganized rest)	22	10	16
Housing estate, or garden association	19	14	18
Agroecoestate (organized rest)	1	1	16
Recreation center, sanatorium, etc. (organized rest)	5	6	1
At relatives in rural areas	20	–	11
Abroad	–	–	12

The general regularity of recreational selectivity of residents of Brest is the prevalence of unorganized forms of the rest, with the prevalence of recreational occupations within the city. It testifies to the low level of recreational mastering of the suburban space by the local population. However it should be noted that during the summer period unorganized rest in natural landscapes (in the country in a natural landscape) is preferred by 22% of the respondents. This fact can be considered as the potential of the increase of the tourist offer for this segment of the demand.

The vacation spots which are the most demanded among respondents are removed from Brest more than for 30 km. At this distance from the city 35% of total number of respondents prefer having a rest. Thus it should be noted that 27% do not leave the city boundaries during a short-term rest, and 17% of them have a rest on beaches of Brest. In a residential suburb of Brest the most preferable rest is on the coasts of lakes like The White and Rogoznyanskiy lakes (26%), the river Lesnoy (17%); Mednyanskiy lakes (14%); Katasha's lakes (8%); rivers Mukhavets (4%). 14% of the total number of respondents is not attracted by the opportunity of having a rest in the Brest region. On the basis of the answers of respondents it is possible to conclude that vacation spots with rather high extent of tourist development and considerable remoteness from the urbanized territory that comprises the aspiration to change the environment during the rest at preservation of comfortable conditions of stay are the most demanded.

Indicators of market localization of the enterprises of tourism and recreation in administrative-territorial regions of the Brest region are presented in Table 2.

Table 2

The market localization of the enterprises of tourism and rest

Tabela 2

Lokalizacja rynkowa przedsiębiorstw turystyki i wypoczynku

Administrative-territorial areas	The quantity of sanatoria and health resorts, health-improving, etc. special means of placement, items		The list of the number of workers, people		One thousand people is accommodated		The factor of the localization of the production of tourist services	The factor of the per head production of the tourist services	The factor of the specialization
	2008	2013	2008	2013	2008	2013	2013		
Brest region	28	38	1202	1585	75.4	109.5	1.02	1.27	1.02
Brest	3	4	56	75	6.7	13.7	0.08	0.169	0.08
Brest area	10	14	344	482	28.5	25.5	0.90	1.79	1.00
Berezovskiy area	2	3	41	61	1.8	2.2	0.38	0.27	0.40
Drogichinskiy area	1	1	10	12	0.17	0.3	0.48	0.44	0.16
Zhabinkovskiy area	4	5	294	368	18.0	17.9	1.04	1.50	0.30
Kamenetskiy area	1	1	136	136	2.3	4.7	1.20	1.97	0.70
Kobrinskiy area	3	6	118	235	9.9	10.1	1.07	1.52	0.84
Maloritskiy area	2	2	11	14	0.9	5.0	0.39	0.18	0.15
Pruzhanskiy area	2	2	192	202	7.0	9.5	0.90	1.80	1.09

On the basis of the analysis of indicators of the market localization to the areas having the marked tourist and recreational functions enter Brest with Brest, Zhabinkovskiy, Kamenetskiy, Kobrinskiy and Pruzhanskiy areas. Within the Brest region settlements are connected by the most intensive trade stream (Fam): Brest with Kobrin

(5.08), Zhabinka (3.1), Kaments (2.3), Visokoye (1.1) and Malorita (0.9). Therefore, the territories limited by the transport communication “Visokoye – Kamenets – Kobrin – Malorita – Domachevo” are a market zone of the Brest tourist region. Placement of the tourist and recreational enterprises within market zones is caused by the competition on the basis of the location. In connection with this the purpose of business is the obtaining of the competitive advantage at the expense of an arrangement in places with the concentration of recreational resources, infrastructures, in a zone of the consumer activity and the innovative stream. Tourist destinations differ in specialization, number of the occupied population, commodity turnover, volume of the served visitors, the level of monopolization and agglomerative processes (Table 3).

Table 3

A functional condition of tourist destination as a part of the Brest regional tourist cluster, 2013

Tabela 3

Funkcjonowanie obszarów turystycznych brzeskiego regionalnego klastra turystycznego, 2013

Tourist destinations	Types of enterprises	Number of enterprises	Number of served people	Specific weight, number of served people, %	Specific weight in a commodity turnover of a cluster, %	Number of population employed in tourism	Index of Ellison-Glazer	Index of Harfindal-Hirschman (HHI)	Index of spatial concentration of the region (factor)	Factor of localization	Factor of production of tourist's services per head	Factor of specialization
Recreation area “The Pine Forest”	sanatoriums	3	16 432	50.6	60.3	329	1.77	0.01541	1.7820	1.06	0.9	4
	recreation centers	2	896	2.8	0.3							
	health-improving centers	2	1 952	6.0	3.0							
	health-improving centers for children	4	11 199	34.5	36.2							
	agro estates	15	1 987	6.1	0.2							
	<i>in total</i>	26	32 466	100	100							
National park “Bielowieszkaya Pustcha”	sanatoriums	1	3 413	54.7	88.3	53	0.022	0.00114	0.0208	1.90	0.2	4
	hotel complexes	4	1 358	21.8	11.1							
	agro estates	15	1 472	23.5	0.6							
	<i>in total</i>	20	6 243	100	100							
Resort of the local value “The White Lake”	sanatoriums	1	7 720	29.3	63.5	181	1.98	0.00376	2.0150	1.73	0.5	6
	recreation centers	14	7 983	30.3	5.5							
	rest lodges	2	1 249	4.7	0.2							
	health-improving centers	2	2 670	10.1	21.5							
	tourist-health complexes	3	6 023	22.9	9.2							
	agro estates	6	708	2.7	0.1							
	<i>in total</i>	28	26 353	100	100							

The analysis of the indicators reflecting a functional condition of tourist destinations allowed to conclude:

- 1) the enterprises of tourist destinations are focused on realization of health-improving and recreational (a destination “White Lake”), medical and improving (a destination “Pine Forest”) and tourist and informative (a destination “Bielowiezskaya Pustcha”) needs of visitors. The specialization coefficient in clusters makes from 4 to 6, coefficient of per head production – from 0.5 to 0.9;
- 2) the analysis of settlement indexes of Harfindal-Hirshman allows to refer the market of tourist and recreational services of the Brest region to the low-concentrated type (HHI 0.1). It testifies to lack of processes of monopolization and to the potential of the development of tourist and recreational clusters by an intensification of competitive partnership between entities of clusters;
- 3) the integrated index of Ellison-Glazer testifies to the developed agglomeration in the destination: “The White Lake” (1.98) and “The Pine Forest” (1.77). Minimum necessary value of an index is 1.5 (Nikityuk 2012).

Concentration of local tourist destinations within market zones of the big city is a regional tourist cluster. The spatial configuration of tourist destinations is result of an agglomeration, the competition, cooperation and differentiation of tourist products and forms the territorial structure of the Brest regional tourist cluster. The regional tourist cluster, as well as the agglomeration branch, possesses the zone and sector planning structure (Fig. 4). The formation of the zone and sector structure of the Brest regional tourist cluster is not complete now. The formation of a destination

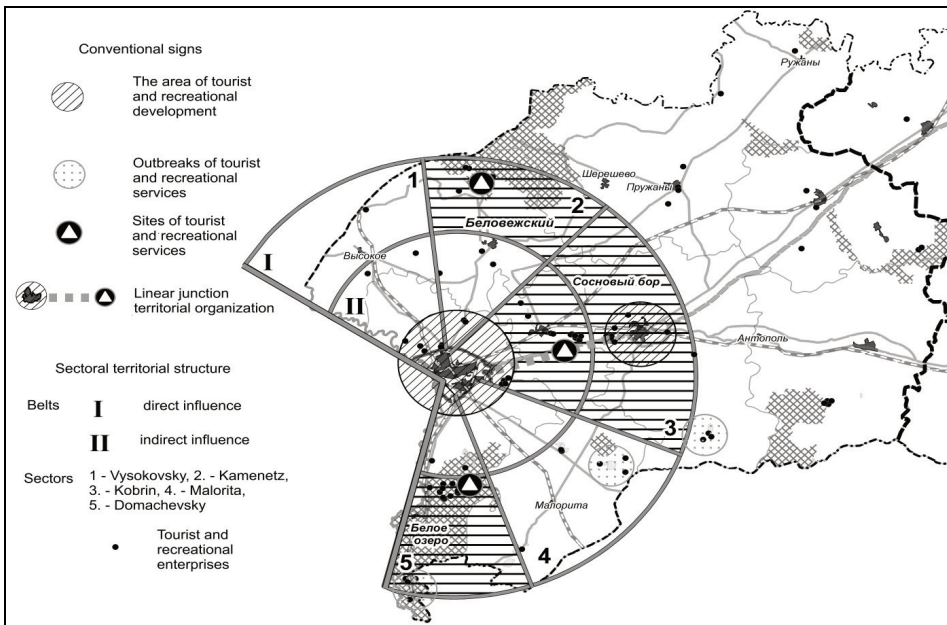


Fig. 4. Zone and sector planning structure of the Brest regional tourist cluster

Ryc. 4. Zasięg i planowana struktura sektora brzeskiego regionalnego klastra turystycznego

in a zone of direct influence of Brest in kamenetskiy and domachevskiy sectors is incomplete. In kamenetskiy sector the formation of a tourist destination most probably will be connected with the emergence of an area of tourist development (center) in a zone of the active influence of Kaments city. In a zone of the mediated influence of Brest the missing elements of the planning structure there are destinations in vysokovskiy and maloritskiy sectors will be caused by the urge towards the proportional placement which is expressed in a proportional arrangement of the enterprises on the territory of the region for satisfaction of the requirements of the greatest number of the population.

Conclusions

Thus, for the allocation of a regional cluster the primary indicator is the form of the territorial organization of the enterprises of tourism and a recreation, the existence of agglomerative processes and competitive character of the relations of the enterprises in places of their concentration. Thus, the regional cluster forms in a zone of the influence of the city as a center of a diffusion of innovations, the formation of a tourist demand, training and management. A set of tourist destinations is required for the emergence of a regional tourist cluster. The set of the tourist destinations created round the large city forms the areal and network type of territorial structure and causes the emergence of a regional tourist cluster.

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Summary

In the article the territorial reflection of allocation of a regional cluster is considered. As a basis of the research the concept of a cluster as a branch of the geographical agglomeration was used. The technique of allocation of a regional cluster as the example of the Brest region (Belarus) is offered and approved.