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## **URBAN-PLANNING PROBLEMS AND PROSPECTS OF RECREATION AND TOURISM IN THE EAST KAZAKHSTAN**

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**Abstract:** *This article presents the results of the research work "Increasing the competitive potential of the Republic of Kazakhstan through rational architectural planning and spatial organization of territories and infrastructure facilities of mass recreation, external and domestic tourism." The research was carried out at the Satbayev Kazakh National Research Technical University under the Grant Financing of Scientific Researches State Program in 2012–2014. The article deals with the urban planning and architectural aspects of recreational activities in the East Kazakhstan region in order to identify problems and prospects for development of this sphere. The study includes field surveys, a survey of recreational service providers, and an analysis of the recreational potential of the territory by using cartographic data. Pursuant to results of the study, recommendations on the development of the East Kazakhstani recreational region are proposed.*

**Keywords:** *Urban planning, recreation, tourism, recreational infrastructure, sociological studies.*

### **INTRODUCTION**

Information and communications technology (ICT) (Information technology, n.d.) has Kazakhstan as a big country with diverse nature and long history that has potential both for the development of domestic and international tourism. Developing tourism as a sustainable economic sector is one of the worldwide actual trends. However, the

tourism industry is poorly developed in the republic. Its share in the gross domestic product of the country is only 0.3% (Ministry of National Economy of the Republic of Kazakhstan Committee on Statistics). This is due to a number of reasons, the most important of which are the weakness of the recreational infrastructure and long distances between destinations (Tourism Highlights, 2015).

The scope of the study is the East Kazakhstan, one of the fourteen regions of the Republic of Kazakhstan, with an area of 283.3 thousand km<sup>2</sup> and a population of 1,380 million people (Population of the Republic of Kazakhstan by regions, cities and districts as of October 1, 2018). The administrative center of the region is Ust-Kamenogorsk. The nature of the East Kazakhstan region is divided into several landscape zones, including desert, semi-desert, steppe, forest-steppe, and forests. At the same time, the terrain includes plains, low mountains, and mountain areas. The main feature of the region, compared with the major part of Kazakhstan, is the presence of small, medium, and large rivers, a system of water bodies of various types (Fig. 1).

The region holds 65% of the natural landscape resources of the Republic of Kazakhstan that are recreationally attractive. Eastern part of the region includes the Kazakhstani part of the Altai-Sayan Ecoregion, which UNESCO has listed as one of the world's two hundred natural ecoregions to be protected. The western part of the region includes Lake Alakol, the Abai-Shakarim Memorial Complex, the Enlik-Kebek Monument, the Museum of Fyodor Dostoevsky, and the Museum of Fine Arts named after the Nevzorov Family. In the northeast of the region, there is the Katon-Karagay State National Natural Park. The eastern part of the region includes the unique Lake Markakol and its surrounding area that together comprise the Markakol State Nature Reserve. The West Altai State Nature Reserve is situated at a distance of 150 km to the north of Ust-Kamenogorsk. The main object of its protection is characteristic of the Western Altai (ore-bearing) landscapes, specifically, the black taiga. The central part of the region includes the territory of the Bukhtarma Reservoir and its surroundings with an area of 800 km<sup>2</sup>. Listed areas are the main location of recreational destinations. The residents of the East Kazakhstan, as well as residents of the entire Republic and guests from adjacent areas of the Russian Federation use to visit all of it for recreational purposes. However, the number of tourists is relatively small (Abilov & Karmanov, 2014).



**Figure 1.** Landscapes of the East Kazakhstan

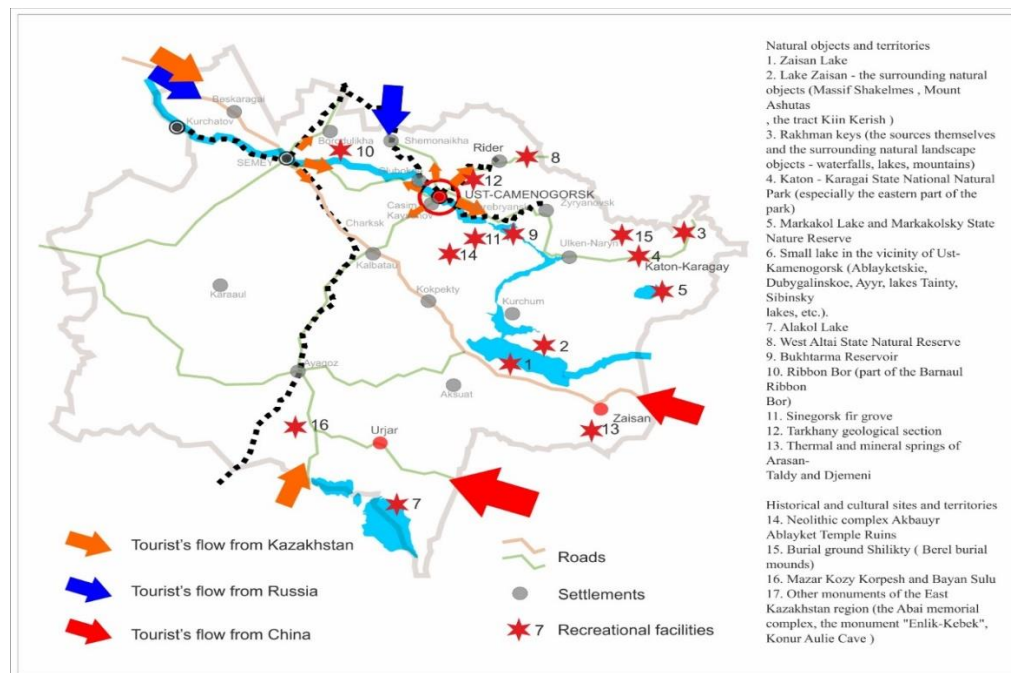
The previous studies devoted to the assessment of the recreational potential proposed several theoretical models for recreational zoning of the territory of the East Kazakhstan (Namazbayeva, A. S. Aktymbayeva, 2019a. 2019b; Egorina, Kaliakperova & Kanatkyzy, 2016; Bayandinova & Sadvakasov, 2012; Zambinova & Bekisheva), but they did not provide any particular recommendations for the improvement and spatial organization of the studied area. We used various methods to collect general information about the region (geographical, economic, socio-demographic and other data): field observations on the studied territory (expert inspection of recreation areas, photographing), survey of travel services providers, and to summarize the collected data, grid-based territory estimation. The purpose of our research is to develop a concept for the architectural and planning organization of recreational areas of the studied region based on a comprehensive analysis of the existing situation. The concept includes recommendations on the appropriate infrastructure, that have to meet the needs of the tourism industry: transportation facilities, tourist accommodation institutions, elements of land improvements, etc. The goals that were set to achieve that purpose are: to evaluate the actual state of tourism infrastructure (roads, destinations, accommodation, etc.); to study the existing tourism activities of the region, its problems and perspectives; to assess existing and potential attraction of the destinations; and to propose recommendations to facilitate tourism development of the region based on the results.

## METHODS

The study is based on the theoretical foundations and methods of solving the problems of recreational architecture that have developed in the post-Soviet space (Avdotin, Lezhava & Smolyar, 1989; Lukyanova & Tsybukh, 2004), including the works of Kazakhstani scientists (Karmanov, 2010; Abilov, 1976), as well as foreign researchers (Manuel Baud-Bovy, Lawson, Fred, 1998; Recreation Area Design Manual, 2003; US Department of the Interior, 2013). International agreements on tourism and state programs for the development of tourism were also considered (The Hague Declaration on Tourism, 2017; Conceptual approaches to the development of a general scheme, 2010). At the current stage, the following methods were used: collection of general information about the region (geographical, economic, socio-demographic and other data); field observations of the territory (expert inspection of recreation areas, photographing); survey of providers of tourism services; area estimation based on the results of previous stages and GIS data (graph-analytical methods such as the isochrones method, drawing of territory estimation schemes, etc.).

The general data was taken from open encyclopedic resources and official websites of state organizations. Special attention was paid to information about the climatic conditions and recreational resources (Adilet Informational-legal system of regulatory; EGOV, State services and information), data on the economic and demographic development of the region itself (Socio-economic passport of the East Kazakhstan region for 2017), surrounding regions of Kazakhstan (Ministry of National Economy of the Republic of Kazakhstan) and neighboring countries (Xinjiang Uygur Autonomous Region; Altai Krai, Republic of Altai). Statistics on the development of the tourism industry (Tourism Highlights,, 2015) and government programs (Conceptual approaches to the development of a general scheme, 2010) were also taken into account.

Based on the analysis of the maps (Republican tourist portal; Map of the East Kazakhstan region; Sacred places) a plan of the region was drawn as a basis for a graphical model that will be presented further. The main roads, the largest settlements, and the most popular tourist attractions were drawn up on the first stage. Most of them are concentrated in the eastern part of the region. Transport links also play an important role. Today, the most important transport corridor of the region is the Omsk-Pavlodar-Semipalatinsk-Maikapchagay route. This route passes through the central part of the region, connecting it with Russia and China, which is essential for the development of tourism and determines the potential direction of flows of domestic and foreign tourists. It should be noted that in the eastern part of the region, which has the greatest recreational potential, the network of reference roads is poorly developed. There are difficulties in road traffic in the meridional direction in the western part of the region, as well as in the latitudinal direction in the southern part along the northern coast of Lake Zaisan. The railway network has a similar situation. It was caused mainly by the industrial bias in the development of the region in previous years. It is also necessary to take into account territories of special use, i.e. specially protected natural areas (reserves, natural parks, etc.), where tourist routes are developed with regard to environmental restrictions. Directions of tourist trips from Kazakhstan, Russia and China were also marked on the plan. The plan shows that for tourists coming from Russia, logistics is much easier because Ust-Kamenogorsk (it is the only city, which provides services to organize the tour) is on the route to the main recreational facilities. On the contrary, potential tourists from China have to take a long 'loop' through Ust-Kamenogorsk (Fig. 2).



**Figure 2.** Plan of the main transport links, directions of tourist trips and location of RO

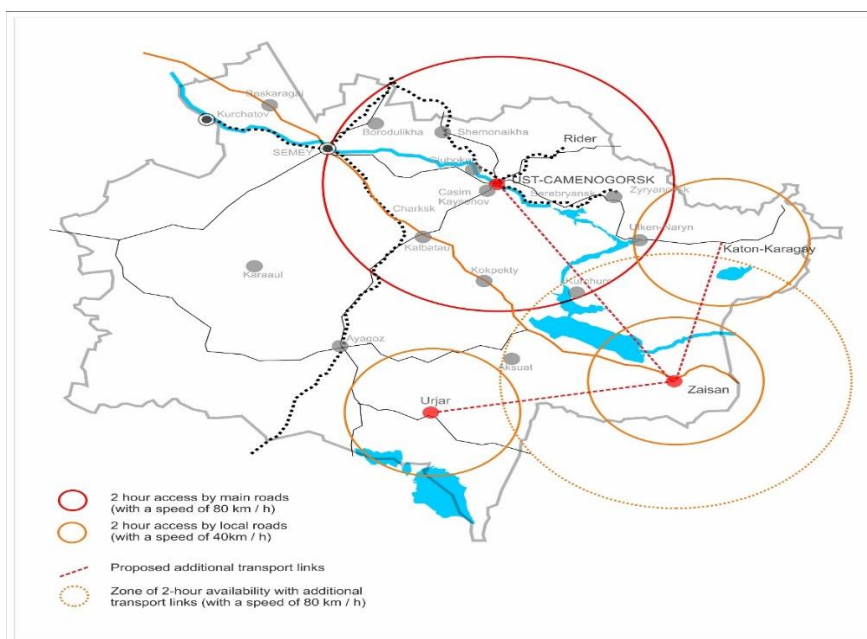
The field studies allowed us to collect visual information and expert opinion about communications, accommodation conditions, infrastructure, and improvements. Besides that, some measurements were made. We determined the quality of roads on the main tourist routes and the average speed of traffic on them. This data was used to

calculate the radii of 2-hour availability of recreational facilities from the potential tourist centers. Photographs and commentaries of the researches were used to determine existing conditions, problems, and potential of accommodation facilities, improvement of recreation areas, main infrastructure facilities such as markets and catering facilities. The main criteria were typological diversity, quality of services, aesthetical appearance, and level of deterioration (Fig. 3).



**Figure 3.** Improvement and infrastructure of recreational areas

The plan of the region and data from the field studies of the area made it possible to find a route from Ust-Kamenogorsk for a short vacation (that does not require accommodations). The largest settlements were chosen as regional tourist centers, which makes the main attractions situated in the zone of one-to-two-hour transport accessibility from them (Fig. 4).



The interview with tourism service providers in Ust-Kamenogorsk was conducted in order to determine the most popular destinations and make the overall

review of existing tourism activities in the region. Results of this survey form the basis for evaluating the demand for recreational services and make a list of the most popular recreational facilities and destinations, as well as the current conditions of their use. The following questions were used as a basis for the interviews: Which routes / destinations are popular with local residents and residents of Kazakhstan? Which routes / destinations are most popular with foreign tourists? Describe the availability of recreational areas. What transport can one use to get to each one of them? Describe the conditions of the tourist destinations. Describe the infrastructure of the region: availability of motels, recreational facilities and places to sleep overnight, and bus shelters.

The territory assessment was made on the basis of data from the following sources: the Regional Development Program (On approval of the regional development program until 2020), plan of the region, results of the field survey, results of the interviews with recreational services providers. The assessment was carried out for the recreational resources of natural and anthropogenic origin, identified in the studied territory (Mukayev *et al.*, 2020; Dashpilov, 2019; Dirin, Krupochkin, & Rygalov, 2019a.; Dirin & Madry, 2019b; Mezenina *et al.*, 2020; Bibaeva & Makarov, 2019; D'Antonio *et al.*, 2016; Muzyka *et al.*, 2019). Considering the preliminary stage of research, the assessment was conducted based on a 5-point scale without additional gradations. The following criteria and methods of their evaluation were used: Recreational capacity was calculated on the basis of the site area and the rate of capacity for a particular type of tourist attraction (Mukayev, 2020); Transport accessibility was estimated on the basis of the average time required to reach the destination and the expected convenience of the trip (Dashpilov, 2019); Uniqueness was based on the expert opinion and represents the level of popularity of such attractions in the region and the world (this is not correct interpretation! The meaning is – how often or rare such type of object is (Dirin, Krupochkin, & Rygalov, 2019a.; Dirin & Madry, 2019b; Mezenina *et al.*, 2020); Aesthetic appeal was determined by the level of demand among tourists and the expert opinion of the authors (Bibaeva & Makarov, 2019); Level of area improvement reflects results of comparing existing situation in studied objects with successful examples in similar cases around the world (Mezenina *et al.*, 2020; D'Antonio *et al.*, 2016).

As a result, the assessment of attractiveness of recreational facilities was summarized in Table 1. The contents of the table made it possible to calculate the total recreational facility rate by using the formula:

$$O = (\sum_{i=1}^5 k_i) / 5$$

where  $O$  is the overall assessment of the recreational facility,  $k_i$  is the assessment of the facility by individual criteria,  $i$  is the conditional value of the criterion (from 1 to 5). Considering that such criteria as the transport accessibility and the level of improvement assessment can be changed to maximum (10) due to a rational architectural and urban concept realization, the values of the recreational object potential ( $P$ ) were also calculated:

$$P = (\sum_{i=1}^5 k_i - (k_2 + k_5) + 10) / 5$$

Grid diagrams illustrating the current and potential attractiveness of the recreational facilities have been constructed on the basis of  $P$  and  $O$  values (Fig. 6 and fig.7)

## RESULTS AND DISCUSSION

The successive application of the above-mentioned methods has provided an overview of the various factors that affect the development of the recreational system in the studied area. The results are presented below.

### *Field survey*

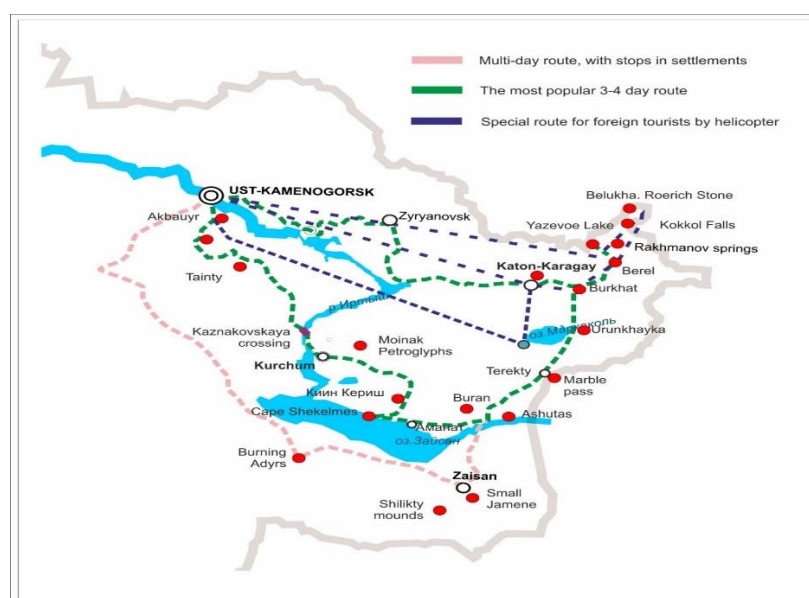
Considering the results of the full-scale survey of the territory of the East Kazakhstan as an integral recreational zone, or a system of recreational facilities, the following features can be identified: Network of the main transport links is not suitable for tourist routes, and the entire transport infrastructure is underdeveloped; Improvements of the recreation areas and the engineering infrastructure are missing or are in the initial stages of development; Existing recreation areas (hotels, motels, etc.) are characterized by high physical and moral durability, lack of common stylistic characteristics and were mostly formed haphazardly, which is confirmed by the lack of links between the zones and the isolation of each building (no compositional integrity). The most critical problems of the studied areas are the transport accessibility and the road infrastructure. Except for RA, which is located in close proximity to Ust-Kamenogorsk ('Altai Alps', 'Akbaury', Bukhtarma Reservoir), access to most recreation areas is difficult. There are suitable roads (with sufficient covering) from Ust-Kamenogorsk to Ridder and Katon-Karagay, while on the other roads there is a significant deterioration or no pavement. In all instances, the system of navigation signs is very poor or non-existent, which complicates travel to recreation areas even more, especially for guests from other regions and foreign tourists who prefer to travel on their own. A similar situation can be observed with regard to transport infrastructure – recreation areas, viewing platforms, service areas, etc. There is also no organized system of public transport to tourist attractions and recreation areas. These circumstances have a significant impact on the demand for attractions and, consequently, on private investments. An important issue is that this problem can be solved only on the state level.

Most of the improvements and infrastructure in the existing recreation areas are at the level as on examples shown in the Figure 2 (there are a few exceptions like Rakhmanovskie Klyuchi Health Resort or Berel Burial Mounds). Most of them were built 30 or even more years ago and had no complex reconstruction, while others made by local residents in a primitive, nondurable, and therefore unattractive and unsafe way. Recreational and services businesses owners do not give it attention due to the absence of common framework and regulations. Such conditions both reduce the attractiveness of a place and increase the negative impact on recreational resources due to unorganized use. The situation is quite similar with tourist facilities and premises as they are often located in haphazardly constructed structures, or old buildings. Owners' income directly depends on its quality, and civil engineering regulations are stricter, which is why customers are usually provided with acceptable living conditions. However, due to the fact that most such businesses are owned by independent entrepreneurs, there is no comprehensive approach to functional and aesthetic design. The variety of services is therefore small and includes only the primary functions such

as shops, cafes and rental of equipment. This restricts types of tourism activities on the recreational site and therefore leads to the lack of customers. In most cases, large companies are not motivated to invest because of the transportation problems and the complexity of market forecasting. In order to improve this, the additional economic, environmental, geographic and other studies are necessary to obtain more reliable information that can be used as a basis for long-term and major financial decisions (Temirbayeva, 2020).

### **Expert survey**

Despite the aforementioned problems, many of the tourism routes have been developed with a clear division into recreational activities and rest periods and are interconnected, thanks to the initiative of companies involved in the organization of external and internal tourism in the region. This allows us to identify important attractions or destinations that can become centers and sub-centers of the existing recreational zone system (Guarini, Morano, & Sica, 2020). Tour operators take several factors into account when developing tourist routes. First of all, the demand for recreational services. For example, the expert survey found that the local population is more interested in long-term recreation on the beach and health-related types of attractions, while foreign tourists choose sightseeing tours and active kinds of recreation. Location is a significant factor in choosing a destination. The greatest demand among local residents are places of rest, located near the city of Ust-Kamenogorsk (Bukhtarma Reservoir, Sibin Lakes, Tainty Lake, etc.). Foreign visitors choose routes that cover the maximum number of local attractions in a large area, for example, from Ust-Kamenogorsk to the Markakol State Nature Reserve (Fig. 8). It is worth noting that the organizers of tourist routes face problems with the transportation of tourists. For example, there is a difficult crossing of the Irtysh River on the way to Lake Zaisan. The high recreational qualities of the lake, especially on the northern shore, are in high demand among local people and foreign tourists. However, today the crossing of the Irtysh – Kaznakovskaya is carried out by ferry, which takes a long time and significantly increases the duration of the route (Fig. 5).



**Figure 5.** Popular tourist routes and destinations



### Territory estimation results

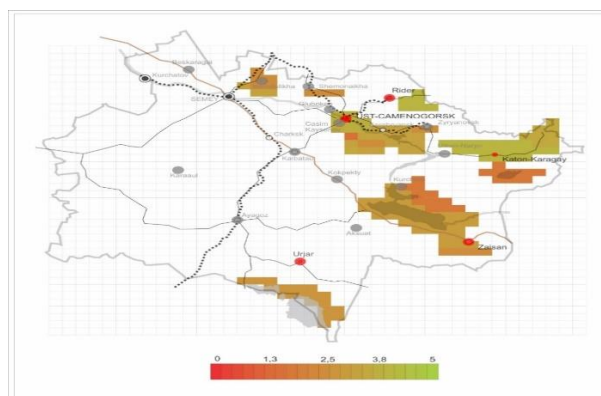
While the previous methods provide an overview of the area under study, an assessment of the attractiveness of recreational zones and an assessment of the potential for the development of recreational zones in the East Kazakhstan region provided the empirical data (Table 1). The data confirms the initial hypothesis that the most pressing problems in the recreational development of the region are "Level of improvement" and "Transport accessibility" with the lowest average indicators of 1.8 and 2.9 respectively. This also shows that the existing area capacity is relatively low at 3.1, which also emphasizes the importance of infrastructure and the growing need for improvements (40. Samora-Arvela, 2020). The results of potential development have shown a difference between the O and P values that is 0.5 or 10% in average. The most effective measures would be the "Small Lakes in the vicinity of Ust-Kamenogorsk (Ablaikecki, Dubygalinskoe, Ayyr, Tainty Lake, Sibin Lakes, etc.)" and some religious and historical monuments such as "Mazar Kozy Korpesh and Bayan Sulu", i.e. 20–25%.

**Table 1.** Assessment of attractiveness of recreational facilities in the East Kazakhstan

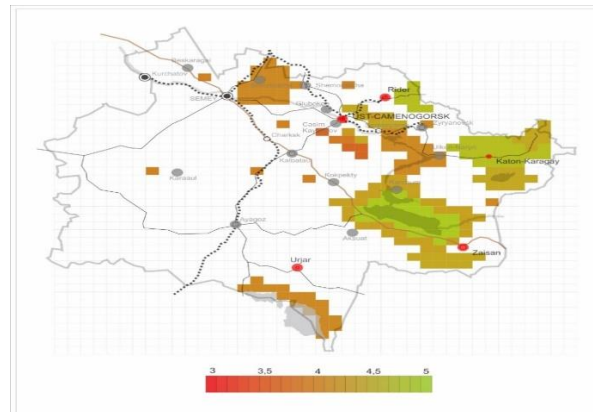
No	Object / Object Group	Destination / type of tourism	Size of territory / capacity	Transport accessibility	Uniqueness	Aesthetic appeal	Improvement level	Overall rating (O)	Development potential (P)
Natural objects and territories									
	Zaisan Lake	Relaxation , cognitive	4	3	4	4	1	3.2	3.6
	Lake Zaisan - the surrounding natural objects (Shakelmes Cape, Mount Ashutas , Kiin Kerish Valley)	Cognitive	3	2	3-4	5	0	2.7	3.4
	Rakhmanovskie Kluychi (the sources themselves and the surrounding natural landscape objects - waterfalls, lakes, mountains)	Health resort, educational	3	4	4	5	4	4	4.6
	Katon - Karagai State National Natural Park (especially the eastern part of the park)	Sports, cognitive	5	3	4	5	2	3.8	4
	Markakol Lake and Markakol State Nature Reserve	Sports, cognitive	4	1	4	4	1	2.8	3.2
	Small lake in the vicinity of Ust-Kamenogorsk (Ablayketskies, Dubygalinskoe, Ayyr, Lake Tainty, Lake Sibin, etc.).	Relaxation	2	3	2-4	4	1	2.6	3.6
	Alakol Lake	Relaxation , cognitive	4	2	4	3	2	3	3.4
	West Altai State Natural	Sports,	4	3	5	5	1	3.6	3.8

	Reserve	cognitive							
	Bukhtarma Reservoir	Relaxation	4	5	3	3	2	3.4	4
	Ribbon Bor (part of the Barnaul Ribbon Bor)	Cognitive	3	3	4	3	0	2.6	3.2
	Sinegorsk Fir Grove	Cognitive	2	2	5	5	2	3.2	3.8
	Tarkhany Geological Section	Cognitive	3	4	4	3	1	2.75	2.8
	Thermal and Mineral Springs of Arasan-Taldy and Djemeni	Health resort	5	0	4	3	0	2.4	2.6
Historical and cultural sites and territories									
	Neolithic complex Akbauyr	Cognitive	3	4	5	3	2	3.4	3.8
	Ablayket Temple Ruins	Cognitive	2	3	4	3	2	2.8	3.6
	Burial Ground Shilikty (Berel Burial Mounds)	Cognitive	4	3	5	3	4	3.8	4
	Mazar Kozy Korpesh and Bayan Sulu	Cognitive	1	1	3	3	2	2	3.2
	Other monuments of the East Kazakhstan region (the Abai memorial complex, the monument " Enlik-Kebek ", Konur Aulie Cave )	Cognitive	1-2	4	3-5	2-4	2-4	2.5	3.4
Average rate			3.1	2.9	4.0	3.8	1.8	3.1	3.6

In order to provide a spatial definition of visual information that clearly shows which of these tourist destinations can be significantly developed through the implementation of rational urban planning solutions, we create a grid map of the region. Firstly, it helps to identify recreational regions, sub-regions and recreational zones, which is necessary to form the basic planning elements for unified recreational system in the East Kazakhstan region. Secondly, it illustrates the necessary links between these elements, which are necessary to create (Temirbayeva,, 2020).

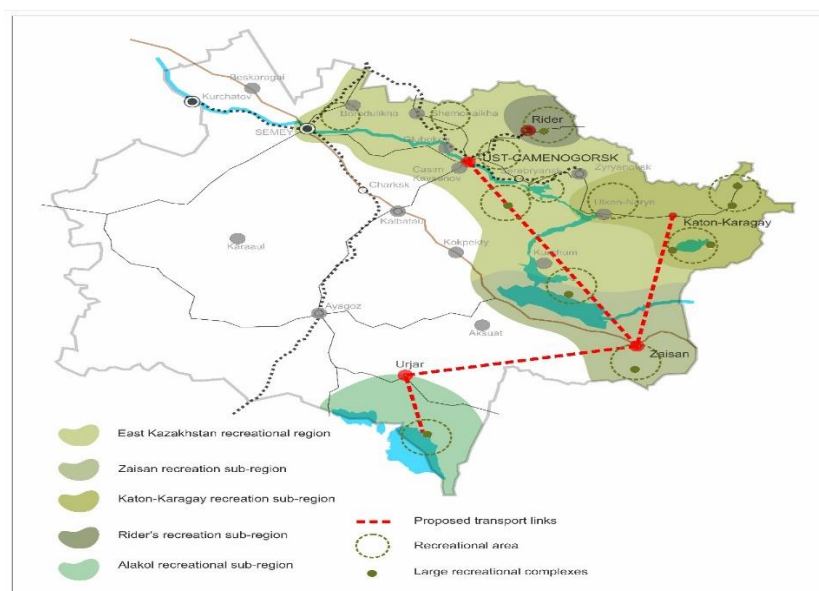


**Figure 6.** Assessment of the attractiveness of recreational areas of the East Kazakhstan from 0 (lowest score) to 5 (highest score)



**Figure 7.** Assessment of the development potential of recreational areas of the East Kazakhstan from 0 (lowest score) to 5 (highest score)

Both maps show that the areas with the greatest attractiveness and potential are concentrated in the eastern part of the region. The main settlements that stand out in the vicinity of these areas are Katon-Karagai and Zaisan. Semey, a destination around Semey, Ust-Kamenogorsk, and Urzhar are less significant, but still are important. Comparing Figs. 6 and 7 with the transport accessibility (Fig. 4) and the popular tourist routes and destinations (Fig. 5) maps, we found a lack of transport links and settlements that need to be connected. Based on the analysis of the location of existing and potential attractions and recreational areas (according to cartographic, literary, and other sources) and their ranking by attractiveness and possibility of use, we developed a plan of zoning the territory of the East Kazakhstan in accordance with the recreational potential (Fig. 8).



**Figure 8.** Plan of proposed territorial organization of the East Kazakhstan

In accordance with the obtained data, we propose the organization of the East Kazakhstan Recreational Region. It is planned to create recreation sub-regions within the territories with significant tourism potential: Zaisan, Alakol, Katon-Karagai, Ridder, with centers in Zaisan, Urzhar, Urzhar. Katon-Karagai, Ridder. It is expected that the role

of recreational centers is to provide local services, develop infrastructure and protect recreational resources, which are ultimately aimed at meeting the needs of the population and tourists. Additionally, these centers should play the role of logistics hubs of tourist routes. We suggest that the city of Zaisan, which is located on one of the main highways connecting Kazakhstan with China, could become a centre for attracting tourists from China, which is particularly important in terms of regional development. Therefore, it is recommended to create transport links between Zaisan and Urzhar village, the city of Ust-Kamenogorsk, and Katon-Karagai village, which will significantly expand the possible route network from Zaisan, as well as considerably reduce travel time and have a beneficial impact on the overall development of the region. The direct link between Zaisan and Ust-Kamenogorsk, while partially duplicating the existing main route, connects several significant recreational facilities in the region and makes the northern shore of Lake Zaisan more accessible, thus expanding its opportunities for recreational use.

## CONCLUSION

The main result of this study is a proposal for a special organization of a recreational system within the East Kazakhstan region based on an overall assessment of sustainability and economic efficiency of tourism development. To implement the results of the study, it is required to make an economic calculation of the costs to implement the proposed measures, their recoupment, and efficiency. Certainly, these calculations are likely to make some adjustments to these proposals. The population also plays an important role in such studies through their preferences and needs, opportunities, and limitations. In this study, these factors were taken into account indirectly through a survey of tourism service providers and field studies. The data can be expanded and clarified through sociological surveys, such as a questionnaire survey of the population. It is expected that implementation of the obtained results will make it possible to improve the development of recreational areas in the region by making it more attractive for both customers and investors. The optimal location of recreational zone centres will improve the logistics of tours and provide more direct and effective tools for local development in areas with high potential. The development of the necessary transport links will increase the availability of recreational centres and connect them with attractions and recreational areas, which will significantly accelerate their development and increase the flow of tourists.

The recommendations given in this study are the initial stage of the tourism development. We suggest to consider them as a means of establishing a state program for regional development. The study reviewed in this article was conducted not only to achieve the aforementioned results but also to broaden the understanding of the methods of formation of urban planning policy in the field of recreational activities and develop proposals for its improvement in the state structures of Kazakhstan. According to the authors, both these objectives have been achieved: the results and methodology of the study can be implemented in the practice of urban planning at the initial stages. The rational development of the tourism industry plays an important role in the formation of sustainable economy of the region and Kazakhstan as a whole. However, the tourism sector is one of the most difficult for both analysis and projection. The proposed methods and recommendations should be considered only as one of the stages of development of scientific approaches in the research field. This area should be further

developed by incorporating international experience and taking into account local conditions.

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