Problems of tourism infrastructure development
(on the example of Olkhon Island)

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Abstract. In this article we consider the main problems associated with the anthropogenic load and underdeveloped tourist infrastructure on Olkhon Island. Large numbers of tourists arrive on the island uncontrollably, complicating the operation of transport infrastructure and putting pressure on the landscape. In this regard, there is a need to develop a way to control the tourist flow. Olkhon Island is a protected area, the natural resources of which are protected by many laws and restrictions. At the same time, restricting tourist entry is not possible due to the fact that tourism is the main way for many residents to earn money. In this article, a comprehensive analysis of the current state of the tourist infrastructure on Olkhon Island is made, the main problems are identified, and promising approaches and possible solutions are outlined. We considered the main methods for registering tourists, which are used both in the Russian Federation and in tourist centres in many countries. It was proposed to create an electronic resource that will not only provide up-to-date information about Baikal, Olkhon Island and tourist services, but also allow electronic registration of tourists in this area.

1. Introduction

The study and development of tourism is among the priorities of the national economy. The tourism industry is now becoming increasingly important to world and individual economies, as it is a rapidly growing economic complex and a significant stimulant of overall economic growth [1, 2]. Such sectors of the economy as trade, transport, consumer services, production of consumer goods, agriculture, construction and many others are developing along with the development of tourism. A specialized PPT tourism methodology in some countries is proposed as a tool for poverty alleviation [3]. There is a complex and ambiguous relationship between economic policy and tourism activity. For example, by promoting credit, entrepreneurship is stimulated, but this also leads to higher prices, which, in turn, discourages tourists from using the offered destination [1].

The main focus of most studies on the interdependence of tourism and territorial development is the economic life of territories, out of all the possible diversity of problems [4]. The development of tourism has not only beneficial but also negative effects on destination areas: negative attitudes of local residents; commercialisation of culture, religion, art; growth of social problems; environmental pollution; degradation of landscapes. In order to assess the socio-economic impact of tourism, it is necessary to have a wide range of information on the consumers and producers of tourism services; on the factors that influence tourism demand and the nature of this influence; and on current trends in tourism.
For some regions, tourism is a key sphere of the economy, as well as for residents of settlements on the shores of Lake Baikal. Tourists arrivals has grown by 40% over 10 years, which has exacerbated many problems. The increase in the number of tourists on Lake Baikal was facilitated by the establishment of a visa-free regime in 2014. In 2016, Baikal was visited by approximately 2 million tourists. In 2018, more than 1.2 million people, including 400 thousand foreign citizens [5].

The main problems are the lack of treatment facilities in the working hotels and the increasing number of “wild” tourists, i.e. those who camp chaotically on the shores of Lake Baikal. But the list of existing problems does not end only with them. With uncontrolled flow of tourists, it is difficult to make an objective forecast and prevent excessive anthropogenic pressure on protected areas. The most striking example of the influence of uncontrolled tourist flow on the lake is Olkhon Island.

Olkhon Island is the geographical and tourist centre of Lake Baikal. For local residents, tourism services are an important source of income. At the same time, they have the feeling that they live on the island as if in a reservation.

Already at the crossing from the “mainland” to the island, there are problems that have not been resolved to this day. There are three ferries running on the Sakhyurta-Olkhon crossing, taking up to 15 cars on board, mooring in turn every 15 minutes. Formally, the island residents, along with cars with special signals and shuttle buses, have the right of priority entry to the Olkhon ferry. It is only by checking documents that it is possible to establish who is a local and who is a visitor, but such a check is not provided for in the organisational scheme. It is not the responsibility of “Istlend” company, running the ferry. Also, the law enforcement agency believes that regulating the movement of the ferry is not within their authority. As a result, traffic on the ferry is not regulated and the two parallel queues not only fail to reduce, but also cannot agree among themselves. So far, the only way out of the situation is through self-organization: activists from among the waiting list block the preferential passage and let those who have a document certifying local residence registration through [6].

Problems with the movement of both local and tourists are not limited to crossing to Olkhon Island. The condition of the road on the island causes many complaints from local residents, road workers and tourists. Driving to the island’s administrative centre, Khuzhir, can cost the driver a broken car door or even the loss of a wheel. This is why the edges of the main road are lined with winding networks of two-wheelers, which ruin the unique local vegetation. The road reconstruction works started back in 2019. According to preliminary estimates, announced by Irkutsk Governor, S Levchenko, the cost is 2.2 billion roubles. Its length is approximately 41.2 km [6].

The boundaries of the village are gradually expanding as new plots are being cut for tourist centres and private estates. Over the past seven years, a significant part of the Saraiskaya Bay, a territory with a beautiful natural landscape, has been built up. These lands were allocated for building illegally, because they are part of the reserve. The allocation of land to uses that are known to be damaging to nature did not take into account the uniqueness of the mixed forest, with trees up to 400 years old, or the presence of rare plants listed in the “Red Book” [6].

From the above, we can conclude that:

1. the state of Olkhon’s transport infrastructure does not meet modern requirements, and its development in the village does not keep pace with the demand for tourist services;
2. the load on the landscape far exceeds the norm.

Quantitative analysis is still difficult due to the lack of reliable data on the real anthropogenic load on the territory of this popular tourist destination.

The purpose of the study is to substantiate and develop a way to control the tourist flow, by taking into account the number of tourists and comparing it with the permissible capacity, so that the number of tourists, as well as their behaviour, can be controlled with due regard for the multiple constraints of diverse natural, social, and economic aspects that ensure operation and support of the tourist industry on Olkhon Island.
2. Model and Methods
The study used the methods of comparative geographic and system analysis and data generalization, as well as network and problem approaches. The theoretical and methodological base is based on articles and news portals on the subject and territory under study, as well as expert interviews with the local administration and the local population.

Providers of tourism services of a recreational and health nature today offer many options for excursion routes in order to reveal to tourists all the beauty of the unique lake. The state also contributes to the sustainable development of tourism and the management of tourism activities in this region. Thus, a single tourist region was created, known as the “Baikal tourist region” for the coordination of tourist activities and for its development in all directions. The unification took place on the basis of interregional ties in the field of tourism.

The water area of Lake Baikal is located on the territory of two constituent entities of the Russian Federation – the Republic of Buryatia and the Irkutsk Region. For tourists who visit the lake, a tourist object is considered as one, regardless of the subject of the Russian Federation in which it is located [7].

In connection with new developments planned by the state in the sphere of development of the territory as a tourist destination, the need to introduce a unified concept of “Baikal tourist region” has emerged. At present the strategic goal of the Baikal region development is to ensure its competitiveness in the long term [7]. Currently, one of the reasons for the ineffectiveness of regulation of the tourism industry in the Baikal tourism region, in addition to the lack of a unified financing system, is also the ineffectiveness of the state structure of management of the tourism industry. Every year, travel companies develop new strategies and programs to attract tourists and to ensure their comfortable stay as part of a tourist trip. Tourism industry innovations require more modern and advanced regulation by the state. The tourism industry needs the state to develop new programs and strategies that will keep pace with the times and meet the needs of both tourism companies and tourists [7].

The main source of income for local residents is the provision of services to domestic and foreign tourists. In 2019 alone, more than 140 thousand people visited Olkhon Island, according to the press service of the “Zapovednoye Pribaikalye”, a unified administration of a few protected areas in the Irkutsk region. At the same time, the growth of attendance in comparison with the previous year (2018) is 17% [8].

In 2020, due to the pandemic, the situation has changed significantly. The number of tourists in the Pribaikalsky National Park, which includes the Olkhon Island, dropped to 137 thousand people, which is 20% less compared to 2019. The main share of the visitors to the National Park and the Baikal-Lensky Nature Reserve were residents of the Irkutsk Region, which accounted for about 70% of the total number of tourists. This change is due to the closure of Russian borders for most foreigners. In general, due to the epidemiological situation associated with the spread of the COVID-19 disease and the restriction of access to many popular tourist destinations in Europe and Asia in Russia, tour operators began to popularize domestic tourism [9].

Spontaneous domestic tourism has exacerbated previous problems. “It is a very likely scenario that if the tourist centres do not open, a lot of people will go with tents, which could lead to a surge in wild tourism, this is absolutely real. It is worse for the environment, than if people stayed at camp sites, because virtually no one controls wild tourists. The National Park issues permits to visit the territory, and then it is difficult to track them, it is problematic to clean up the garbage after them” – said Vadim Kopylov, board member of the Siberian Baikal Tourism Association [10].

The head of the village of Khuzhir, the administrative centre on Olkhon Island, Vera Malanova, noted that tent tourism exerts anthropogenic pressure on the lake and the coast to a higher degree than that observed by local residents and even tourist centers. “We asked [the national park] to determine the places where [on Olkhon] there can be tents, so that they are not just like that, chaotically. Now such tourists rest under every bush wherever they want, go to the toilet, wash. Sometimes it is unpleasant to walk on the sand – such a strong smell…” [10]. Thus, the need to substantiate and develop an effective way to control tourist flows for the considered tourist destination is aggravated by taking into account the number of tourists and comparing these data with the permissible capacity.
To develop and implement a method for registering tourists in a given territory, it is necessary to analyse the accounting mechanisms used in the domestic and world travel industry. The method should be suitable for accounting for tourists living both in the territory of Russia and tourists coming from abroad. In the statistics of international tourism, various methods of obtaining information are used. Statistical information is obtained from legal entities and individuals, also through statistical observations, sample surveys, research, etc. [11].

The existing methods of registering tourists are integrated in various ways, but the following groups of methods are distinguished separately:

1. **Statistical observation through reporting.**

   Statistical bodies receive information from enterprises, institutions, organizations, including from immigration services on the requirements of statistical reporting [12].

2. **Accounting at the border.**

   This method of accounting is carried out through immigration control at entry and exit from the country at checkpoints, airports, seaports, etc. For this method of accounting, special registration forms are used in the form of entry (exit) cards, as well as foreign passports and visas. [12].

3. **Registration of arrivals at accommodation facilities.**

   Hotels and other accommodation places provide data on the number of beds received by foreign tourists, etc. Upon arrival, each client fills out a registration card with data on the number of people who arrived, citizenship, terms of placement, etc. [12]. This method is used to record both international and domestic tourists. But it should be noted that not all collective accommodation facilities submit the necessary statistical reports. And when using this method, there is a double count of visitors if they change accommodation while traveling in the same country.

4. **Poll.**

   In this research method, the source of primary data is a person who is a direct participant in the studied social processes and phenomena. There are two types of polls: interviews and questionnaires. The use of the type of research depends on the form of communication with respondents, oral or written. In some cases, surveys are based on a mixed strategy: based on the results of the survey, a separate group of respondents is interviewed according to an in-depth program. [12]

   When collecting primary information, the interviewer is not always in direct “face-to-face” contact with respondents. Sometimes he/she can obtain the necessary data indirectly, for example, using a computer. Recently, computer interviews have been increasingly used in the West. When using this form of interviewing, questions are asked of the respondent from the monitor screen, and the answers are then entered into the computer’s memory without prior coding or editing. This saves time and reduces the possibility of error.

   Some countries are achieving high accuracy in recording tourism flows through a combination of the main methods of statistical observation on specially designed surveys [12].

3. **Results and Discussion**

   The main problem of the study area is the excessively high anthropogenic load on Olkhon Island, associated with an uncontrolled large flow of tourists.

   The head of the administration of the village of Khuzhir describes the situation in which the island finds itself during the tourist season as follows:

   “A large number of people have a significant impact on the environment, and according to the law on the protection of Lake Baikal, it is necessary to prove the presence or absence of this load. Whoever wants what numbers, he uses these. There are oversight bodies that apply official statistical information, but statistics also do not reflect everything. At one time it was the norm that 2 people per km², and on what area is not indicated. This should be based on the area of the settlement. They have a very small area; the rest is taiga. Accordingly, there is no clarity in calculating the load. Figures on the number of tourists are also needed because, in the summertime, a hospital with 5 beds cannot cope physically, because the number of beds, the number of doctors, the number of other personnel, the area of the..."
hospital, the number of medicines, etc. on health care comes from the local population, but it is several times less than the flow of tourists in the summer. If the numbers were reliable, it would be possible to operate with them, in letters we write an approximate amount, but this is not taken into account because not supported by anything. The burden goes not only on health care, but also on the police. We have the only district police officer, he physically cannot cope in the summer, not because he does not want to, but because he cannot. There may be 2 simultaneous calls from different localities. And in order to attract additional personnel, statistics are needed again. Even for the improvement of the urban environment, there is a program that can provide funds for the improvement of the village, but the allocated amounts are too small, because they are based on the size of the population. It is necessary to improve the squares, repair the roads, but there is not enough fund”. (V S Malanova, Head of Administration, VS Malanava, interview with the authors).

On Olkhon Island, attempts have already been made by the Olkhon District Administration to create a system for registering tourists through a video recorder near the ferry (2018), they also tried to put a yurt at the entrance to the ferry to register tourists, where it was necessary to register [13]. The proposal for solving the problem of accounting and control consists in creating an information system, in which it will not only be possible to take into account tourist flows, but also provide additional information about the tourist services provided on the island.

The method of registration through accommodation facilities (i.e. hotels and camp sites) cannot be fully implemented, since according to the administration of the Khuzhir settlement: “Many hotels and camp sites are either closing IPs [individual entrepreneur, a legal entity], or opening new ones ...” (Head of Administration, V S Malanovova, interview with the authors). From which it follows that not all places of residence of tourists are properly registered and thus a significant error will be introduced in the accounting.

On the basis of the studied methods, it is possible to derive the most optimal solution involving the combination of two methods of tourist accounting. Namely, to combine the method of accounting at the border with the survey.

The optimal solution to this problem seems to be the creation of an electronic resource that accumulates all relevant and useful information for tourists related to Olkhon and directly with the village of Khuzhir. Through this electronic resource, it is possible and effective to carry out electronic registration of tourists.

It is proposed to conduct registration in the form of a questionnaire. Each questionnaire will be assigned an individual QR code, which tourists must present to the staff when boarding the ferry. All profiles will be stored in the database of the site, and the presentation of the code on the ferry will serve as confirmation of the arrival of tourists and will eliminate errors in registration. This method provides for the inclusion of an additional vacancy (controller) in the technological cycle.

To motivate tourists to register, it is reasonable to provide a bonus, for example, in the form of a discount on tourist services provided on the island.

4. Conclusions
Olkhon Island on Lake Baikal is a well-known centre of tourist attraction. Of particular concern to experts and the public is the anthropogenic pressure on its protected areas. It is known that the flow of tourists is significant, but quantitative analysis is difficult due to the lack of reliable and systematic data. The need therefore arises to develop an effective way of controlling tourist flows.

In the course of the study, some scattered statistical data on the number and composition of tourists have been considered, and international accounting practices have been studied, taking into account previous attempts of the local administration to set up an accounting system.

An electronic resource that would not only provide up-to-date information about Baikal, Olkhon Island and tourist services, but also allow for electronic registration of tourists in the area was proposed as a possible balanced solution to the problem.
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