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**METHODOLOGY FOR THE ASSESSMENT OF ECOTOURISM
PROJECTS OF RUSSIAN REGIONS**

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Abstract

Eco-tourism is considered to be one of the most fast-developing segments of global tourism industry. According to the Strategy of the Development of Tourism in the Russian Federation, this type of tourism is a priority. The methodology of the research is the development of an algorithm for the assessment and identification of best regional practices. The proposed algorithm includes the analysis of regional projects for the development of ecotourism, the formation of a system of criteria and scoring of projects, ranking and identification of best practices. The authors developed a unified system of aggregate and internal criteria for the primary processing of initial data on regional ecotourism projects and summarizing the results of the assessment taking into account the norms of the Russian legislation and national standards in the field of ecotourism. In addition the authors offered a technology for the analysis and identification of best practices by their effectiveness and efficiency. The approbation of the developed approach was carried out on the example of 123 ecotourism projects implemented in 61 regions of Russia. The useful potential of best practices is determined not only by valuable natural resources and quality infrastructure that meets the needs and limitations of ecotourism, but also by experience in planning and certifying ecotourism services, as well as measures to reduce the impact on the environment and solve socio-economic problems in the implementation of eco-tours.

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1. Introduction

Ecological tourism (ecotourism) increases by 25–30% per year (UNWTO, 2012) and has significant potential for further development, primarily in countries with significant natural resources, biodiversity, and a developed network of specially protected natural areas (SPNA). Ecotourism has enormous potential and opportunities to contribute to the achievement of the sustainable development goals of United Nations (UNWTO, 2016). The concept of ecotourism is considered to be one of the acceptable and sustainable approaches to the conservation and development of ecosystems (Xu, Mingzhu, Bu, & Pan, 2017), a powerful tool for biodiversity conservation, supporting local peoples and their culture, and providing sustainable development (Lorimer, 2006). A number of authors attach critical significance to ecotourism in the struggle against poverty and hunger in low-income countries, especially in Africa (Santarem et al., 2018). Thus, in the modern world, ecotourism plays a crucial role in the promotion of the entire tourism industry to higher standards of sustainability.

However, it is believed that there are few successful examples of ecotourism development in the world, the experience of attaining best practices is most common in countries where particular ecotourism principles are introduced (UNWTO, 2012; Lorimer, 2006; WTO, 2002). It is possible to single out such countries as Australia, Brazil, Germany, Canada, Kenya, China, Costa Rica, Mongolia, Peru, the United States, and others, which have resource potential and also attach great importance to the planning, promotion and support of ecotourism. The basis for the development of ecotourism in each country is unique natural resources and protected areas, biodiversity, natural sites listed on the UNESCO World Heritage List. The global surface protected areas have more than eight billion recreational visitors per year (Shia et al., 2019). In the global scope of ecotourism services, the share of protected areas in Russia is negligible. Thus, the total number of visitors of federal protected areas in 2018 amounted to 3.5 million people (Passport of the National Project «Ecology», 2018). It is assumed that by 2024 the measures to create conditions for the development of ecotourism in national parks will increase the number of visitors to the protected areas 2.2 times in comparison with 2018. However, in our opinion, this will insignificantly improve the position of Russia.

It is necessary to include the enormous potential of the Russian regions, the diversity of climatic conditions, the richness of natural resources, the presence of unique objects of natural, cultural and historical heritage, and a developed network of protected areas at all levels in the development of ecotourism. It is important to define the approaches to transform declared goals into real actions in order to expand and improve the quality of eco-tourism services, which requires studying, identifying and distributing successful practices for developing regional ecotourism projects.

2. Problem Statement

Russia has enormous potential for the development of ecological tourism. The main regions for the development of eco-tourism are concentrated in the Siberian, Far Eastern, Volga, Ural, North-Western, North Caucasus and Southern federal districts. According to the national standard on ecotourism (All-Union State Standard R 56642-2015, Tourist services and Ecological tourism), environmental tours by a venue

can be carried out within the boundaries of protected areas (waters) and outside the boundaries of protected areas, where the range of types of environmentally friendly tourism can be wide enough.

In an educational and informative format, the development of ecotourism is based on visits to the protected areas of federal, regional and local significance of various categories. There are 105 state nature reserves, 52 national parks, 57 state nature reserves and 17 nature monuments of federal significance, as well as 10,492 PAs of regional importance and 1109 SPNA of local importance (MinEnvRF, 2018). At the same time, the promotion of ecotourism activity is observed at federal protected areas, whose share in the total amount is 1.9%. In other territories, the efforts in this direction are much more modest, due to imperfect legislative regulation, underdeveloped ecotourism infrastructure, lack of personnel and lack of funding (Kuklina, Yakovleva, & Bulatova, 2015; Yashalova & Ruban, 2013). The solution of the task of further development and promotion of ecotourism services is associated with the study of regional ecotourism practices, which will allow not only diagnosing the state of development of this type of tourism in the regions of Russia, but also determining the most successful practices of ecotourism.

3. Research Questions

Nowadays, in many regions of Russia, the following measures are being taken to create conditions for the development of ecotourism: the registers of ecotourism routes are formed, support is provided to entrepreneurs in the field of ecotourism, personnel training is conducted, and a procedure of voluntary certification of ecotourism services is launched. The subject of the study is the study of a set of projects for the development of ecological tourism in the regions of the Russian Federation.

4. Purpose of the Study

The main purpose is to develop a methodological approach that includes the analysis of regional projects for the development of ecological tourism, the formation of a system of criteria and scoring of projects, ranking and identification of the best ecotourism practices.

5. Research Methods

The methodology of the research is based on the development of an algorithm for the assessment and identification of the best regional practices (Figure 1), which includes the following stages: the analysis of regional projects on the development of ecotourism; the formation of a system of criteria and scoring of projects; ranking and identification of the best projects.

At the first stage, the analysis of ecotourism projects is carried out for compliance with the species characteristics of ecotourism and the safety requirements of tourist services (Fig. 1, Stage 1).

At the next stage (Fig. 1, Stage 2), each project is first considered from the standpoint of compliance with the criteria system, and then a scoring of the projects is carried out according to the aggregate criteria. The authors developed a single system of criteria, taking into account the norms of Russian legislation and national standards in the field of ecotourism, which can be improved and changed depending on the purposes of the research. The system of criteria includes a set of 6 aggregate criteria, each of which contains from one to several internal criteria, detailing the aggregate criteria:

1) Planning and management (K1): compliance with the species characteristics of ecotourism in accordance with the National Standard (K11); the form of interaction with the authorities (K12); membership in non-profit organizations (K13); public recognition and achievement (K14).

2) Quality and safety assurance (K2): availability of the certificate on ecotourism services (K21); accessibility for challenged people (K22); the presence of staff who have undergone professional retraining (K23); availability of accredited guides / interpreters (K24); availability of teaching and learning materials for employee training (K25); the existence of approved safety regulations / instructions for the implementation of routes (K26); of medical care provision (K27); the interaction with rescue services (K28).

3) Ecotourism infrastructure (K3): own accommodation facilities (K31); own catering facilities (K32); infrastructure facilities (K33).

4) Ecological efficiency of infrastructure facilities (K4): biological wastewater treatment systems (K41); the use of energy-saving technologies (K42); measures to reduce, recycle and reuse resources (K43).

5) Economic indicators of tourism efficiency (K5): the dynamics of officially registered visitors (K51); the dynamics of investments in fixed assets (K52); the dynamics of the volume of commercial services (K53).

6) Advertising and informational support (K6): informational support of ecological tourism services (K61)

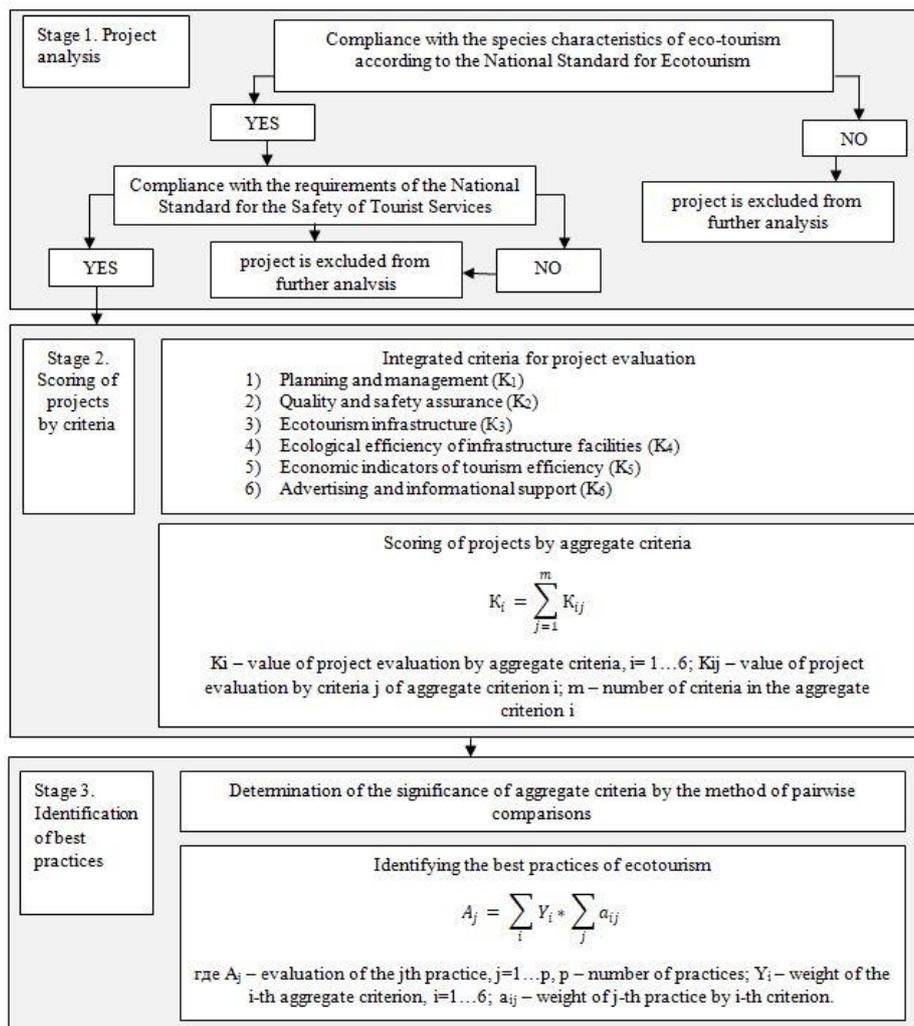


Figure 01. Algorithm for the assessment and identification of best practices of ecotourism

The values of the project assessment according to the internal criteria of the aggregate criterion (K_{ij}) are determined by the expert method:

- the maximum score (1) is assigned if all the conditions necessary to comply with the selected criterion are met;

- the average score, the value of which can vary in the range from 0.5 to 0.7, is assigned according to the appropriate criterion (for individual criteria - if available), if most of the conditions necessary to comply with the selected criterion are met;

- the minimum score (0) is assigned if it is impossible to assign a higher score (due to the lack of supporting information, the inability to establish a single-valued correspondence, etc.).

The final scoring of projects in the field of ecotourism according to aggregate criteria is determined by the formula shown in Figure 1, “Stage 2”.

At the third stage, the ranking and identification of the best projects is carried out (Figure 1, Step 3). For the purpose of the study, the authors adapted a method for analyzing hierarchies that has found wide application due to such a distinct advantage as the presence of simple and well-founded rules during decision making (Saati, 1993; Tutygin & Korobov 2010; Gol'dshtejn, 2012; Eryomko, Bal'zhanova, &

Bardakhanova, 2016). First of all, an expert assessment of the significance of each aggregated criterion is carried out in accordance with a scale of relative importance from 1 to 9. As a result of the comparison of the aggregated criteria with each other, a so-called pairwise comparison matrix of criterion is formed, the rows and columns of which are marked with the criteria names. The resulting linear convolution of the weight of the criteria shows how many times one project is more powerful than another by this aggregate criterion. Then the value of best projects for each of the integrated criteria is determined. The decision-making process for this stage is a procedure for line-by-line expert filling in matrices of pairwise comparisons, the rows and columns of which are named after the projects. The number of matrices is equal to the number of aggregated criteria. Project assessments are calculated using the formula shown in Figure 1, Stage 3.

For each project after a series of pairwise comparisons (according to the number of aggregated criteria) project assessment vectors can be defined from the completed decision matrix. They are united into an assessment of the project utility. The best is the project with the maximum value.

6. Findings

The approbation of the developed approach was carried out using the software “Regional features of investment projects implementation” (Eryomko & Ayusheeva, 2018).

The study examined 123 projects in the field of ecological tourism, implemented in 61 regions of Russia. The development and implementation of these projects are carried out by: the Directorate of protected areas of federal and regional importance (55% of the total); state, municipal budgetary institutions of culture, education (16%); business entities (15%); public organizations (11%); individual entrepreneurs and individuals (3%). The protected areas of federal, regional and local importance are presented by nature monuments, eco-routes, eco-trails, ecotourism center, destinations, tourist cluster, local history museum, eco-technological farm, peasant farming, etc. It was revealed that 61% of the total number of all practices is the projects implemented within the boundaries of protected areas. The remaining 46 practices are carried out outside the protected areas.

During the analysis of the projects, 57 regional ecotourism projects were excluded from the ranking procedure due to the inconsistency with the species characteristics of eco-tourism, as well as their non-compliance with the requirements for ensuring the safety of tourist services.

The assessment of the remaining 66 projects from 48 regions of Russia was carried out according to the developed criteria system. In order to determine the values of the integrated criteria, an assessment of the significance of each criterion in relation to each other was made, the results of which showed that the most significant criteria are: the criterion characterizing the level of planning and management with a specific value of $K1 = 0.305$; the criterion characterizing the compliance of the practice with the requirements of quality and safety ($K2 = 0.250$); the criterion characterizing the level of environmental efficiency ($K4 = 0.194$); the criterion for the creation of infrastructure ($K3 = 0,138$). The value of the remaining two criteria in the aggregation does not exceed 0.1.

The TOP-10 of best projects of the final rating indicates that the best projects in the field of ecotourism are implemented in SPNA of different levels, which is natural and corresponds to the essence of eco-tourism itself (Table 1). At the same time, it is necessary to note that the identified best projects have

not only valuable natural resources, but also high-quality tourist and ecological infrastructure that meet the requirements and limitations of ecological tourism.

Table 01. TOP-10 best practices of Russian regions on the development of ecotourism

Constituent entity of the RF	Project name, rank	Assessment	Quality and safety	Ecological efficiency of infrastructure facilities	Planning and management	Infrastructure creation	Economic indicators	Advertisement
Republic of Buryatia	Baikal Nature Reserve (1)	0.017	0.018	0.018	0.018	0.015	0.017	0.009
The Chuvash Republic	Yasna ecovillage (2)	0.017	0.018	0.017	0.016	0.018	0.017	0.009
Krasnoyarsk Territory	Stolby Nature Sanctuary (3)	0.016	0.016	0.017	0.018	0.015	0.018	0.009
Orenburg region	Buzuluksky Bor National Park (4)	0.016	0.017	0.014	0.015	0.018	0.017	0.009
Smolensk region	Smolenskoye Poozerye National Park (5)	0.016	0.018	0.017	0.012	0.014	0.018	0.009
Arkhangelsk region	Kenozersky National Park (6)	0.015	0.016	0.017	0.010	0.018	0.015	0.009
Irkutsk region	Northern part of Olkhon Island route(7)	0.015	0.017	0.017	0.016	0.003	0.015	0.009
the Republic of North Ossetia-Alania	North Ossetia Nature Reserve (8)	0.014	0.016	0.017	0.008	0.016	0.012	0.009
the Republic of Altai	Saylyugemsky National Park (9)	0.014	0.015	0.018	0.008	0.015	0.015	0.009
Republic of Mari El	Bolshaya Kokshaga nature reserve (10)	0.014	0.017	0.014	0.010	0.014	0.012	0.009

7. Conclusion

The methodological approaches proposed by the author allow analyzing the regions for the development of ecotourism, comparing them according to various criteria and identifying the best results.

The results of the study show that the development of ecotourism in an informative and educational format in the protected areas of federal significance forms the main direction of ecotourism policy in Russia: 42 best practices fall on protected areas.

The useful potential of best practices is determined not only by valuable natural resources and quality infrastructure that meets the needs and limitations of ecotourism, but also by experience in planning

and certification of ecotourism services, as well as measures to reduce the impact on the environment and solve socio-economic problems of the implementation of eco-tours.

All the identified best practices of ecotourism can be implemented in any region in the format of the “correct solution”. According to the authors, the usage of the best practices of Russian regions in the development of ecotourism will help avoid the appearance of undesirable results of uncontrolled development and make full implementation of the ecotourism potential of territories, and can also help to solve the problems of increasing competitiveness and promoting the most successful ecotourism practices. The enhancement of the role and contribution of ecotourism in the promotion of the entire tourism industry to higher standards of sustainability determines the need to deepen such case studies in order to consolidate best practices and improve the quality of management of ecotourism projects.

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