

Ecological innovations in the development of sustainable tourism

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Abstract. In a situation of a significant increase in risks and restrictions imposed by the action of homeostatic mechanisms of the biosphere, without taking into account the environmental imperatives of development, it will not be possible to prevent irreversible anthropogenic changes in natural complexes. For the tourism sector of the economy, for which the high quality of the natural environment is vital, the problem of stimulating innovations in the field of rationalization of nature management and resource conservation is particularly relevant. The development of sustainable tourism involves the integration of environmental, economic and social principles of managing biological and physical ecosystems in such a way as to protect environmental sustainability, biological diversity and environmental productivity. It is environmental innovations in tourism that play a significant role in increasing the efficiency of using natural ecosystems, preserving the wealth of natural heritage and biological diversity. The aim of the work was to study the potential, conditions, key factors for the practical implementation of environmental innovations in the tourism industry, as well as the development of mechanisms for the implementation of state policy aimed at transforming tourism activities on ESG principles. The scientific novelty of the work consists in identifying current priorities and measures for integrating environmental and innovation policies in relation to the tasks of ensuring sustainable tourism development by using the benefits of their joint implementation.

1 Introduction

Today, research into issues of ensuring the development of the tourism industry is given a special role.. And it is not only because of the expansion of destructive geopolitical processes, external restrictive measures, as well as the implementation of policies aimed at their leveling, the role of the tourism industry as a driver of economic growth and a strategic resource of the economy is significantly increasing. The problem of effective organization of tourism activity today acquires independent significance for national economies, since the backwardness (or lack) of institutionalized forms of saving human life resources, having negative consequences in both social and economic aspects, leads to serious losses in terms of ensuring their security.

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According to a number of researchers, sustainable tourism is the tool that will allow the business community to navigate the current economic and political turbulence [1]. Based on an ecosystem approach to environmental management and environmental protection, sustainable tourism involves “the integration of ecological, economic and social principles of management of biological and physical systems so as to protect environmental sustainability, biological diversity and environmental productivity” [2]. The condition for realizing the potential of sustainable tourism is achieving a close correlation between its principles and the basic goals of the ecosystem approach. [3].

The emergence of sustainable tourism as a sought-after area of tourism development is associated with the potential to achieve a balance of all components of the ESG agenda. We are talking about the ability to ensure rational "non-exhaustive" use of the natural potential of tourist areas, the sustainability of the tourism industry and their economy as a whole [4]. No less important is the achievement of a fair distribution of income between all residents of host destinations. [5].

And if the business community, specialized management and all stakeholders reach a consensus on the importance and need to form a modern tourism infrastructure based on ESG principles (social mission, environmental neutrality and economic growth), it is possible to achieve strategic competitiveness of territories of tourist specialization.

2 Problem statement

The transition to sustainable tourism requires increased innovation and changes in the behavior patterns of consumers of tourism services [6]. Along with the relevance of introducing technological, information, management and other innovations, a special role is given to environmental innovations. In the literature, one can find various interpretations of the role of eco-innovations in economic development: from neutral [7] to positive [8].

In the tourism sector of the economy, the implementation of various types of eco-innovations is given special importance. The high attractiveness of eco-innovations in tourism is associated with their potential to reduce the negative impact on the environment, the high quality of which is one of the most important factors in the formation of tourist flow. At the same time, eco-innovations implemented by the modern tourism business concern individual aspects of production and sale of tourism products, the principle of the complexity of the innovation process is ignored. At this stage, the lack of a systematic approach in the transition to an environmentally oriented development model should be linked rather to its novelty and weak methodological support than to the fear of a decrease in the efficiency of operation, firstly. And secondly, to the poor development of the system of government support measures, decisions taken to stimulate the processes of implementing environmental innovations and the principles of ESG tourism.

Therefore, environmental innovations, the ESG agenda (as the main concepts of sustainable tourism), should be clearly integrated into the management system of tourist destinations and find wide practical application.

3 Materials and methods

The work uses existing scientific and theoretical developments in the field of territorial organization of tourism activities, ESG transformation of host destinations, sustainable development, implementation of ecosystem services and environmental innovations in tourism, examined using a set of methods of conceptual, problematic, comparative, information analysis, scientific generalization and systematization. Statistical materials of Rosstat were used, including data on the development of sustainable tourism in the regions

of Russia, as well as information published on official websites on the Internet, analytical materials of international organizations related to the tourism and travel industry.

4 Results and discussion

4.1 ESG-agenda as the main concept of sustainable tourism

Interest in the problems of sustainable tourism development has increased significantly since the late 1980s as a result of the aggravation of degradation processes in natural ecosystems.

“Sustainable tourism”, in the publications of UNWTO (UN World Tourism Organization) and UNEP (UN Environment Programme), is defined as a popular type of tourism activity that, along with satisfying current and future recreational needs, preserving natural ecosystems and the cultural identity of the inhabitants of tourist areas [9, 10].

The literature on sustainable tourism reveals the duality of its impact on the achievement of priority sustainable development goals (SDGs) [11, 12].

The creation of new jobs, stimulation of labor activity, attraction of investments in infrastructure development, growth of budget revenues, on the one hand, serve as a reliable basis for the growth of the quality of life of local communities. While, on the other hand, there is an increase in destructive processes and phenomena associated with exceeding the maximum permissible recreational loads.

However, it would be wrong to define the relationship between the tourism industry and the natural environment as a simple causal connection. As an integral system or a set of natural and economic elements, they fit into the "nature-population-economy" model [13]. The demand for attractive recreational resources, natural conditions of destinations, as a prerequisite for the development of sustainable tourism, can only be ensured by rationalizing tourist flows. Also, the results of studies [14] indicate a high significant environmental component of tourist areas when travelers choose vacation spots. The risk of destruction of the recreational attractiveness of natural complexes has a direct consequence in the reduction (and even disappearance) of tourist flow.

In the context of the continuing aggravation of destructive environmental processes, the formation of the ESG agenda as the main concept of the long-term dynamics of sustainable tourism is becoming increasingly relevant.

The global scientific and expert community has reached a consensus on the need to implement investment projects for the construction of tourism infrastructure based on ESG principles and clear ideas about the possible socio-economic and environmental consequences of the development of a particular type of tourism. Understanding the need for an innovative solution to environmental problems as a source of sustainable competitive advantages is becoming characteristic of the modern domestic tourism business.

In recent years, due to global transformations and external restrictions, there has been a redistribution of outbound tourist flow within the country. In 2023, domestic tourist flow reached a record 75 million people, which is 15% more than in 2022 (68.5 million), thereby provoking an increase in environmental risks. In such a situation, it becomes especially important to be guided by progressive environmental standards when making certain management decisions. It is advisable to involve all stakeholders in the work on ESG transformation and mitigation of environmental risks arising from tourism activities.

Focusing on the problems of sustainable tourism development in Russian regions, we present an analysis of the results of their ranking according to the indicators characterizing the integration of ESG principles with basic international and Russian guidelines and the most popular practices in the development of sustainable tourism, carried out by the National Rating Agency.

The rating was compiled for "85 regions of the Russian Federation using 34 indicators, which were grouped into four blocks, three of which (IE - Infrastructure & Economy, SC - Society & Culture, EC - Ecology & Climate) included 8 indicators each and the IG block - Institutions & Governance - 10 indicators. The final score (ST - composite index) of the sustainability of tourism development in the constituent entities of the Russian Federation was measured within the boundaries from 0 to 1. Moreover, the more significant the achievement of the region in the studied area, the higher the index value" [Tourism Sustainability Ranking, 2024, 4].

The median indicator of the integral index of ESG tourism development by regions of the Russian Federation (ST-composite index) in 2023 was 0.473, which is higher than last year's indicator, the value of which was at the level of 0.435. The indicators of the final rating assessment of domestic regions are presented in the Table 1.

Table 1. Rating of sustainable tourism and hospitality development in the constituent entities of the Russian Federation in 2023.

Regions	IE – Infrastructure & Economy	SC – Society & Culture	EC – Ecology & Climate	IG – Institutions & Governance	ST – (composite index)	Place – ST
Saint Petersburg	0.813	0.875	0.625	0.611	0.726	1
Krasnodar region	0.875	0.625	0.625	0.750	0.719	2
Republic of Tatarstan	0.688	0.688	0.625	0.750	0.688	3
Moscow	0.750	0.714	0.563	0.611	0.659	4
Tyumen region	0.688	0.688	0.563	0.550	0.622	5
Kaliningrad region	0.688	0.813	0.500	0.400	0.600	6
Murmansk region	0.563	0.688	0.500	0.650	0.600	6
Sverdlovsk region	0.438	0.750	0.563	0.650	0.600	6

Source: compiled from <https://www.ra-national.ru/analytics/> (2024-03-26)

The experience of eight regions, the value of the integral index of which turned out to be ≤ 0.6 , (Saint Petersburg, Krasnodar region, Republic of Tatarstan, Moscow, Tyumen, Kaliningrad, Murmansk, Sverdlovsk regions), are classified as territories with the most preferable conditions for the active development of sustainable tourism activities.

These regions are characterized by the effective use of the potential of "green" marketing, such areas as environmental and social tourism labeling, compliance with the conditions for the formation of an accessible environment, the implementation of measures to preserve the cultural landscape, natural and historical heritage, measures to reduce energy consumption, heat loss, water consumption, etc.

At the same time, the low values of the integral ST-index, typical for most subjects of the Russian Federation, indicate the importance of integrating mechanisms for sustainable tourism development into the system of strategic management of the regional economy, as well as stimulating the use of environmentally oriented innovations in the practical activities of tourism industry enterprises.

4.2 Environmental innovations in ensuring sustainable tourism development

A special role in increasing the efficiency of using natural and recreational resources and ecosystem services is given to environmental innovations, which, acting as a way to integrate innovations and sustainability, can become a driver of economic growth and meet the growing needs of society. In recent decades, the topic of using the potential of the eco-innovation approach to ensure sustainable tourism development has become increasingly popular.

The formation of the theory of environmental innovations in the last decades of the last century is usually associated with a shift in emphasis in the implementation of innovative activities from the dominance of a rational approach to an environmental one. At the same time, environmental innovations were defined as new products / services that create values for firms and their customers through the use of nature-saving technologies [15].

As a result of the study of various definitions of the category of "eco-innovations", it is possible to point out the presence of different approaches to their definition (for example, institutional theory, territorial management, cyclical economy, stakeholder theory, etc.) with uniformity of goal setting: minimization of environmental damage from the organization of the production process. In the studies we reviewed, the materials of specialized organizations present various options for classifying eco-innovations depending on the selected category.

For example, for a category such as "goals of implementing new technologies," the following group of eco-innovations can be proposed:

- resource-saving technologies (technologies for wastewater treatment, energy-saving, recycling of household and industrial waste);
- organizational technologies aimed at reducing the environmental footprint of economic activities throughout the entire production chain, etc.);
- technologies of a "clean" product ("green" goods and services; infrastructure and services in the field of disposal of solid waste, wastewater; services in the field of managing environmental risks of environmental degradation, etc.);
- innovations of natural ecosystems/complexes (organic agriculture, sustainable tourism; environmentally sound forest management, etc.).

The advantages of eco-innovations in tourism are associated with the advantages that they can bring to tourism activities through the creation of additional consumer value with a significant reduction in environmental damage and maintaining the attractiveness of natural destinations.

The main drivers for the creation of eco-innovations in tourism are: the need for environmental regulation of production activities, growing demand for nature tourism services (including recreational tourism), diversification of the offered tourism product, reduction of operating costs, formation of an appropriate image, etc. [16]. Obtaining a positive environmental effect is a key determinant of the implementation of tourism eco-innovations. According to many researchers, all this will contribute to the formation of sustainable competitive advantages and increase the strategic competitiveness of tourist destinations. In support of this thesis, we will consider the practical experience of implementing glamping services in the regions of the RF.

A significant stimulus for the active promotion of glamping accommodation (quickly erected "green" non-capital residential modules with developed services and a wide range of services provided) was a significant increase in demand for domestic tourism services, due to the effect of restrictive measures for the movement of Russian tourists.

According to the Glamping Association of the Russian Federation, if in 2018 there were about 20 glampings operating in the country, then by the beginning of this year there were already more than 400 of them, more than half of which are year-round (Figure 1).

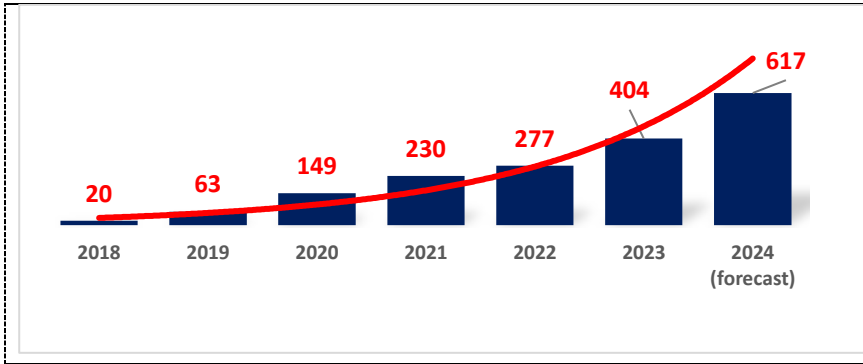


Fig.1. Dynamics of the number of glamping tourism objects in Russia (unit.) Source: <https://tourism.interfax.ru/ru/news/articles/100253/>.

They are located unevenly, mainly in the territories of leading subjects, defined by the NRA as "regions with the most attractive practices." First place is occupied by the Moscow Region with 57 operating glamping sites, second place is occupied by the Leningrad Region (43 glamping sites), and third place is occupied by the Krasnodar Region, where 32 glamping sites operate.

Considering that tourism is an industry with a significant multiplier effect, it can become a driver for the start or acceleration of a "sustainable" eco-innovative transformation of a number of industries in these regions: construction, transport, retail trade, and many others.

4.3 An integration approach to stimulating and supporting environmental innovation in tourism

The complex interdisciplinary nature of eco-innovations, combined with the industry specifics of the tourism sector of the economy and the peculiarities of national development models, determines the non-trivial nature of the problem of their practical implementation.

It should also be noted that despite the fact that innovation and environmental policies are strategic priorities of the modern global economic dynamics, their practical implementation is difficult today. In order to expand the areas of implementation of various types of eco-innovations in the field of tourism, it is important, based on national conditions and the SDGs, to ensure the comprehensive use of regulatory, institutional, economic, organizational, communication and other measures aimed at activating innovation activities in the field of environmental protection.

An effective option for stimulating eco-innovations in tourism can be the greening of the spatial development of tourist destinations as a result of the integration of credit and financial, tax, personnel policies aimed at stimulating eco-innovations in the tourism industry, as well as strategic territorial planning. It is important to achieve social consensus to improve the effectiveness and stimulate the practical implementation of eco-innovations.

To implement ESG principles, government bodies must create their own framework and institutional conditions for the transition of economic entities to an environmentally oriented business model and promote the efficiency of their interaction. Of course, the solution to the problems of greening tourism activities is possible only with the active interaction of tourism business entities with scientific institutions, development institutions and other stakeholders with the active stimulating support of the state and local authorities. That is why the main condition for intensifying the processes of environmentally oriented innovative modernization of the tourism industry is the development of a system of environmental

priorities and goals agreed upon by management levels and formalized in strategic development plans.

In general, the complex nature of innovation and sustainable development requires an integrated policy and coordination of the measures taken. The resulting synergy effect helps to increase the efficiency of the mechanism for stimulating and supporting eco-innovations and each of the tools used.

5 Conclusion

Unprecedented changes in economic, socio-ecological, technological, political, legal and other conditions for the development of modern society require a comprehensive study of global problems that have the most noticeable impact on the activities of economic actors to develop recommendations for their innovative modernization, structural adaptation, as well as the identification of strategic resources and sustainable competitive advantages. In this context, the most important direction of sustainable tourism development is the focus on balancing environmental, socio-economic and management goals based on ESG principles and their integration into the management system of tourist destinations. A special role in solving environmental problems and reducing the ecological footprint of tourism activities is given to eco-innovations, which contribute to the formation of competitive advantages due to the transition to new sustainable business models based on the use of innovative technologies for sustainable nature management.

Despite the understanding of the need for an innovative solution to environmental problems, at present there is insufficient activity in the practical application of eco-innovations by domestic tourism businesses. This requires the formation of objective conditions for the entry of tourism industry enterprises onto the trajectory of sustainable development, the development at the state level of a system of measures and decisions to stimulate the introduction of eco-innovations and mechanisms for their implementation. The paper proposes a set of measures for regulatory, tax, economic and organizational stimulation of environmental innovations for the sustainable development of tourist destinations.

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