

Comparative Geographical Analysis of Tourism and Recreation Management Models in National Nature Parks

Khazratkulov Khusniddin Khaitboyevich

Zomin National Nature Park, Deputy Director for Research

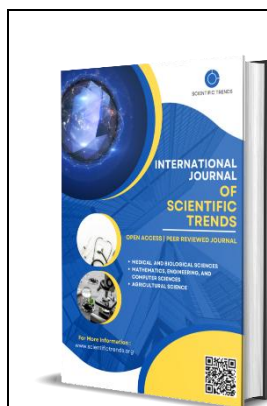
E-mail: eko-zomin-tur@mail.ru

G'ol'dalov Mirkomil Ravshanovich

Associate Professor, Head of the Department of Geography,

Jizzakh State Pedagogical Institute

E-mail: mirkomilgudalov78@gmail.com



Abstract

The article presents a comparative geographical analysis of international management models for tourism and recreation in national nature parks. Funding sources, environmental control mechanisms, advantages and limitations of state-led, public-private partnership and community-based management models are systematized. Based on sustainable tourism and ecotourism concepts, the study substantiates the role of functional zoning, regulation of recreational load and carrying capacity, minimal adaptive infrastructure, environmental education and local community participation. For Uzbekistan, an integrated approach combining the strengths of the reviewed models is proposed.

Keywords: National nature park, tourism, recreation, management model, public-private partnership, community-based management, functional zoning, carrying capacity, environmental monitoring, sustainable tourism.

Introduction

National nature parks constitute a special form of the nature conservation system, combining the preservation of biological and landscape diversity with the task of meeting the tourism and recreational needs of the population. For this reason, managing tourism in such territories is not limited to simple service provision or infrastructure expansion. It requires integrated management that unites interrelated tasks such as preserving the natural state of geosystems, regulating visitor flows, taking into account the interests of the local population, and supporting the territorial economy [3, 5].

Foreign experience shows that the effective organization of tourism in national nature parks depends directly on the institutional form of management, the level of environmental control, financing mechanisms, and the participation of local communities. From this perspective, state-led management, public-private partnership, and community-based management models acquire

significant scientific and practical importance. The purpose of this article is to conduct a comparative geographical analysis of these models, to identify their strengths and weaknesses, and to develop the methodological foundations of an integrated management approach for the conditions of Uzbekistan.

Literature Review and Methodology

Issues of managing tourism and recreation in protected natural areas have been widely covered in the research of scholars and international organizations such as Ceballos-Lascuráin, Eagles and co-authors, Honey, Leung and co-authors, Western, Zabelina, and Khrabovchenko ^[3–10]. The concept of sustainable tourism envisages meeting the needs of the present generation in the use of natural and cultural resources while preserving the opportunities of future generations ^[10, 11]. Butler's theory of the tourist area life cycle emphasizes that when tourist load exceeds ecological carrying capacity, degradation of natural systems and a decline in the tourist attractiveness of the area occur ^[2].

The study employed comparative-geographical, systemic, and structural analysis methods. The unit of analysis was taken to be the three main models for managing national nature parks — the state-led management model, the public-private partnership model, and the community-based management model. Each model was compared in terms of financing, environmental control, organization of tourist services, local population participation, and principal risks and limitations. The integrated model presented in the article was developed as the author's analytical synthesis of the foreign experience and chapter conclusions presented in Section 1.3 of the dissertation.

Results and Discussion

In global practice, various management mechanisms have developed for national nature parks depending on their natural-geographic conditions, political-economic system, and traditions of resource use. The most widespread approaches can be divided into three groups.

Table 1. Comparative analysis of international models for managing national nature parks

Model	Countries	Funding source	Environmental control	Advantage	Limitation
State-led management	USA, Canada	State budget and centralized funds	Strict control by state agencies	High ecological safety and protection	High burden on the state budget
Public-private partnership	Germany, France and other European countries	State subsidies and private investment	Combination of state ecological control and private audit	Rapid infrastructure development and service quality	Commercial risk
Community-based management	Kenya, Tanzania and other African and Southeast Asian countries	International grants and local income from tourism	Control by local communities and NGOs	Local employment; reduction of poaching	Lack of scientific management

Source: systematized by the author based on the comparative analysis in Section 1.3 of the dissertation.

The state-led management model is widely applied in countries such as the USA, Canada, and Australia. In this model, the protection of natural resources, regulation of visitor movement, planning of tourist infrastructure, and monitoring are carried out under a unified state policy. The model's main advantage lies in the strength of environmental control and the centralization of management, while its limitation is associated with the high financial burden placed on the state budget ^[5].

The public-private partnership model is more common in European countries. Here, the state retains authority over nature conservation, environmental control, and territorial planning, while the private sector actively participates in developing hotels, services, excursions, and ecological routes. This approach creates a favourable environment for investment and service quality; however, if nature conservation requirements are not given sufficient priority, it may intensify pressure toward commercialization.

In the community-based management model, the local population is directly involved in protection, guiding, handicrafts, production of ecological products, and the organization of guest houses. According to Western, the economic interest of local communities increases the effectiveness of nature conservation and reduces illegal resource use ^[6]. However, in this model, the adequate organization of scientific management and professional monitoring is an important condition.

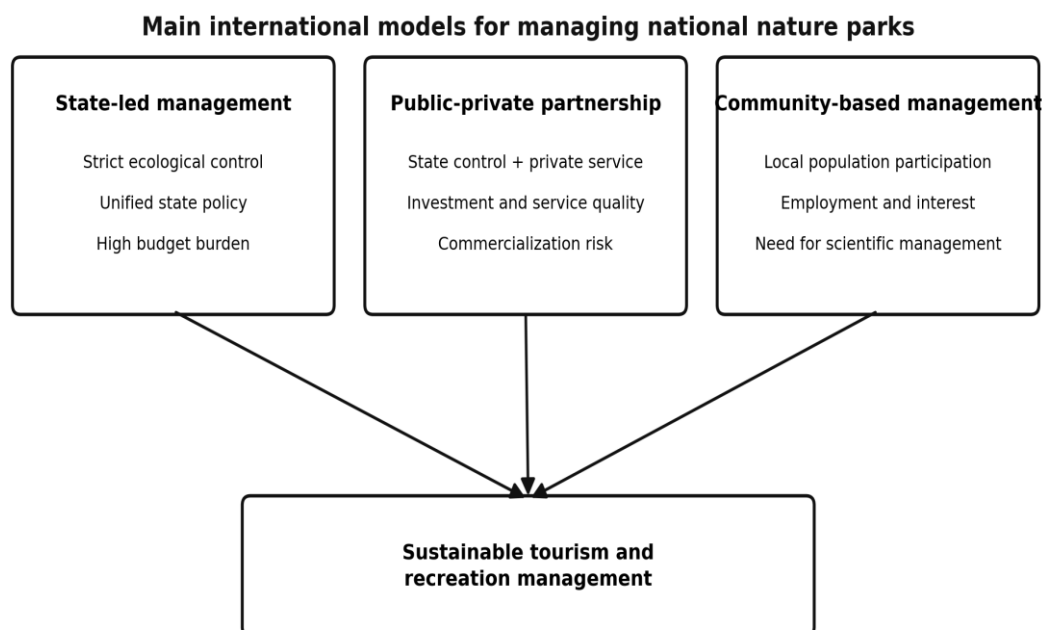


Figure 1. The three main models for managing national nature parks and their orientation toward sustainable management

Regardless of which model is chosen, the main criterion for developing tourism in national nature parks is that it should not harm nature conservation objectives. In the approaches of IUCN and UNWTO, sustainable tourism is linked to the rational use of natural resources, minimization of negative ecological impact, consideration of local population interests, economic efficiency, and

continuous ecological monitoring ^[3, 5, 10]. Ecotourism is regarded as one of the most appropriate directions for practically implementing these principles ^[4].

Table 2. Key mechanisms for sustainable tourism and recreation management in national nature parks

Mechanism	Content	Role in management
Functional zoning	Dividing the territory into reserve, tourist-recreational, and service zones	Rational distribution of visitor flows across the territory and protection of vulnerable ecosystems
Recreational load and carrying capacity	Linking the number of visitors the territory can accommodate without damage to ecological, biological, and psychological factors	Regulating anthropogenic pressure and reducing the risk of degradation
Minimal and adaptive infrastructure	Organizing eco-trails, visitor centers, campsites and other facilities in harmony with the landscape	Preserving the natural-aesthetic value of the landscape
Environmental education	Eco-trails, visitor centers, interactive museums and information tools	Raising the ecological culture of visitors
Local population participation	Guiding, hospitality, handicrafts, and local services	Strengthening the population's economic interest and increasing conservation effectiveness
Continuous monitoring	Regular observation of visits, recreational load, and the state of resources	Providing a scientific basis for management decisions and enabling timely correction

Source: compiled based on Eagles et al. [3], Leung et al. [5], Zabelina [7], Khrabovchenko [8], and the theoretical analysis in Section 1.3 of the dissertation.

Functional zoning is one of the most important theoretical foundations for managing recreation in national parks. According to Zabelina's approach, a territory should be divided into zones with different protection regimes, with the transition from strictly protected areas to tourist-recreational and service zones regulated in a gradual manner ^[7]. This approach makes it possible to direct visits away from the most sensitive natural complexes toward relatively more resilient areas.

Regulating recreational carrying capacity requires assessing the number of visitors not only by spatial capacity but also in relation to the biological resilience of the landscape and the psychological comfort of recreationists. As Khrabovchenko notes, if ecotourism is not organized within the limits of the natural environment's capacity for self-restoration, irreversible degradation processes may intensify ^[8]. For this reason, managing recreational load is an integral part of the conservation function.

The analysis shows that, rather than fully replicating a single model, an integrated approach for Uzbekistan's national nature parks — combining the strict ecological control of the state-led model, the investment and service capabilities of the public-private partnership model, and the local-interest mechanisms of the community-based model — is considered the most appropriate. In this approach, scientific monitoring, functional zoning, and recreational carrying-capacity regulation serve as the core management mechanisms.

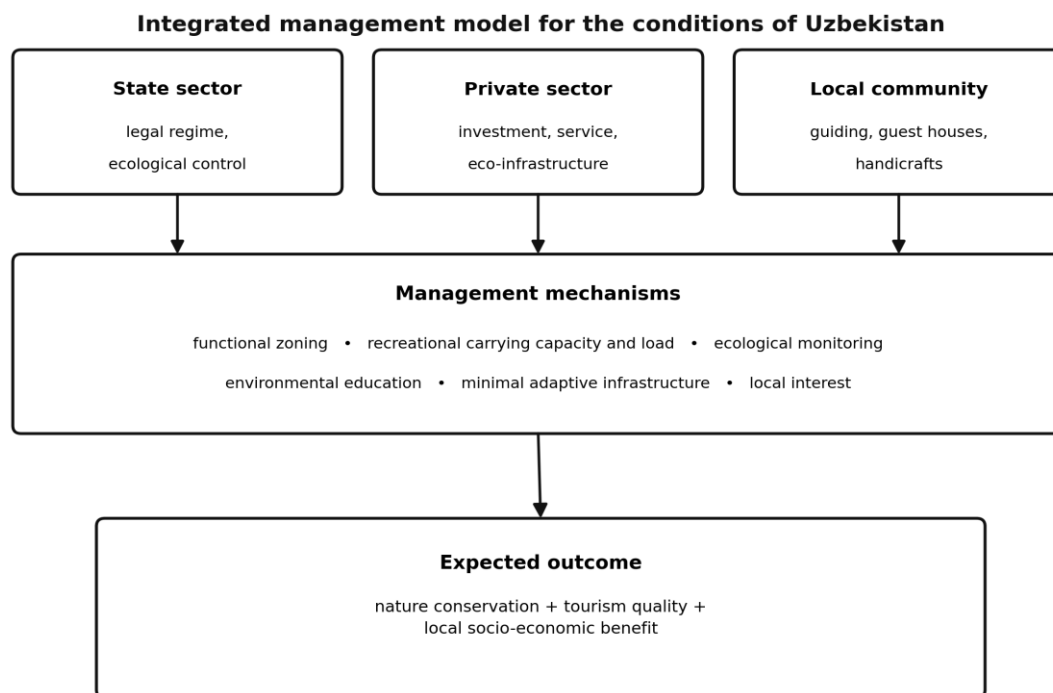


Figure 2. Integrated tourism and recreation management model for the conditions of Uzbekistan (author's analytical synthesis)

Table 3. Functional roles of the main actors in the integrated management model

Actor	Main function	Contribution to the integrated system
State sector	Protection regime, zoning, ecological control and monitoring	Guaranteeing ecological constraints and long-term sustainability
Private sector	Services, investment, infrastructure compliant with ecological standards	Improving service quality and financial sustainability
Local community	Guiding, guest houses, handicrafts and local services	Generating local income and employment, and social interest in conservation
Scientific-monitoring unit	Observing recreational load, carrying capacity and the state of natural resources	Updating decisions based on data and early risk detection

Conclusion

Managing tourism and recreational activity in national nature parks requires viewing nature conservation and tourism development not as opposing processes, but as interrelated elements of a single territorial management system. The comparative analysis showed that the state-led management model excels in ecological control and institutional stability, the public-private partnership model excels in developing investment and services, and the community-based model excels in strengthening the economic interest of the local population.

For the conditions of Uzbekistan, an integrated system combining the strengths of these three models may prove more effective. In such a system, the state would establish ecological constraints and monitoring, the private sector would develop services and infrastructure compliant with ecological standards, and the local population would gain economic benefit through tourism services. Functional zoning, regulation of recreational load and carrying capacity, environmental

education, and scientific monitoring should constitute the mandatory management mechanisms of this model.

The main difference between the proposed approach and the earlier theoretical thesis is that here, rather than the general theoretical content of tourism and recreation, the institutional models for managing national nature parks, their comparative advantages, and the mechanism of integrated management are taken as the central object of research.

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