

ABSTRACT

of the dissertation for the degree of Doctor of Philosophy (Ph.D) on educational program 6D090200 – “Tourism”

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on the topic: “Assessment of the Multiplier Effect of Tourism and Recreational Activities in Kazakhstan's National Parks for the Sustainable Development of Tourism”

General description of work. The dissertation research is dedicated to assessing the multiplicative effect of tourism and recreational activities in the national parks of Kazakhstan and its role in ensuring the sustainable development of tourism.

Relevance of the work

The national parks of Kazakhstan play a key role in preserving natural heritage and developing tourism, contributing to economic growth and improving the quality of life of the local population. However, the underestimation of the multiplicative effect of tourism limits the potential for sustainable management of recreational areas. This study aims to identify effective approaches to generating economic, environmental, and social benefits, as well as to develop measures ensuring the sustainable development of tourism.

The assessment of the multiplicative effect of tourism and recreational activities in the designated areas allows for determining the extent of tourism’s impact on regional development, evaluating its contribution to the economy, and optimizing the management of tourist flows.

The relevance of this research is driven by the necessity to develop scientifically grounded approaches to the sustainable management of national parks, enabling a balance between conservation objectives and the economic benefits of tourism. Moreover, studying the multiplicative effect helps to identify the direct, indirect, and induced economic consequences of tourism, which is crucial for enhancing the investment attractiveness of national parks and engaging local communities in the tourism service sector.

The multiplicative effect of national park activities has been the subject of numerous studies by foreign scholars. For instance, Eagles, McCool & Haynes (2002) examine the role of national parks in the development of ecotourism and their impact on regional economies. Their findings indicate that national parks contribute to local economic growth and stability by involving local communities in the service sector through job creation, the development of related infrastructure, and the stimulation of small businesses. Stynes & Propst (1996) analyze the economic impact of U.S. national parks, demonstrating how visitor expenditures drive regional economic growth. Their research shows that tourism spending in national parks has a multiplicative effect, increasing regional incomes and fostering the development of small and medium-sized enterprises. European scholars, particularly Balmford et al. (2015), focus on the economic efficiency of national parks and protected areas, emphasizing that their effective management promotes regional socio-economic development and environmental conservation.

International experience and the identified best practices in accounting for the multiplicative effect of national park activities are particularly relevant to Kazakhstan. The findings of this research contribute to the development of sustainable tourism, the effective management of national parks, the increase of state budget revenues, and the improvement of regional infrastructure.

The aim of the study

The objective of this dissertation research is to define and comprehensively assess the multiplicative effect of tourism and recreational activities in the national parks of Kazakhstan based on an analysis of economic, environmental, and social indicators, as well as to develop scientifically grounded recommendations for the development of sustainable tourism in Kazakhstan's national parks.

In accordance with this objective, the following tasks have been set: analyze the conceptual and theoretical-methodological foundations of the multiplicative effect in tourism; examine the current state of tourism and recreational activities in Kazakhstan's national parks; develop and apply a methodology for assessing the multiplicative effect (using the "Buiratau" State National Nature Park as an example); identify the environmental and social aspects of tourism activities in the national parks of Kazakhstan; develop recommendations for the sustainable development of tourism in Kazakhstan's national parks.

Object of the Study. Tourism and recreational activities in the national parks of Kazakhstan as a factor in the sustainable development of tourism.

The subject of the study. The multiplicative effect of tourism and recreational activities in the national parks of Kazakhstan and its impact on the economic, environmental, and social development of the regions.

The sources of research materials include. The sources of information and research materials include: Statistical data on tourism provided by the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan; Reporting data from Katon-Karagay, Buiratau, and Altyn-Emel National Parks on tourist flows, economic contributions, and environmental changes; Environmental monitoring data on ecosystem load, collected using GIS analysis and spatial modeling methods; Economic indicators calculated based on the Input-Output Analysis (IOA) method, Social Accounting Matrix (SAM), and Computable General Equilibrium (CGE) model; Survey results from tourists, interviews with representatives of local communities, and staff of national parks; Scientific publications and regulatory legal acts governing the activities of national parks in Kazakhstan.

Research Methods

In the course of the dissertation research, an assessment of the multiplicative effect of tourism and recreational activities in the national parks of Kazakhstan was conducted. For the analysis of economic impact, the Input-Output (I-O) model was used, allowing for the evaluation of direct, indirect, and induced effects of tourist expenditures. The calculation of expenditure and income multipliers was based on primary data collected by the doctoral researcher during scientific field studies in the national parks.

For spatial analysis of tourist flows, GIS technologies were applied, including multi-criteria decision analysis (GIS-MCDA). Surveys of local residents and tourists were conducted using a 5-point Likert scale. To assess the permissible recreational load, a threshold density calculation method was used to determine tourist capacity in different natural zones of the national parks.

Description of the Main Research Results

The study revealed a significant impact of tourism and recreational activities on the economies of areas adjacent to national parks, largely due to their multiplicative effect. It was established that tourism in national parks not only generates direct revenue from tourism services but also has indirect effects on related industries—transportation, hospitality, food services, souvenir production, and others, leading to an overall increase in economic benefits.

The use of the Input-Output (I-O) model enabled a quantitative assessment of the multiplicative effect of tourist expenditures in several national parks of Kazakhstan, including Buiratau, Katon-Karagay, and Altyn-Emel. Specifically, for Buiratau, the tourism expenditure multiplier was found to be 2.84, while the income multiplier was 2.578. These results demonstrate the substantial impact of tourism on regional economies.

The study also confirmed the importance of considering environmental and social aspects in the development of tourism in national parks. For example, in the analysis of Katon-Karagay National Park, permissible recreational load thresholds were determined for different zones of the park, allowing for the formulation of recommendations on regulating tourist flows and preserving ecosystems.

Within the research conducted in the Altyn-Emel project area, the hypothesis was confirmed that ecotourism development in national parks contributes not only to economic growth but also to enhancing social stability in local communities. However, it was noted that despite the identified potential, the level of local community engagement in the tourism service sector remains insufficient. This gap can be addressed by providing training on best practices, organizational and legal support at the initial stages of business involvement.

Based on the research findings, recommendations were proposed for the development of sustainable tourism in Kazakhstan's national parks. The key priorities include: Enhancing the monitoring system of tourist flows, Implementing mechanisms for managing environmental loads, Developing infrastructure based on ecological sustainability principles, Strengthening the involvement of local communities in tourism planning and management processes.

Thus, the study confirmed the necessity of an integrated approach to tourism management in national parks, considering economic, environmental, and social parameters. Furthermore, accounting for the multiplicative effect of tourism activities allows for maximizing tourism's potential as an effective tool for ensuring the sustainable development of protected natural areas.

Novelty of the Obtained Results

The novelty of the research results is determined by the comprehensive assessment of the multiplicative effect of tourism and recreational activities in the national parks of Kazakhstan and its analysis from the perspective of sustainable development.

1 Comprehensive Assessment of Economic Impact – For the first time, the impact of tourism on the economies of regions where Kazakhstan's national parks are located has been quantitatively calculated using the Input-Output (I-O) model. The tourism expenditure and income multipliers have been determined, and their influence on the well-being of local communities has been demonstrated.

2 Assessment of Recreational Load and Tourist Flow Density – Threshold levels of tourist load for Kazakhstan's national parks have been identified. For the designated functional zones (quiet recreation, active tourism, and protected areas), quantitative indicators of recreational load have been scientifically substantiated.

3 Engagement and Perception of Local Communities – Based on the results of sociological studies on local population participation in ecotourism development and the assessment of economic benefits from tourism activities, recommendations have been developed for involving local communities in sustainable tourism management processes.

4 Recommendations for the Development of Sustainable Tourism in National Parks – The research findings have led to the development of scientific and practical recommendations for strategic planning of sustainable tourism in national parks. These recommendations can be applied in policy-making and management decisions, ensuring tourism development while maintaining ecological stability.

Thus, the generalized result of the study is the proposal of a new methodology for the quantitative and qualitative assessment of the impact of tourism and recreational activities in national parks on regional economies. This methodology is based on leveraging the advantages of the multiplicative effect of tourism, representing a scientific contribution to the development of sustainable tourism in Kazakhstan.

Scientific and Practical Significance of the Research Work.

The validity of the obtained results is confirmed by the application of tested economic-mathematical models, including the analysis of expenditure and income flows as well as multiplicative effect coefficients, which allowed for a quantitative assessment of the economic impact of tourism and recreational activities in the national parks of Kazakhstan. The comprehensive approach, incorporating statistical methods, sociological surveys, and

geoinformation technologies, ensures the reproducibility of research results and their applicability in developing sustainable tourism strategies. The research findings can be used to optimize the management of tourist flows, enhance the economic efficiency of recreational areas, and mitigate environmental risks.

Validity and Reliability of the Obtained Data

The reliability and objectivity of the data are confirmed by the application of a combination of various statistical and analytical methods, including the Input-Output model, correlation analysis, and geostatistical analysis. A comprehensive verification of the results was ensured through the use of recreational load assessment methods, the psycho-comfort approach, and focus group surveys. A detailed description of the data and methods used allows for the reproduction of research results and an objective assessment of the multiplicative effect of tourism and recreational activities in Kazakhstan's national parks.

Relevance of the Topic to the Research Plan and Various Government Programs

The dissertation aligns with the priority areas of scientific development – “Ecology, Environment, and Rational Nature Management” and “Intellectual Potential of the Country”, approved by the Higher Scientific and Technical Commission under the Government of the Republic of Kazakhstan.

The dissertation topic corresponds to several state documents, including: Address of the Head of State Kassym-Jomart Tokayev to the People of Kazakhstan on September 1, 2023 “Economic Course of a Fair Kazakhstan”; Address of the Head of State Kassym-Jomart Tokayev to the People of Kazakhstan on March 16, 2022 “New Kazakhstan: The Path of Renewal and Modernization”; “Concept for the Development of Rural Areas of the Republic of Kazakhstan for 2023–2027”; “Concept for the Development of the Tourism Industry of the Republic of Kazakhstan for 2023–2029”; “State Program for Regional Development for 2020–2025”, and others.

The dissertation was carried out within the framework of grant project No. AP08855888 on the topic “Ensuring the Sustainable Development of Kazakhstan's National Parks through the Territorial Organization of Ecotourism” (2020-2022), funded by the Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan.

Key Provisions Submitted for Defense

1 Assessment of the Multiplicative Effect of Tourism and Recreational Activities in National Parks of Kazakhstan using the Input-Output (I-O) Model and the analysis of direct, indirect, and induced effects allows for identifying key economic determinants and mechanisms for the distribution of tourism revenues in the regional economy.

2 Determining the tourism and recreational capacity of national parks in Kazakhstan based on the analysis of recreational loads, territorial zoning, and the implementation of adaptive management strategies is a key tool for ensuring their sustainable development and the conservation of natural resources.

3 The socio-economic involvement of local communities in the development of national parks has a significant impact on the sustainability of tourism. The use of survey and interview methods allows for assessing public perception and participation levels in tourism activities, as well as evaluating the potential for local entrepreneurship.

4 A four-zone model of the spatial organization of national parks with differentiated economic multipliers enhances the efficiency of managing natural and economic systems compared to traditional approaches.

Practical Results Testing

The main research findings were presented at international conferences, seminars, and forums, including: International Conference “Farabi Álemi” (Almaty, 2019, 2020, 2021); VI International European Conference on Interdisciplinary Scientific Research (Bucharest, Romania, 2022); Papers of International Conferences held at Kodolányi János University

(Budapest, Hungary, 2019); VIII International Scientific and Practical Conference “Modern Problems of Tourism Development” (Almaty, 2019); International Scientific and Practical Conference “Management in the 21st Century” at the Institute of Management of Belgorod State National Research University (Belgorod, Russian Federation, 2018).

From 2020 to 2022, the author participated as a researcher in the grant-funded scientific project No. AP08855888 titled "Ensuring the Sustainable Development of Kazakhstan's National Parks through the Territorial Organization of Ecotourism", funded by the Committee of Science of the Ministry of Science and Higher Education of the Republic of Kazakhstan under the state budget program “Grant Funding” (priority area: Scientific Research in the Field of Natural Sciences).

The practical application of the research results was carried out in the form of implementation acts in the Buiratau, Katon-Karagay, and Altyn-Emel National Parks, as well as through six author's certificates registered with Kazpatent (NIIS).

Publications

A total of 23 scientific papers have been published on the topic of the dissertation, including: 3 articles in journals indexed in Scopus and Web of Science; 5 articles in publications recommended by the Committee for Quality Assurance in Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan; 5 articles in the proceedings of international conferences; 1 collective monograph. The results of the completed research are reflected in three scientific articles, published in the journal Sustainability (Q2 in Web of Science, Impact Factor 3.6, 88th percentile).

Personal Contribution of the Doctoral Candidate to the Preparation of Articles

In the article “Assessing the Multiplier Effect of National Parks: A Case Study of Buiratau State National Nature Park in Kazakhstan”, Sapiyeva Akmaral Zhenisbayevna is the first author. The doctoral candidate conducted a literature review on the research topic. Within the framework of this article, the method of assessing the economic impact of sustainable tourism through the multiplier effect was examined using the example of the Buiratau State National Nature Park.

Furthermore, the article presents a model of the multiplier effect distribution, developed by the doctoral candidate. In general, the doctoral candidate participated in qualitative and quantitative assessment, preparation of the introduction, methodology, results, and conclusion, as well as in the drafting of the initial versions of the articles and editing of the final versions. Additionally, Sapiyeva A.Zh. was involved in the preparation of articles in accordance with journal requirements and participated in their revision after each stage of peer review.

The doctoral candidate is one of the authors of the article “Balancing Nature and Visitors for Sustainable Development: Assessing the Tourism Carrying Capacities of Katon-Karagay National Park, Kazakhstan”. As part of the study, the doctoral candidate participated in the assessment of recreational load, qualitative and quantitative analysis, writing the initial versions of the article, as well as its revision and editing.

Furthermore, Sapiyeva A.Zh. took part in the preparation of the article in accordance with journal requirements and was engaged in its improvement after each stage of peer review.

The doctoral candidate is one of the authors of the article “Sustainable Development of Ecotourism in “Altynemel” National Park, Kazakhstan: Assessment through the Perception of Residents”. In this work, the doctoral candidate participated in the qualitative and quantitative assessment of field research results, as well as in the creation of a digital terrain model (SRTM) and the preparation of maps using ArcGIS.

The doctoral candidate was involved in the writing of the initial versions of the article, as well as its editing and revision. Overall, Sapiyeva A.Zh. was responsible for preparing the article in accordance with journal requirements and took part in its refinement after each stage of peer review.