

INTEGRATED DEVELOPMENT OF ECOLOGICAL AND CULTURAL TOURISM IN THE BUKHARA REGION: CHALLENGES AND PROSPECTS

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INTRODUCTION. Tourism has emerged as one of the most strategically significant sectors of the global economy, playing a pivotal role in sustainable and inclusive development. As an intersectional industry, even marginal improvements in sustainability practices produce measurable effects across local, national, and global economic scales. The President of Uzbekistan, Shavkat Mirziyoyev, has designated tourism as a strategic national economic priority, implementing comprehensive reforms to develop the sector. Situated at the historic crossroads of Silk Road civilizations, Uzbekistan possesses over 8,000 historical and natural landmarks, many of which are inscribed on UNESCO's lists of tangible and intangible cultural heritage.

The Bukhara Region occupies a central position within this landscape. With a history spanning more than 2,000 years and UNESCO World Heritage status since 1993, Bukhara represents an extraordinary convergence of archaeological, architectural, and spiritual resources. The Historic Centre of Bukhara stands as a beacon of Islamic civilization from the 10th to the 17th centuries, preserving an urban fabric of exceptional coherence. Key landmarks — the Ismail Samani Mausoleum, the Poi-Kalyan complex, the Lyabi-Khauz ensemble, and numerous madrasahs — underscore the region's outstanding universal value.

Despite strong growth in tourist arrivals — rising from 1.4 million in 2017 to 4.87 million in 2023 — the region faces persistent structural challenges: insufficient infrastructure, shortages of qualified personnel, weak international promotion, and growing ecological pressure on heritage sites. The Cabinet of Ministers Resolution No. 543 (2022) sets ambitious targets for tourism development through 2026, including attracting 5 million tourists and generating \$600 million in export revenue. Achieving these goals requires not only quantitative growth but a qualitative shift toward integrated ecological and cultural tourism. This paper analyzes the current state of tourism in the Bukhara Region, examines relevant international practices, and proposes evidence-based recommendations for sustainable development.

Tourism Growth Dynamics and Structural Challenges (2017–2024)

Statistical analysis of tourism in the Bukhara Region reveals a trajectory of strong but uneven growth. Arrivals expanded from 1.4 million in 2017 to 3.6 million in 2019, before collapsing to 250,000 in 2020 due to the COVID-19 pandemic. Recovery has been robust: 2.2 million in 2021, 3.5 million in 2022, and 4.87 million in 2023 — surpassing pre-pandemic levels and signaling structural demand. Accommodation facilities grew from 114 in 2017 to 541 in 2023, and travel companies from 41 to 142 over the same period (Bukhara Statistics Agency, 2024). However, quantitative growth masks significant qualitative deficiencies.

Four primary structural constraints are identified. First, infrastructure inadequacy: despite exceptional heritage resources, poor road conditions and underdeveloped transport networks limit access to many monuments. Of 44 regional tourism firms operating in 2024, 33 were concentrated in Bukhara city, indicating uneven geographic distribution of tourism benefits. Second, human capital deficits: high staff turnover, language barriers, and inadequate professional training systematically

undermine service quality. Third, marketing weakness: regional small and medium tourism enterprises (SMTEs) remain largely dependent on external tour operators for promotion and distribution, creating vulnerability to intermediary pricing power (Buhalis, 1995). Fourth, ecological pressure: the absence of comprehensive environmental management frameworks creates growing risks of heritage degradation as tourist volumes increase.

International Green Tourism Models and Adaptation for Bukhara

Comparative analysis of international cases yields several actionable insights. In Germany, eco-certification of hotels has proven to be a competitive advantage: certified properties achieve 10–15% higher occupancy rates and renewable energy accounts for over 40% of the tourism sector's energy use. This model offers a template for developing green certification standards applicable to Bukhara's family guest houses and small hotels.

Spain's experience in managing heritage cities such as Granada and Toledo is directly relevant to Bukhara. Regulating tourist flows through pedestrian zone expansion and public transport development reduced car traffic in historical centers by 30–35% and decreased environmental pressure on cultural sites by approximately 20%. For Bukhara's historic core — a UNESCO site experiencing mounting visitor pressure — implementing tourist flow management within a green mobility framework is the most urgent adaptation priority.

Turkey's Green Star Program provides an instructive model for Bukhara's pilgrimage tourism sector, which draws visitors to the shrines of Naqshbandi Sufi masters including Bahauddin Naqshband and Abdukhaliq Gijduvani. The program achieved 15–20% reductions in water consumption and 10–18% reductions in energy use in certified hotels, alongside a 5–7% annual increase in local employment in pilgrimage tourism regions. South Korea's Smart Tourism City projects are equally relevant: QR-guide systems, digital ecological monitoring, and smart flow management reduced physical pressure on heritage sites by 20% and decreased waste volume by 10–12% (Lee et al., 2020). Applying digital management tools in Bukhara could prevent overcrowding at key monuments while enhancing visitor experience.

The Role of the Gijduvan Free Economic Zone

The Gijduvan Free Economic Zone (FEZ), established under Cabinet of Ministers Resolution No. 196 (2017), represents a significant institutional mechanism for concentrated tourism development in the Bukhara Region. Gijduvan's strategic location on the Tashkent–Bukhara–Turkmenabat international highway and the Bukhara–Tashkent railway corridor provides the logistical foundation for integrated heritage tourism routes. The district's own cultural assets — the 12th-century Abdukhaliq Gijduvani mosque and mausoleum complex, the Ulugbek Madrasah (1432–1433), and the Khoja Suktari mausoleum — complement Bukhara city's monuments and enable the development of distributed heritage tourism circuits.

The Khojai Jahon shrine in Gijduvan attracts an estimated 55,000–73,000 visitors annually, demonstrating organic demand for pilgrimage tourism in the district. However, a critical asymmetry exists: internationally recognized sites such as the Bahauddin Naqshband complex receive investment and management attention, while secondary sacred sites — including the Khoja Suktari mausoleum — remain in states of neglect. Addressing this gap through targeted FEZ investment incentives could both preserve cultural heritage and distribute tourism benefits more equitably across the region.

Green Tourism Projections to 2030

Projection modeling based on statistical extrapolation and international benchmarking indicates substantial growth potential. Tourism revenue is forecast to rise from 0.72 trillion UZS in

2023 to 1.65 trillion UZS by 2030. The share of green-certified facilities is expected to increase from 29% to 55%, while green investment volumes are projected to grow from 220 billion to 850 billion UZS through expanded public-private partnership mechanisms. Employment in the green tourism sector is forecast to nearly double, from approximately 13,200 to 26,000 positions, with significant gains in rural and peripheral areas. The ecological load index is projected to decline by 30%, reflecting the combined effects of resource conservation, waste reduction, and digital management. A benefit-cost ratio of 2.68 — accounting for over 1,120 jobs created and a 28% reduction in environmental footprint — provides strong economic justification for sustained green tourism investment.

CONCLUSION AND RECOMMENDATIONS.Based on the analysis conducted, the following conclusions and practical recommendations are proposed:

1. Integration is essential. The integrated development of ecological and cultural tourism represents the most strategically sound pathway for ensuring long-term sustainable growth in the Bukhara Region. Cultural heritage preservation and ecological sustainability are not competing objectives but mutually reinforcing dimensions of a single system and must be planned accordingly.

2. Infrastructure improvement. Developing convenient transport connections to heritage sites, modernizing road infrastructure, and expanding the number of quality accommodation facilities are immediate priorities. The logistical advantages of the Gijduvan FEZ should be leveraged to develop integrated tourism circuits along the Tashkent–Gijduvan–Bukhara corridor.

3. Human capital development. Regular professional training programs and foreign language courses for hotel and restaurant staff should be organized. Practical internship partnerships between Bukhara State University's tourism faculty and regional enterprises would directly improve service quality and reduce turnover.

4. Green certification system. Drawing on the German and Turkish models, ecological certification standards for hotels, family guest houses, and tourism enterprises should be developed and implemented. Tax incentives and financial support mechanisms for businesses that meet green standards would accelerate adoption and enhance regional competitiveness.

5. Digital tourism management. Inspired by South Korea's experience, QR-guide systems, digital tourist flow monitoring, and smart route management should be introduced at UNESCO heritage sites in Bukhara. These tools will reduce physical pressure on monuments and allow real-time ecological load management.

6. Equitable distribution of heritage benefits. Within the Gijduvan FEZ framework, the restoration and integration of secondary but historically significant sacred sites — particularly the Khoja Suktari mausoleum — into official tourism routes is recommended. This would ensure that tourism revenue and development benefits are distributed more equitably across the region.

In summary, the Bukhara Region possesses exceptional potential to emerge as a leading model for sustainable heritage tourism in Central Asia. Realizing this potential requires coordinated institutional commitment, strategic investment in infrastructure and human capital, and the principled adoption of green tourism standards adapted to the region's unique historical, cultural, and economic conditions.

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