

Economic Impacts of Eco-Tourism Development in Uzbekistan's Rural Regions

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Abstract. *This study provides a comprehensive analysis of the economic impacts of eco-tourism in Uzbekistan's rural regions, weaving together the roles of digital marketing, electronic word-of-mouth (EWOM), and synergies with pilgrimage tourism. Drawing on extensive 2023-2024 data, it examines income generation, employment opportunities, and economic diversification as pivotal drivers for reducing rural poverty and underemployment. Employing a mixed-methods approach—surveys, interviews, and structural equation modeling (SEM)—the research uncovers a strong foundation for sustainable economic growth, tempered by significant challenges in infrastructure, funding, and marketing. These findings aim to guide Uzbekistan's "Tourism Development Strategy 2030," which targets 9 million annual visitors by 2026, offering actionable insights for policymakers and stakeholders.*

Key words: *Eco-tourism, rural development, digital marketing, EWOM, pilgrimage tourism, economic impact, Uzbekistan.*

Introduction: Uzbekistan's rural regions, home to over 17.5 million people (50% of the 35 million population in 2023), are vital yet economically strained. Agriculture dominates 85% of rural activity, contributing 24% (\$13 billion) to the national GDP of \$54 billion (Statistics Committee, 2023). However, these areas grapple with persistent issues: underemployment affects 28% of the rural workforce (approximately 2.5 million people), and poverty rates fluctuate between 12-15%, with some districts like Surkhandarya reaching 18%. In contrast, Uzbekistan's tourism sector has flourished, growing from 2.07 million visitors in 2016 to 5.3 million in 2018 (Yanda & Supono, 2021), peaking at 6.7 million in 2019 (Navruz-zoda, 2024), and stabilizing at 6.626 million in 2023, yielding \$2.1435 billion in export revenue (State Committee, 2023). By July 2024, arrivals hit 4.2 million, a recovery from the 1.3 million low in 2020 due to the COVID-19 pandemic (Gulyamova, 2023). Despite this national success, rural areas capture just 10% (\$210 million) of tourism revenue, highlighting a stark urban-rural divide. Eco-tourism, which leverages Uzbekistan's natural assets—such as the Kyzylkum Desert's vast dunes, the Nuratau Mountains' biodiversity, and Zaamin National Park's pristine forests—offers a transformative opportunity. In 2023, rural eco-tourism attracted 120,000 visitors, generating \$220 million, a 20% increase from 2022. By mid-2024, visitor numbers rose to 80,000, reflecting sustained growth. This aligns with global eco-tourism trends, where the sector generates \$300 billion annually, exemplified by Costa Rica's \$1.2 billion in 2023 and Kenya's \$1 billion from safari tourism. Digital marketing and EWOM have emerged as powerful tools, boosting visitor satisfaction and bookings by amplifying rural destinations' visibility (Yanda & Supono, 2021). Simultaneously, pilgrimage tourism, with visitors spending an average of \$875 each (Navruz-zoda, 2024), complements eco-tourism in rural hubs like Bukhara and Samarkand, where shrines such as Bahauddin Naqshband and Imam Al-Bukhari draw spiritual travelers. Domestic tourism further bolsters this potential, with 15 million Uzbek citizens making 21 million trips in 2023,

many to rural eco-sites. This study assesses eco-tourism's multifaceted economic impacts, aiming to inform Uzbekistan's ambitious "Tourism Development Strategy 2030," which seeks 9 million annual visitors by 2026, while addressing rural economic disparities.

Materials and Methods: The research utilized a robust mixed-methods framework, integrating quantitative surveys, qualitative interviews, and structural equation modeling (SEM), adapted from methodologies in Yanda and Supono (2021). Between February 1 and March 1, 2024, a survey engaged 200 stakeholders across Jizzakh, Fergana, and Kashkadarya provinces: 100 rural residents, 50 eco-tourism operators, and 50 tourists (30 foreign, 20 domestic). A 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) evaluated perceptions of income growth, job creation, and development barriers, with questions tailored to capture economic and social impacts (e.g., "Eco-tourism has increased my household income," "Infrastructure limits tourism growth"). Demographic analysis showed 40% of respondents were over 60, aligning with pilgrimage tourism patterns (Navruz-zoda, 2024), while 35% were youth aged 18-30, reflecting eco-tourism's appeal to younger adventurers.

Data collection targeted three key sites: Zaamin National Park in Jizzakh (70 respondents), known for its pine forests and hiking trails; Rishtan village in Fergana (60 respondents), a hub for ceramics and homestays; and Kyzylkum Desert camps in Navoi (70 respondents), offering camel treks and stargazing. Surveys were distributed in person by six trained enumerators from Andijan State University and supplemented by Google Forms for operators. Four in-depth interviews with local operators, a village elder, and a tourism official provided qualitative depth, revealing insights like the need for better roads and digital training.

Secondary data enriched the analysis: the State Committee's 2023 Tourism Report detailed 6.626 million visitors and \$2.1435 billion in exports, while 2024 projections estimated 4.2 million arrivals by July. UNDP's 2023 Rural Development Review highlighted underemployment and poverty trends, and regional tourism reports contextualized pilgrimage overlaps. SEM, conducted via AMOS software, modeled causal relationships between digital marketing, visitor satisfaction, income, employment, and diversification, with statistical significance set at $P < 0.05$ and critical ratios (C.R.) assessed for path strength.

Analysis of Results: Eco-tourism in Uzbekistan's rural regions has demonstrated tangible economic progress. In 2023, it hosted 120,000 visitors, generating \$220 million, a figure that climbed to 80,000 visitors by July 2024, reflecting a 15% growth rate despite seasonal fluctuations. This constitutes 6% of the national \$3.5 billion tourism revenue, dwarfed by urban centers like Tashkent (40%) and Samarkand (25%). Survey findings revealed that 70% of rural residents reported income gains, 65% of operators noted profit increases through digital platforms like Instagram and Booking.com, and 60% of tourists preferred eco-friendly options over urban alternatives. However, 55% cited infrastructure deficits—poor roads, unreliable electricity, and limited sanitation—as persistent barriers.

Income generation: Eco-tourism has become a lifeline for rural households. In the Nuratau Mountains, 18,000 visitors in 2023 generated \$160,000, lifting annual incomes for 60 families by 25% (from \$200 to \$250). Operators reported that guided treks (\$10/person) and homestays (\$15/night) accounted for 70% of this revenue. In Fergana, Rishtan's homestays earned \$106,000 from 15,000 visitors, a 20% rise, fueled by ceramics workshops (\$5/participant) and local cuisine offerings. Kyzylkum Desert camps brought in \$70,000 from 10,000 visitors, up 18%, with camel rides (\$20/person) and camping (\$25/night) as primary draws. Digital marketing amplified these gains, increasing bookings by 20%—65% of operators credited platforms like TikTok and Google Ads for attracting foreign tourists from Europe (40%) and Asia (30%). EWOM, through TripAdvisor reviews and Instagram posts, boosted visibility by 15%, with 80% of surveyed tourists citing online recommendations as their motivation. Pilgrimage tourism added significant value: Zaamin's shrines contributed \$90,000, and Nuratau's \$50,000, with visitors spending \$875 each on lodging, food, and souvenirs (Navruz-zoda, 2024). Domestic tourism, driven by 15 million citizens making 21 million trips in 2023, injected \$30,000 into Fergana homestays, \$10,000 into Nuratau, and \$5,000 into Kyzylkum. Scaling eco-tourism to 20% of Uzbekistan's 2,500 rural communities (500 villages) could

generate \$150 million by 2026, assuming a conservative 10% annual growth rate and \$300 average spend per visitor. This could reduce rural poverty by 5%, lifting 875,000 people above the poverty line (based on a \$2/day threshold). However, funding remains a bottleneck: only \$5 million is allocated annually against a \$20 million need, and 60% of stakeholders report inadequate marketing support, limiting global reach.

Table 1: Income Sources and Growth (2023-2024)

| Region | Eco-Tourism Income | Pilgrimage Contribution | Digital/ EWOM Impact | Domestic Boost |
|---------------|--------------------------|---------------------------|------------------------|----------------|
| Nuratau | \$160,000 (18K visitors) | \$50,000 (shrines) | +20% (EWOM) | \$10,000 |
| Fergana | \$106,000 (15K visitors) | \$30,000 (cultural sites) | +15% (social media) | \$30,000 |
| Kyzylkum | \$70,000 (10 visitors) | \$10,000 (minor sites) | +10% (ads) | \$5,000 |
| Dubai | \$70,000 | \$10,000 | 5,000 | \$5,000 |
| Turistik zona | Ichki turizm shanklari | Andijon viloyorat zona | Ichki turizm aigilatis | |

Employment Opportunities: Eco-tourism has spurred job creation across rural Uzbekistan. In 2023, it generated 1,200 jobs, rising to 1,500 by July 2024—a 25% increase. In Nuratau, 150 guides earned \$8,000 annually (\$53/job), supported by training from local NGOs. Kyzylkum's 200 operators, managing camel treks and camps, made \$26,000 (\$130/job), while Fergana's 300 homestay staff earned \$30,000 (\$100/job). Women constitute 40% of this workforce (600 jobs), doubling agriculture's 20% female share, and youth (18-30) account for 50% (750 jobs), offering an alternative to urban migration. Pilgrimage tourism bolstered these figures, adding 50 jobs in Zaamin (e.g., guides, vendors) and 30 in Nuratau, often overlapping with eco-tourism roles (Navruz-zoda, 2024). Digital platforms created 200 indirect jobs—content creators, drivers, and suppliers—with 80% based in rural areas. However, challenges persist: 45% of jobs are seasonal (April-October), and 68% of workers seek year-round stability. Expanding to 25% of rural areas (625 communities) could yield 15,000 jobs by 2026, cutting underemployment by 10% (250,000 people). Yet, training funding lags at \$2 million against a \$10 million need, limiting skill development in hospitality and digital marketing.

Table 2: Employment Trends (2023-2024)

| Region | Jobs (2023) | Jobs (July 2024) | Women/ Youth Share | Pilgrimage Add-On |
|--------------------|-------------|------------------|-----------------------------|--------------------|
| Nuratau | 150 | 180 | 45%/55% | 20 |
| Fergana | 300 | 350 | 40%/50% | 15 |
| Kyzylkum | 200 | 230 | 35%/45% | 10 |
| IV. Hudud turistik | — | — | Abcarror turizmni pinsipela | Molinavivn acimlar |

Table 2: Employment Trends (2023-2024)=Vorijwtja-zriba bilan uygumlasuv

Economic Diversification: Eco-tourism is reshaping rural economies by reducing dependence on agriculture. In Jizzakh, agriculture's GDP share dropped from 60% to 50% in 2023, with eco-tourism contributing 8% (\$15 million) through Zaamin's tourism surge. Kyzylkum added \$50,000 via desert

camps, and Zaamin generated \$90,000, blending eco- and pilgrimage tourism. Pilgrimage routes like Shahizinda in Jizzakh contributed \$20,000, supporting local crafts and services (Navruz-zoda, 2024). EWOM enhanced quality perception, with 75% of tourists rating rural experiences as “excellent” (C.R. = 2.731, P = 0.006; Yanda & Supono, 2021). Rural non-agricultural GDP, currently 5% (\$1 billion), could reach 12% (\$2.5 billion) by 2026 if eco-tourism expands to 1,000 communities, assuming \$2,500 per community annually. This shift could diversify income sources—e.g., handicrafts in Rishtan rose 30% (\$10,000) due to tourist demand. However, infrastructure funding (\$8 million vs. \$30 million needed) and preservation concerns (85% of stakeholders) threaten progress, with risks to biodiversity (e.g., Nuratau’s rare flora) and cultural sites if tourism scales unchecked.

Challenges and Opportunities: Stakeholders identified three critical barriers: infrastructure (75%), preservation (85%), and marketing (60%). Infrastructure deficits include unpaved roads (e.g., 40% of Kyzylkum access routes), sporadic electricity (affecting 30% of Nuratau homestays), and inadequate sanitation (noted by 50% of Zaamin visitors). Preservation challenges involve balancing tourism with ecological protection—e.g., Zaamin’s forests face littering risks—and safeguarding pilgrimage sites from over-tourism. Marketing lags due to limited digital literacy, with only 30% of operators using social media effectively, and a lack of global campaigns targeting eco-conscious travelers from Europe and North America. Opportunities lie in leveraging digital tools and sustainability. Digital marketing and EWOM predict tourist preferences with 80% accuracy (Yanda & Supono, 2021), as seen in Fergana’s 15% booking spike from Instagram campaigns. Sustainable practices, supported by 80% of stakeholders, could position Uzbekistan as a green tourism leader, akin to Bhutan’s model. Addressing these requires a \$25 million investment: \$22 million for infrastructure (roads, Wi-Fi, sanitation), \$5 million for marketing (digital training, campaigns), and \$10 million for preservation (ranger programs, waste management). Public-private partnerships, such as with international eco-tourism firms, could bridge this gap.

Table 3: Challenges and Opportunities (2024)

| Aspect | Challenge (%) (Stakeholders) | Opportunity | Investment Gap |
|----------------|---------------------------------|-------------------------------|-------------------|
| Infrastructure | 75% | Improved access and amenities | \$22M shortfall |
| Marketing | 60% | Digital/ EWOM campaigns | \$5M shortfall |
| Preservation | 85% | Sustainable practices | \$10M shortfall |
| Turesm | 85% | Sustainable practices | \$25M shortfall |
| Tukštk zona | — | Ihiralanklitr-ichun oshirish | \$25M shortfall |

Conclusion: Eco-tourism in Uzbekistan’s rural regions delivered \$220 million and 1,500 jobs by mid-2024, enhanced by digital marketing, EWOM, and pilgrimage tourism synergies (\$875 per visitor). Expanding to 500-1,000 communities could yield \$150 million in income, 15,000 jobs, and a 12% rural GDP share by 2026, cutting poverty by 5% (875,000 people) and underemployment by 10% (250,000 people). This requires overcoming a \$25 million funding gap—\$22 million for infrastructure, \$5 million for marketing, and \$10 million for preservation—through strategic investments and partnerships. By harnessing its natural and cultural wealth, Uzbekistan can transform rural economies, aligning with global sustainability trends and achieving its 2030 tourism vision of 9 million visitors.

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