Cost-Benefit Analysis in Sustainable Tourism: Best Practices and Policy Implications

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Sustainable tourism is critical in driving economic growth, preserving the environment, and enhancing social well-being by minimizing negative impacts and maximizing long-term benefits. Cost-benefit analysis (CBA) is a vital tool for stakeholders and decision-makers to examine the feasibility and impacts of tourism projects by quantifying economic, environmental, and social factors. This study presents state-of-the-art practices in applying CBA to sustainable tourism and its use in assessing return on investment, employment, poverty reduction, biodiversity, and cultural heritage conservation. While CBA enhances decision-making, challenges remain in assessing non-market benefits and trade-offs between stakeholders. This paper synthesizes real-world applications and methodological advances and examines how CBA informs evidence-based sustainable tourism policy. Using Peja, Kosovo, as a case study, the paper identifies the need to integrate local economic, environmental, and cultural factors into QA frameworks to inform sustainable development.

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1 Introduction

Sustainable tourism development has resulted from rapid growth in the tourism industry. As described by the United Nations Brundtland Commission, (1987:16), sustainability involves addressing present needs "in a way that safeguards the ability of future generations to meet their own". The United Nations World Tourism Organization, in collaboration with UNEP (2005), emphasizes sustainable tourism as an approach that fully considers its economic, social, and environmental effects, both now and in the future, while aiming to meet the needs of tourists, the tourism sector, local communities, and the natural environment (United Nation Tourism & UNEP, 2005).

Cost-benefit analysis is critical tool in assessing the economic feasibility of tourism investments and their alignment with broader sustainable development objectives, including environmental conservation, social inclusion, and long-term community well-being (Banerjee et al., 2017). The CBA facilitates informed decision-making by identifying the costs and benefits of investments in the tourism sector while contributing to achieving the SDGs (Banerjee et al., 2017; Boardman et al., 2018; United Nations, 2015).

This paper aims to evaluate the economic feasibility of investing in sustainable tourism in Peja, Kosovo, through cost-benefit analysis (CBA). The development of sustainable tourism seeks to balance economic, social, and environmental objectives in a way that addresses the interests of both current and future generations. To this end, the paper discusses how tourism investment can contribute to economic development in the area while minimizing environmental degradation and local community empowerment. Methodology for the present research consists of the case study on the tourist sector of Peja with determining its advantages and expenses through Net Present Value analysis. The evidence proves that the development of tourism is economically worthwhile, emphasizing the fiscal importance thereof along with demands towards including the implementation of sustainability for tourist growth.

2 Theoretical Background

Cost-Benefit Analysis of Sustainable Tourism Investment

In the early 2000s, the growth of mass tourism presented obvious challenges of environmental degradation and cultural erosion for popular tourist destinations. This further increased the need for proper planning and the creation of sustainable policies. In the 2010s, studies and reports by scientists and environmental activists highlighted that while tourism can bring economic benefits, it often has harmful consequences for the environment, including increased waste and air and water pollution (Kumar, 2016; Shield, 2019; Simões et al., 2012; Unnisa & Bhupatthi Rav, 2012). With the 2030 Agenda for Sustainable Development (United Nations, 2015) tourism has become even more important for contributing to sustainable development. This highlights the responsibility of tourism to balance economic benefits with environmental protection and social well-being, as is the focus of the SDGs: economic growth, sustainable consumption and production, and ocean conservation (Elgin & Elveren, 2024; Saarinen, 2020).

Today, during the 2020s and after decade, sustainable tourism is an international priority. Governments and commercial organizations are instituting plans to minimize the undesirable impacts of tourism, such as pollution and erosion of biodiversity, along with promoting activities that maintain long-term gains. Before the onset of the COVID-19 crisis, the travel and tourism sector accounted for 10.4% of world GDP and financed 10% of world jobs (World Economic Forum, 2025). Business travel alone generated over $1.4 trillion in world GDP, indicating the industry's enormous economic contribution. World demand for international travel is projected to ***grow 7% annually from 2024 to 2034***, implying robust recovery and future growth. However, environmental degradation and resource overuse remain the key concerns in heavily visited destinations. Thus, sustainable natural resource management and authentic local community involvement are needed to foster more environmentally balanced and responsible tourism (World Economic Forum, 2025).

Hefner et al. (2001) stated that applying CBA helps government authorities assess the value and potential impact of investments in tourism development. This can ensure that public money is used effectively and in line with the SDGs. The authors' examination of the South Carolina model proves that such evaluations are not only

plausible but also critical to formulating economically productive, socially and environmentally responsible, rational, transparent, and sustainable tourism policies. Based on two hypothetical projects, study shows that the benefits of public investment in tourism sector exceed the costs. This makes it worthwhile to offer different forms of support, such as lowering taxes to stimulate growth in this industry. It can be deduced from this reasoning that there are positive effects to be gained, as well as significant investment opportunities, by building infrastructure and advertising tourism, which would help to advance the economy and development of the country through job creation, higher wages, and improved living standards for the people in the region.

Rezapouraghdam et al. (2018) employ cost-benefit analysis (CBA) to examine the socio-economic impacts of educational tourism in Famagusta from the perspective of local business people. The research identifies a number of benefits, including economic growth, job opportunities, and the establishment of new businesses, primarily induced by the presence of Eastern Mediterranean University (EMU) and its international students. The real estate, banking, and insurance industries have also experienced growth due to the influx of students. The research identifies economic costs, including rising real estate prices, over-dependence on international students, and increased competition among local businesses. The labor market was affected by the employment of foreign students at lower wages, raising concerns about local worker displacement. The authors emphasize the need for balanced policies that consider both the benefits and challenges of educational tourism for sustainable development.

Destek & Aydın (2022) in their research discussed the impact of tourism on sustainable development in the 10 most visited countries according to the STIRPAT (Stochastic Impacts by Regression on Population, Affluence, and Technology) model. The authors examine the impact of drivers such as urbanization, energy intensity, and tourism on a newly suggested sustainable development index from 1995-2015.Tourism is represented in their study by two proxies: tourist arrivals and tourism receipts.

The study determines that although tourism, energy intensity, and urbanization positively affect economic growth, they negatively affect sustainable development. Specifically, the effects of these variables on the sustainable development index are

adverse and significant. The results suggest that although tourism positively contributes to economic growth, its adverse effects on other elements of sustainable development outweigh its economic contributions

However, there is still mixed evidence in the literature on the appropriate methods and techniques for assessing the economic impacts of tourism investments (Banerjee et al., 2017; Boardman et al., 2018; Dwyer et al., 2016). According to Dwyer et al. (2016) *Economic Impact Analysis* and *Cost-Benefit Analysis* may give contradictory results, as economic impacts do not always translate into net benefits. An important topic in the research to date addressing the issue of harmonization between EIA and CBA (Banerjee et al., 2017; Boardman et al., 2018; Dwyer et al., 2016; Hefner et al., 2001; Saarinen, 2020). Banerjee et al. (2017) analysed tourism investment by combining two key methods, Computable General Equilibrium (CGE) and Cost-Benefit Analysis (CBA**),** into a comprehensive framework for evaluating public investments. It examines impacts from both a development bank's and a government's perspective, including loan repayment over time. (Elgin & Elveren, 2024; Hefner et al., 2001) in their study, were using the Net Present Value method within the cost-benefit analysis, which helps harmonize EIA and CBA and provide comparable estimates for policymakers.

Vanhove (2013), highlights the importance of proper investment appraisal methods in tourism, where the public sector is usually engaged in project financing. Social Cost-Benefit Analysis (CBA) use is necessary, particularly when considering broader macroeconomic effects and externalities of tourism infrastructure projects. Contrary to traditional investment procedures focusing on private returns and costs, CBA considers all social returns and costs, e.g., environmental impacts and non-market values like consumer surplus. The research also emphasizes using accurate valuation techniques, such as the Travel Cost Method and Contingent Valuation Method, to improve the estimation of tourism project economic and social gains. Lastly, CBA offers an integrated framework for measuring the long-run and extensive consequences of tourism investments in a manner that guarantees society derives the most benefits without any unwanted externalities. This method gives valuable feedback to decision-makers, particularly about ensuring that investments are financially viable and socio-beneficial to the general population.

3 Methodology

This study employs a **case study approach** to demonstrate the procedure for evaluating tourism investments, a common topic in literature. It uses a **cost-benefit analysis**, including **Net Present Value (NPV)**, to assess the feasibility of investing in Peja's tourism sector.

The investment cost data for the tourism project were sourced directly from the Office of the Tourism Director in Peja and include expenditures for infrastructure, facilities, marketing, and administrative setup. To estimate revenue, we calculated total tourist spending by multiplying the projected number of tourists by the average number of nights each tourist stays and the average daily spending per tourist. The average daily spending was derived from Erasmus+ "cost of stay" standards, providing a standardized and realistic estimate of tourist expenditures in the region.

The **discount rate** of **3.2%** is derived from Kosovo's **T-bill rate** and the **Country Risk Premium**, reflecting the financial and economic conditions in Kosovo. Cash flows from 2021 to 2024 are discounted using this rate. NPV was calculated manually and with Excel's **NPV** functions. Table 1.

The NPV method adjusts future income and expenses to 2025 euros by applying a discount rate that includes the country risk premium. This allows for comparing income and expenses in present terms. After adjusting, expenses are subtracted from income to calculate the NPV, which helps determine if the investment is profitable. A sensitivity analysis was conducted for the Net Present Value (NPV), considering variations in the average spending per night by tourists, ranging from €80 to €100, and adjusting for a country risk premium between 3.2% and 5%.

Cost benefit Analysis Methodology: Peja Example

Peja, or the Flower of Dukagjin, is a warm and welcoming city in western Kosovo, nestled within the Rugova Mountains and Lumbardhi River. With 75% of its land covered in flora as the gateway to Bjeshket e Nemuna National Park, it is little wonder that Peja has a vibrant, youthful population. Renowned Olympic success in judo and rich artistic heritage, Peja is a cultural treasure (https://pejatourism.org/).

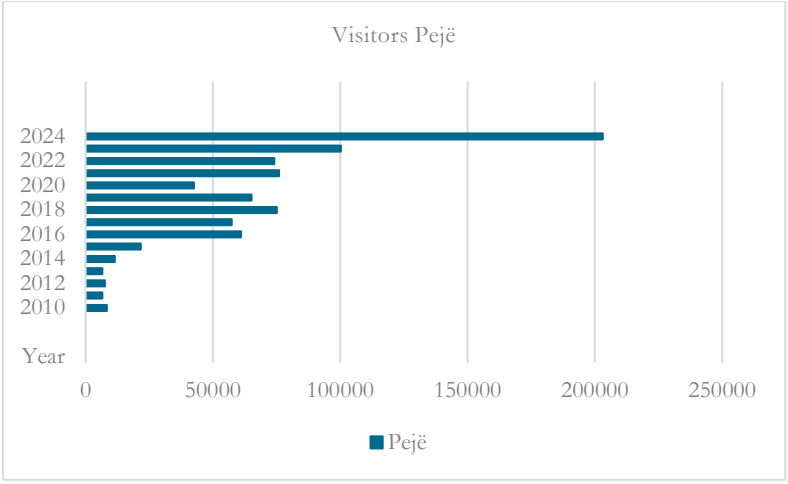

Figure 1: Trends in Tourist Arrivals in Pejë (2010–2024). Source: Author's presentation based on Kosovo Agency of Statistics data.

Figure 1. shows how the number of tourists in Pejë has grown from 2010 to 2024. The data shows an increase from 2010 until 2014, then a sharp rise in 2015, and a further rise with some fluctuations in the subsequent years. Notably, the number of tourists was highest in 2024, as 203 077 tourists visited the place. This shows strong post-pandemic recovery and potential for future growth in the tourism sector of Pejë.

Table 1: Tourism Revenue and Key Metrics in Kosovo (2021–2024)

Year	Investments cost	Number of tourists	Average Nights per Tourist	Total Nights	Average spending per tourist per day/ night according ERASMUS + per Kosovo in Euro	Country Risk Premium for Kosovo
2021	92695	76,013	2.07	157,601	92	3.23%
2022	124000	74,039	3.01	222,652	92	3.23%
2023	228794	100,204	4.60	460,984	92	3.23%
2024	310000	203,077	2.91	591,674	92	3.23%

Source: Author's calculation based on data from Tourism department in Peja. Note: Investment cost per year includes: expenditures for infrastructure, facilities, marketing, and administrative setup.

This table 1 shows key tourism metrics in Kosovo (2021–2024), with stable trends across most indicators. **Total revenue**, calculated using the **average daily tourist spending in Peja based on Erasmus+ cost of stay standards**, increased significantly each year, peaking in 2024.

Table 2: Discounted Cash Flow and Net Present Value Analysis for Tourism Investment

Year	*Investment Cost (€)*	*Total Revenue (€)*	*CR P%*	*FV Factor*	*FV Revenue (€)*	*FV Costs (€)*
2021	*92695*	*14499292*	*3.23*	*1.136*	*16,465,332.51*	*105,264.04*
2022	*124000*	*20483984*	*3.23*	*1.100*	*22,533,684.53*	*136,407.88*
2023	*228794*	*42410528*	*3.23*	*1.066*	*45,194,494.59*	*243,812.79*
2024	*310000*	*54434008*	*3.23*	*1.032*	*56,192,226.46*	*320,013.00*
				NPV of Known Investments	*140,385,738.09*	*805,497.71*

Total Value of other investments	**€**2,800,000
NPV of Unknown Investments	€2,983,801.21
Total NPV of Tourist Income	€ 140,385,738.09
Total NPV of Investments	€ 3,789,298.92
Final NPV	**€ 136,596,439.17**

Source: Author calculation based on data from Tourism department in Peja. Note: Other investments: Nera – New Environment Revitalization Approach; NATUR KOSOVO the municipalities of Peja, Dečan, and Junik; Rural Tourism – Turning our Villages into Tourism Destinations; Rural Tourism – Turning our Villages into Tourism Destinations; Accursed Mountains – Exquisite Outdoor Destination; Cultural Heritage – Treasure of the Cross-Border Region

Table 3: Sensitive Analysis

Av. Price	NPV € 136,596,439.17	Discount Rate		
Price	3%	3.5%	4%	5%
80	€ 118,285,255.94	€ 118,903,515.50	€ 120,054,961.45	€ 122,383,444.32
85	€ 125,914,915.62	€ 126,573,061.50	€ 127,798,788.21	€ 130,277,469.73
90	€ 133,544,575.30	€ 134,242,607.50	€ 135,542,614.97	€ 138,171,495.14

Av. Price	NPV € 136,596,439.17	Discount Rate		
92	€ 136,596,439.17	€ 137,310,425.90	€ 138,640,145.68	€ 141,329,105.31
95	€ 141,174,234.97	€ 141,912,153.50	€ 143,286,441.74	€ 146,065,520.55
98	€ 145,752,030.78	€ 146,513,881.10	€ 147,932,737.79	€ 150,801,935.80
100	€ 148,803,894.65	€ 149,581,699.50	€ 151,030,268.50	€ 153,959,545.96

Source: Author calculation

4 Results

The positive **NPV** results (€ 136,596,439.17) confirm the financial viability of investing in Peja's tourism sector. This **cost-benefit analysis** not only highlights strong economic returns but also underscores the potential for promoting **sustainable tourism**. By balancing economic growth with environmental and cultural preservation, the investment could contribute to both the region's development and long-term sustainability in the tourism industry. The sensitivity analysis demonstrates that higher tourist prices (from €80 to €100) enhance future value. This trend holds across varying discount rates, suggesting that prioritizing price adjustments can strengthen long-term tourism sector sustainability.

5 Conclusions

The cost-benefit analysis conducted in this study confirms that sustainable tourism investment in Peja is economically viable, with benefits outweighing costs when calculated using Net Present Value. This conforms to the argument that tourism, if managed sustainably, can be a successful catalyst for local economic development. Beyond economic dividends, sustainable tourism supports the conservation of the environment, preservation of culture, and social cohesion. Nature and heritage make Peja a flagship destination in Kosovo's tourism master plan. Its continued success, however, depends on policies reversing environmental degradation and ensuring tourism development is harmonized with host communities' well-being.

The findings welcome local and national stakeholders to strategically invest in sustainable tourism based on sound planning, stakeholder engagement, and evidence-based decision-making. Follow-up research can build on this case study by incorporating broader socio-environmental indicators and applying this model to other regions of Kosovo, guiding long-term, inclusive, and resilient tourism development.

These results are closely aligned with earlier studies highlighting the economic potential and environmental caretaking involved in tourism investment. In line with the conclusion of Hefner et al. (2001) and Rezapouraghdam et al. (2018), the current research confirms that tourism development, when properly planned and evaluated using tools like Cost-Benefit Analysis (CBA), can have net positive impacts, such as employment and infrastructure development, while also necessitating actions to manage social and environmental costs. Neither Destek and Aydın (2022) nor Dwyer et al. (2016) explain, economic growth alone cannot provide sustainability without taking into account the broader impacts on society and the environment. Further, in alignment with Banerjee et al. (2017) and Vanhove (2013), our research affirms the importance of employing integrated assessment methods considering both social welfare and financial feasibility. The results ratify the developing agreement in the literature that sustainable tourism planning must balance short-term economic gain at the expense of longer-term environmental and social issues, an imperative underscored by the Sustainable Development Goals (Elgin & Elveren, 2024; Saarinen, 2020).

References

Banerjee, O., Cicowiez, M., & Moreda, A. (2017). *Reconciliation Once and for All: Economic Impact Evaluation and Social Cost Benefit Analysis* (835). file:///C:/Users/vlora/Downloads/Reconciliation-Once-and-for-All-Economic-Impact-Evaluation-and-Social-Cost-Benefit-Analysis.pdf

Boardman, A. E., Greenberg, D. H., Vining, A. R., & Weimer, D. L. (2018). *Cost-Benefit Analysis, Concepts and Practice* (5th ed.). Sheridan Books, Inc.

Destek, M. A., & Aydın, S. (2022). An empirical note on tourism and sustainable development nexus. *Environmental Science and Pollution Research*, *29*(23). https://doi.org/10.1007/s11356-021-18371-9

Dwyer, L., Jago, L., & Forsyth, P. (2016). Economic evaluation of special events: Reconciling economic impact and cost–benefit analysis. *Scandinavian Journal of Hospitality and Tourism*, *16*(2). https://doi.org/10.1080/15022250.2015.1116404

Elgin, C., & Elveren, A. Y. (2024). Unpacking the economic impact of tourism: A multidimensional approach to sustainable development. *Journal of Cleaner Production*, *478*(1), 1–11. https://doi.org/10.1016/j.jclepro.2024.143947

Hefner, F., Crotts, J. C., & Flowers, J. (2001). The cost–benefit model as applied to tourism development in the state of South Carolina, USA. *Tourism Economics*, *7*(2), 163–175.

Kumar, S. (2016). *Municipal Solid Waste Management in Developing Countries*. Taylor & Francis Group.

Rezapouraghdam, H., Behravesh, E., Ari, E., & Lema Doh, W. (2018). Cost-Benefit Analysis of Educational Tourism in North Cyprus: A Qualitative Study of the Socio-economic Impacts. *E-Review of Tourism Research (ERTR)*, *15*(6), 457–479.

Saarinen, J. (2020). Tourism and sustainable development goals: research on sustainable tourism geographies. In *Tourism and Sustainable Development Goals* (1st ed.). Routledge. https://doi.org/10.1201/9780429324253-1

Shield, C. (2019). *The plastic crisis isn't just ugly — it's fueling globalwarming*. DW.

Simões, P., Cruz, N. F., & Marques, R. C. (2012). The performance of private partners in the waste sector. *Journal of Cleaner Production*, *29–30*, 214–221. https://doi.org/10.1016/j.jclepro.2012.01.027

United Nation Tourism, & UNEP. (2005). *Making Tourism More Sustainable - A Guide for Policy Maker*. https://www.unwto.org/sustainable-development

United Nations. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. United Nations. https://sdgs.un.org/2030agenda

United Nations Brundtland Commission. (1987). *Report of the World Commission on Environment and Development: Our Common Future*. http://www.un-documents.net/our-common-future.pdf

Unnisa, S. A., & Bhupatthi Rav, S. (2012). Sustainable solid waste management. In S. A. Unnisa & S. B. Rav (Eds.), *Sustainable Solid Waste Management*. Taylor & Francis Group. https://doi.org/10.1201/b13116

Vanhove, N. (2013). Consumer surplus and macro valuation of tourism projects. *Pozan University of Economics Review*, *13*(4), 43–66.

World Economic Forum. (2025). *Future of Travel and Tourism: Embracing Sustainable and Inclusive Growth*. https://reports.weforum.org/docs/WEF_Future_of_Travel_and_Tourism_2025.pdf