

SUSTAINABLE TOURISM AND THE GREEN ECONOMY IN PERU: PERCEPTIONS FROM THE TOURISM SECTOR

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Abstract: Given the growing urgency of sustainable development worldwide, tourism is emerging as a strategic sector to drive the global ecological transition. The main objective of this research was to determine the relationship between sustainable tourism and the green economy in the Peruvian context, comprehensively analyzing its environmental, sociocultural, and economic dimensions. A quantitative approach was adopted, with a correlational scope and a non-experimental, cross-sectional design. The sample consisted of 153 participants in the tourism sector, selected through non-probability sampling based on predefined inclusion criteria. A structured survey of 32 items per variable, using a five-point Likert scale, was used. This survey was validated by expert judgment and demonstrated high reliability (Cronbach's alpha >0.8). Statistical analysis included normality tests (Kolmogorov-Smirnov) and Spearman's rank correlation coefficients. The results revealed a significant moderate positive correlation between the main variables ($Rho = 0.501$, $p = 0.001$). Specifically, the sociocultural dimension showed the strongest association (0.560), followed by the economic (0.337) and environmental (0.181) dimensions. The findings indicate that incorporating sustainable practices into tourism aligns with the core principles of the green economy: social equity, environmental protection, and economic growth. It was determined that, in Peru, the transition to a green economic model is facilitated by the promotion of responsible management, resource preservation, and active community involvement. This provides data for the design of empirically grounded public policies and business strategies that promote inclusive, balanced, and resilient development in the country.

Keywords: sustainable tourism, green economy, environmental management, tourism, economic development

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INTRODUCTION

Throughout history, humanity has devised a wide variety of activities to satisfy its needs, and currently, in a society that is moving towards a balance between work and private life, rest, entertainment, and leisure are becoming increasingly important. Among the various leisure activities that can be enjoyed today is tourism, which has existed for centuries (Kou et al., 2024; Rakhimzhanova et al., 2025). Conceptually, tourism is considered as the phenomenon that involves the movement (travel) of human beings to multiple destinations far removed from the reality in which they live, classifying as a tourist anyone who stays overnight in that destination. Currently, the tourism industry represents more than just a leisure activity; it is widely considered a significant multidisciplinary activity, encompassing cultural, social, environmental, political, and economic aspects. According to Toubes & Araújo (2022), the tourism sector significantly benefits the global economy. Prior to the pandemic, in 2019, tourism travel contributed a high percentage to global GDP, reaching 10.4% (equivalent to US\$9.2 trillion), and accounting for 10.6% of global. In Peru, in 2019, the tourism sector represented 3.66% of the national GDP and employed 1.1 million workers in 2018. However, Peru was not immune to the global impact of COVID-19, which led to border closures and the cessation of most tourism services, resulting in a decline in suppliers such as travel agencies, accommodations, restaurants, and air transport. This meant that tourism was the economic activity that suffered the most negative impacts in the country due to the pandemic. In contrast, and optimistically, the situation has improved by 2025, with the tourism sector's contribution to the national GDP projected to grow to approximately 7.8%, representing 6.6% of national employment (United Nations [UN], 2023).

However, tourism can have effects that are not always positive. It was once believed that tourism only benefited the community, but without proper planning and clear policies for the tourism lifecycle, it could negatively impact local populations, especially in rural or remote areas, and their economies, as well as the environment (Cao et al., 2023; Marvin, 2024; Wang & Cheablam, 2025). Additionally, Ospanova et al. (2022) point out that the green economy aims to reduce the impact of economic activity on the environment. This leads to the modification of the conventional or brown

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economy, which aims only to obtain coins and is static, thus demonstrating that the green economy is dynamic and is shaped according to sustainable development, complying with the 17 Sustainable Development Goals and Targets, which include tourism (Manotungvorapun & Gerdri, 2025; Jiménez et al., 2024).

This research seeks to determine the relationship between sustainable tourism and the green economy in Peru, analyzing its environmental, sociocultural, and economic dimensions. Within this framework, it evaluates how responsible environmental management, community participation, and equitable economic development can be linked to the principles of the green economy and contribute to the country's sustainable development.

LITERATURE REVIEW

Although sustainable tourism and the green economy share common goals, their conceptual frameworks have distinct origins and emphases that must be clearly differentiated. Sustainable tourism, rooted in the Brundtland Report, focuses primarily on managing the impacts of tourism activities, balancing environmental preservation, sociocultural equity, and economic viability at the destination level (Sharpley, 2021). In contrast, the green economy is a broader macroeconomic framework that seeks to improve human well-being and social equity while significantly reducing environmental risks and ecological scarcity (Akadiri & Ozkan, 2026). The critical intersection between both frameworks occurs where tourism's resource efficiency and social inclusion align with the green economy's principles of decarbonization and green employment. However, there is conceptual ambiguity in the literature where both terms are sometimes used interchangeably, generating inconsistencies in the measurement of their actual impacts (Toubes & Araújo, 2022).

Sustainable tourism

According to Yang et al. (2023), defines tourism as the activities undertaken by people when they travel to and stay in places outside their usual environment for a period of less than one year for recreational, business, or other purposes, without involving paid employment. Likewise, the UN indicates that tourist trips can be motivated by various reasons, such as healthcare, professional education, leisure, religious practices, among others. Taken together, all these aspects constitute tourism activities (Zhang et al., 2023).

Tourism evolved from the Grand Tour (17th-19th centuries) and mass tourism (1960s-1970s) towards sustainable tourism in the 1990s. This model integrates economic, environmental, and social dimensions to preserve the environment, culture, and long-term viability. Its fundamental pillars are natural resources, heritage, and community authenticity (Pié & Vilanova, 2012; Streimikiene et al., 2021; Sharpley, 2021; Marques et al., 2022).

Sustainable Development Goals

Regarding the 17 Sustainable Development Goals (SDGs) outlined in the 2030 Agenda, those directly associated with sustainable tourism are: SDG 8, which substantially contributes to economic growth at the local and national levels by creating decent jobs. SDG 11 further links social equity and reduces environmental impact, promoting inclusive, safe, resilient, and sustainable living environments. SDG 12 addresses responsible consumption practices, mitigating environmental impact and encouraging long-term sustainability. Finally, SDG 15 focuses on the preservation and sustainable use of ecosystems; in this case, tourism practices that respect the natural environment would be developed (UN, 2023).

According to Vrana (2023), sustainable tourism is based on three dimensions applicable to the Peruvian context: (1) environmental: responsible use of natural resources and participatory planning to minimize impacts (Akadiri & Ozkan, 2026; Jo et al., 2026); (2) sociocultural: multisectoral collaboration to preserve ancestral traditions and offer authentic experiences (Ferdian et al., 2024; Spadaro et al., 2023); and (3) economic: efficient management that generates sustainable income, equitable distribution of benefits and long-term financial viability (Chen et al., 2025; Xue et al., 2023).

Green economy

Over the years, sustainability has become a relevant issue worldwide, a concept that is and should be included in the development of all sectors, including the economic one. Compared to the discipline of conventional economics, the green economy is a relatively innovative concept that focuses on the free use of resources found in the natural environment within a territory and their distribution among the population to meet their basic needs (Sahabuddin et al., 2026; Surdez et al., 2026). Today, the planet faces environmental threats that hinder the full development of humanity, such as climate change. Therefore, in 2012, approaches were proposed to guide a green economy model, ensuring adequate growth in the countries where it is implemented. These approaches are: economic development and growth, environmental protection, low-carbon development, resilience, resource efficiency, ecological sustainability, human well-being, inclusion, and equity (Gong & Chen, 2023).

Economic development and growth

The current economic model followed by most powerful, industrialized, and more developed countries neglects resource conservation and has serious environmental repercussions, focusing solely on increasing national wealth and rendering it unsustainable for future generations. In Peru, the contemporary economy is driven by the efforts of innovative businesses and entrepreneurs seeking optimal market positioning, with ambitions for exports and international recognition (Berdinov et al., 2025). The growth of these businesses involves interdisciplinary interaction between markets and different economic sectors within the territory to generate income and provide a comprehensive overview that will allow them to offer customers something that meets their needs. As these businesses grow, and simultaneously the country's economy, developing under a green economy concept, as indicated in the guide to a green

economy, entails implementing structured social responsibility policies for the benefit of residents and their well-being, along with the appropriate use of resources in the natural environment (Singh et al., 2025; Guillen et al., 2025).

Several recent studies have explored the relationship between tourism and the sustainable economy, albeit using different methods. In ASEAN nations, Zhang et al. (2023) confirmed that ecotourism contributes to the ecological Gross Domestic Product through the Sustainable Tourism Index; however, its exclusive reliance on macroeconomic figures omitted the perspectives of microeconomic actors, limiting its usefulness for corporate strategies. In contrast, Chen (2023) recognized the benefits of ecotourism for individuals and the environment in ethnic areas of China. Finally, Han & Li (2021) underscored the importance of regulating emissions in low-carbon environments, although their work focused on technical indicators, overlooking essential sociocultural elements for local acceptance.

In Latin America, Esenarro et al. (2024) conducted research on the implementation of ecological corridors in Cusco, Peru, identifying shortcomings in ecological investment and an inequitable distribution of benefits for local communities. While this study is highly relevant to the present one, it focused on a specific location (Cusco) without considering the national landscape of official tourism. Wang & Cheablam (2025) identified beneficial links between sustainability and economic performance. However, their analysis is limited by its failure to differentiate between environmental, sociocultural, and economic aspects, treating them as a single unit. Finally, Singh et al. (2025) studied sustainable tourism techniques in developing nations and determined that corporate social responsibility plays a fundamental role as a mediator. However, they did not consider tourism operators or the public sector.

Table 1. Study Positioning

Similar Study	Main Focus	Limitation addressed by this research
Zhang et al. (2023)	Macroeconomics, green GDP, ASEAN	Macro-level analysis vs. micro-level (stakeholder perceptions)
Chen (2023)	Ecotourism, ethnic minorities, China	Qualitative approach vs. quantitative correlational design
Esenarro et al. (2024)	Green corridor, Cusco, Peru	Single-destination focus vs. national perspective (Lima)
Wang & Cheablam (2025)	Tourism hubs, Asia	No dimensional differentiation vs. three dimensions analyzed (environmental, sociocultural, economic)
Singh et al. (2025)	CSR, hotel sector, emerging economies	Hotel sector only vs. multiple stakeholder groups

Despite growing interest, the current literature reveals three significant gaps that this analysis aims to describe. First, there is a predominance of a macroeconomic approach that examines the relationship between tourism and sustainable growth at the national GDP level, leaving unexplored how these aspects are perceived and managed at the micro level (stakeholders and businesses) (Chen, 2023; Zhang et al., 2023). Second, there is a clear geographical bias, as most empirical research focuses on developed economies or East Asia, while information from developing nations such as those in Latin America is scarce (Esenarro et al., 2024). Finally, there is an unresolved theoretical tension regarding whether the adoption of sustainable practices is motivated by ethical convictions or by regulatory requirements and profitability, particularly in contexts with high levels of informality.

Responsible resource and waste management, the environmental pillar, is the instrument for achieving ecological efficiency and preserving the environment. Simultaneously, community participation and the safeguarding of heritage, the sociocultural component, align with social inclusion and intergenerational equity. Finally, the generation of decent employment and the boosting of local incomes, the economic dimension, are directly linked to sustainable growth and green employment. From this perspective, the strength of the link between these three pillars is determined by the degree of balance with which they are integrated into the operational practices of the tourism sector.

Given the identified limitations, this study aims to examine the link between sustainable tourism and the green economy in Peru, integrating its environmental, sociocultural, and economic dimensions from the perspective of key stakeholders in Lima. Its contribution is contextual and validating: it adapts and confirms existing theoretical frameworks on sustainable tourism and the green economy within a context marked by institutional constraints and significant ecological diversity, factors that introduce unique challenges.

MATERIALS AND METHODS

This research employed a quantitative approach, aiming to establish cause and effect between two variables or simply determine relationships between variables, which is what was done in this study. It is also known as empirical research because the results are evaluated precisely. Statistical analysis is performed to justify, anticipate, or control phenomena. Furthermore, it incorporates a rational component that moves from the general to the specific. The research had a relational scope, allowing for the analysis of two or more variables within a single group, and a non-experimental, cross-sectional design, which does not involve an experiment. This approach, however, amplifies the variance of individual variables and reduces any potential measurement flaws (Griffith, 2024).

The selection of the 153 participants was based on a non-probabilistic, purposive sampling approach, specifically focused on individuals in the tourism sector in Peru. The main criterion was their direct experience with sustainability practices; this decision allowed access to theoretically relevant information for examining the link between sustainable tourism and the green economy. Recruitment was conducted through institutional contacts and professional networks, prioritizing those with operational experience or decision-making capacity. The sample size was determined based on the requirements of the correlation analysis; therefore, the 153 participants provide sufficient robustness for Spearman's

rank correlation coefficients. Data collection took place in Lima, the country's main tourist hub and decision-making center, which facilitated gathering perspectives from stakeholders with national influence.

As a limitation of research, non-random sampling restricts external generalizability, meaning that the results primarily apply to the profile analyzed. To counteract this, recruitment aimed for balanced representation across groups. Additionally, requiring a minimum of two years of stable work experience ensured informed opinions by effectively filtering out responses from temporary or inexperienced staff.

Data collection was based on a survey technique with closed and multiple-choice questions (Salvador et al., 2021). The questionnaire consisted of 32 items per variable, measured using a five-point Likert scale (from "strongly disagree" to "strongly agree"). Before its implementation, a panel of experts validated the content to confirm that the items reflected the dimensions studied (Flores & Terán, 2022). The assessment of internal consistency using Cronbach's alpha coefficient confirmed the effectiveness of the instrument. The first variable obtained 0.8, while the second reached 0.9, reflecting adequate reliability (Raykov et al., 2024). The survey was conducted anonymously, protecting the privacy of the data provided by the participants. The collected data were statistically analyzed through: (1) a descriptive analysis to define the group and identify patterns, (2) a correlational study to explore the connections between the study variables, and (3) inferential methods for a better interpretation of the results. Presenting the results in tables facilitated the processing, analysis, and discussion of the information (Figure 1).

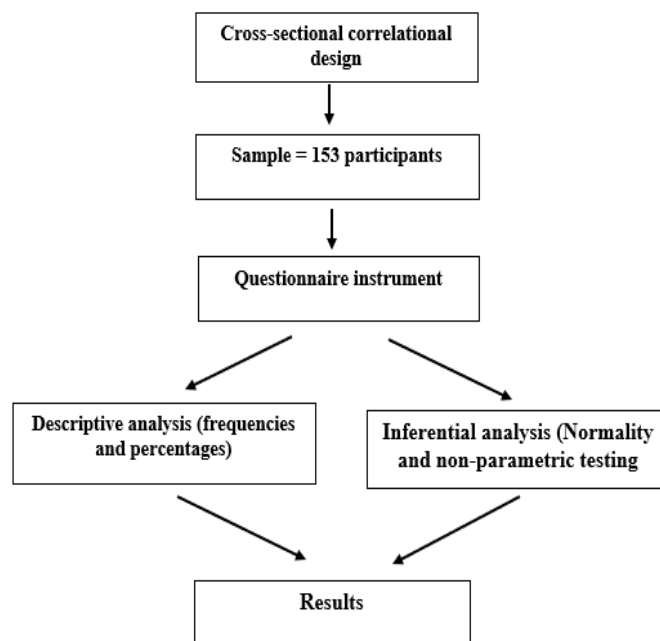


Figure 1. Quantitative analysis process

RESULTS AND DISCUSSION

Of those surveyed, 65.4% (100 participants) expressed agreement with the processes necessary to achieve sustainable tourism, and 31.4% (48 participants) indicated they strongly agreed. Regarding the second variable, the green economy, 62.1% (95 participants) concurred on the importance of implementing programs, guidelines, and business strategies that promote resource efficiency and proper waste management in the tourism sector, while 7.8% (12 people) strongly agreed (Table 2). These results demonstrate widespread recognition among participants of the relevance of sustainable tourism and the green economy in tourism activities, highlighting their close interrelationship. This connection is explained by the fact that sustainability in tourism seeks, among other objectives, to generate economic benefits for local communities, a purpose for which the green economy is fundamental.

Table 2. Frequency and percentage of study variables

	Sustainability		Green Economy	
	<i>f</i>	%	<i>f</i>	%
I completely disagree	1	0.7	1	0.7
Disagree	1	0.7	2	1.3
Neither agree nor disagree	3	2.0	43	28.1
OK	100	65.4	95	62.1
Totally agree	48	31.4	12	7.8
Total	153	100.0	153	100.0

In this study, the Kolmogorov-Smirnov normality test was used to examine whether the data collected from the sample followed a parametric or non-parametric distribution and to evaluate possible correlations between the variables (Table 3).

Table 3. Kolmogorov-Smirnov Normality Test

	Sustainable Tourism	Green economy	Environmental	Sociocultural	Economic
N	153	153	153	153	153
Sig. asin. (bilateral)	0.001	0.025	0.001	0.001	0.001

Table 4. Correlation between the variables Sustainable Tourism and the Green Economy

Spearman's rho	Sustainable Tourism	Green Economy	
		Correlation coefficient	.501
		Sig. (bilateral)	0.001
		N	153

Statistical analysis shows a Spearman correlation coefficient of 0.501 ($p = 0.001$), indicating a moderate positive association between sustainable tourism and the green economy. Following Cohen's (1988) parameters, where moderate correlations range from 0.30 to 0.49 and strong correlations exceed 0.50, this result suggests that, in practice, stakeholders who perceive a higher level of sustainable practices in tourism demonstrate greater alignment with green economy principles in the Peruvian context (Table 4).

Although the statistical significance ($p < 0.05$) ensures that this connection is not random, the moderate magnitude of the coefficient implies that other factors not analyzed could influence the implementation of these practices. This result supports the proposed hypothesis and aligns with previous studies (Zhang et al., 2023; Chen, 2023), which also link visions of sustainability in tourism with broader economic and environmental frameworks.

Table 5. Correlation between the variables Green Economy and the dimensions of Sustainable Tourism

Spearman's rho	Green economy				
			Environmental	Sociocultural	Economic
		Correlation coefficient	.181	.560	.337
		Sig. (bilateral)	0.025	0.001	0.001
		N	153	153	153

According to table 5, the results of the Spearman correlation analysis allow for a clear distinction between the statistical significance and the practical significance of the findings. Following the benchmarks established by Cohen (1988), where values between 0.10 and 0.29 are considered weak, between 0.30 and 0.49 moderate, and above 0.50 strong, it is observed that the general correlation between sustainable tourism and the green economy ($\rho = 0.501$, $p = 0.001$) represents a statistically significant moderate association. This suggests that, in practice, the strengthening of sustainable tourism practices is substantially related to the adoption of green economy principles in the Peruvian sector.

The sociocultural dimension was the most important factor for the green economy transition. Participants stated that the green economy transition depends on community participation, cultural preservation, and interaction between tourists and local communities. The economic dimension showed a weak to moderate correlation ($\alpha = 0.337$, $p = 0.001$); it was statistically significant, but its practical importance suggests that the relationship between local economic benefits and the green economy is relevant but not decisive due to factors such as informal employment or income inequality in Lima's tourism sector.

In the case of the environmental dimension, further analysis is required ($\rho = 0.181$, $p = 0.025$), where the p-value less than 0.05 suggests statistical significance, likely due to a sample size of $n = 153$. However, the coefficient $\rho = 0.181$ indicates a very limited practical connection with respect to established standards. In other words, while a statistically measurable relationship exists, its influence in real-world situations is minimal. This weak correlation in the environmental context could be attributed to both theoretical and environmental factors: the environment in Lima, where tourism is important, may not have a strong connection to how people act on environmental issues. This could be because people may say they care about the environment in a survey, but face practical problems that prevent them from doing so, such as high costs, lack of skills, or inadequate facilities. People may be more focused on making quick money from tourism than on investing.

To promote a green economy in Peru's tourism sector, efforts should focus on strengthening the sociocultural aspect, where ties are strongest. On the other hand, for the environmental sphere, specific measures are needed to overcome implementation difficulties, such as tax incentives, technical training, and regulations that clearly link profitability with ecological sustainability. In accordance with the general hypothesis, the correlation results obtained show a significance value of less than 0.05. Furthermore, a moderate positive correlation was observed, reaching a value of 0.01, suggesting that an increase in sustainable tourism is related to a more robust green economy.

Zhang et al. (2023) point out that a place's economy depends on how quickly its tourism industry grows and is environmentally friendly, as well as on the value of money in that place compared to others. The findings of this research align with the study conducted by Chen (2023), who indicated that a tourism-centric green economy model had a positive impact on residents, visitors, and even the ecological and heritage environment itself.

This was observed through the perceptions of tourists while on-site at the destination. According to Vrana (2023), sustainable tourism has three pillars: Environmental, which, according to Akadiri & Ozkan (2026) and Jo et al. (2026), involves the proper management of environmental resources and the protection of biodiversity to avoid harming the environment. This can be achieved through the participation of stakeholders in the tourism sector. The sociocultural factor encompasses stakeholders who must have clear tourism planning and sustainable practices. Furthermore, the traditions of local communities must be preserved, thus providing an authentic experience for tourists. Finally, a tourism-

based economy also arises when tourists' interests are understood and high-quality services are provided. This greatly benefits communities employed in the sector, generating economic returns for the community (Ingaldi & Dziuba, 2022).

Regarding the specific hypothesis, a significance value of less than 0.05 was obtained, proving that a relationship exists between the research variables. A moderate positive correlation was also found, with values of 0.181 obtained between the green economy (the variable) and the environmental dimension. Following the findings of Han & Li (2021), who highlighted the need for tourism sector activities that do not pollute the environment through energy and carbon emission controls, this should be considered in companies' cost planning. In this way, a stronger green economy could be achieved, and the environmental dimension would be enhanced by having a sustainable project to support it.

This is complemented by the research conducted by Esenarro et al. (2024) in Peru highlighted that, in order to achieve sustainable tourism and a green economy model, policies are needed that are geared towards implementing solutions to the problems facing the tourism sector, such as pollution and the lack of fair wages. Therefore, investments focused on reducing carbon emissions and energy consumption, as well as promoting equitable wage distribution, are necessary. According to López & Cisneros (2026), the World Tourism Code of Ethics emphasizes that for the development of sustainable tourism, it is essential to protect species and the natural environment that surrounds them, as well as to consider the carrying capacity of tourism so that the arrival of tourists does not negatively impact the ecosystem.

Regarding the second specific hypothesis, which states that there is a relationship between the green economy and the social dimension, a correlation coefficient of 0.560 was found, indicating a considerable positive correlation between the two parts of the hypothesis. Considering the study by Novovic et al. (2022), which indicates the relevance of implementing responsible social policies and considering the sociodemographic characteristics of workers, such as their education, for the application of green accounting practices, the social dimension of sustainability demonstrates a positive correlation with green economy practices. Furthermore, Luekveerawattana (2024) also affirms that, to achieve effective green tourism management, and therefore green economic development, it is crucial to consider the community and actively involve it in tourism activities, as well as promote the preservation of local culture.

Along the same lines (Butowski, 2021; Marques et al., 2022) mention how, in principle, tourism activity should be related to cultural heritage and the preservation of the authenticity of the culture of local communities. In addition, the tourism industry needs the participation of stakeholders with adequate planning, since in sustainable tourism practices, it is expected to provide a unique experience to tourists (Ferdian et al., 2024; Spadaro et al., 2023).

Next, regarding the final specific hypothesis, which seeks to establish a relationship between the green economy variable and the economic dimension of the sustainable tourism variable, it can be stated that there is a moderate positive correlation, as indicated by the correlation coefficient of 0.337. This is supported by the significance level of 0.001, which reaffirms the relationship between both parts of the hypothesis. Complementing this information, Xue et al. (2023) indicate how to implement economic practices that generate resilient financial benefits and fairly bifurcated compensation, while also promoting access to employment and stimulating investment activity that results in future profits. Similarly, Brel et al. (2020) expand on the topic of economic models in predominant sectors in Russia, including tourism, and explain how the use of green economy practices is indeed realistic and how their implementation could provide a solution to socioeconomic problems within the tourism industry.

Therefore, there is a positive relationship between the concept of green economy and the economic dimension, which concerns sustainable practices for improving the quality of the sector in which they are applied.

One of the main limitations of this research relates to data collection, which was restricted due to the scarcity of available information on the topic. This meant that part of the analysis focused on Peru was based on studies from previous years, as updated data were unavailable. Furthermore, due to time constraints, it was not possible to conduct field visits that would have allowed for a more in-depth and localized analysis.

From a theoretical perspective, this research contributes to understanding how sustainable tourism relates to the green economy and its environmental, sociocultural, and economic dimensions, offering a useful conceptual framework for future studies in similar contexts. In practical terms, the findings can guide museum managers and local authorities in planning inclusive infrastructure and services, promoting more accessible experiences, and fostering the active participation of communities in sustainable tourism activities.

CONCLUSIONS

The findings of this study suggest that the transition to a green economy in the Peruvian tourism sector is not a homogeneous process. While there is a clear link between sustainable practices and ecological principles, the strength of this relationship varies significantly depending on the dimension analyzed. Most importantly, the sociocultural component emerges as the main driver; community participation and the preservation of identity resonate more strongly with stakeholders in the sector than purely environmental measures. This suggests that, in the context of Lima, the social legitimacy of sustainability depends more on human interaction and culture than on the technical management of waste or energy, where a gap is perceived between intention and actual practice.

On the other hand, although the economic dimension shows a positive correlation, its impact is conditioned by the structure of the labor market and income distribution. Simply generating employment is not enough; quality and local reinvestment are crucial for the model to be perceived as truly "green." Therefore, promoting a green economy in tourism requires policies that not only incentivize ecological efficiency but also prioritize the social fabric and ensure that economic benefits effectively reach host communities. Only by balancing these three spheres, with a special emphasis on the human element, can we consolidate resilient and authentic tourism development.

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List of abbreviation: SDGs: Sustainable Development Goals

REFERENCES

- Akadiri, S.S., Ozkan, O. (2026). Tourism, energy use, and urban growth: implications for load capacity and sustainable development. *Letters in Spatial and Resource Sciences*, 19, 2. <https://doi.org/10.1007/s12076-025-00428-9>
- Berdenov, Z., Mendybayeva, G., Beketova, A., Sadvakassova, S., Laishanov, S., Kara, T. & Kholov, Y. (2025). Technogenesis as a driver in the development of recreational areas for sustainable development and biodiversity conservation. *Geojournal of Tourism and Geosites*, 61(3), 1454–1461. <https://doi.org/10.30892/gtg.61305-1515>
- Brel, O., Zaytseva, A. & Kaizer, P. (2020). Contribution of tourism to diversification and development of a green economy. *E3S Web of Conferences*, 217, 9. <https://doi.org/10.1051/e3sconf/202021705001>
- Butowski, L. (2021). Sustainable Tourism: A Human-Centered Approach. *Sustainability*, 13(4), 1835. <https://doi.org/10.3390/su13041835>
- Cao, R., Mo, Y., & Ma, J. (2023). Carbon Footprint Analysis of Tourism Life Cycle: The Case of Guilin from 2011 to 2022. *Sustainability*, 15(9), 7124. <https://doi.org/10.3390/su15097124>
- Chen, S., Paramaiah, C., Kumar, P., Khan, S., & Haomu, Q. (2025). Toward sustainable tourism: Insights from green financing and renewable energy. *Energy Strategy Reviews*, 57, 101618. <https://doi.org/10.1016/j.esr.2024.101618>
- Chen, W. (2023). Developing a Sustainable Business Model of Ecotourism in Ethnic-Minority Regions Guided by the Green Economy Concept. *Sustainability*, 15(2), 1400. <https://doi.org/10.3390/su15021400>
- Esenarro, D., Cho, A., Vargas, N., Calderon, O., & Raymundo, V. (2024). Chinchero as Tourism Hub and Green Corridor as a Social Integrator in Cusco Peru 2023. *Sustainability*, 16(7), 3068. <https://doi.org/10.3390/su16073068>
- Ferdian, F., Mohd, M.S., Abrian, Y., Wulansari, N., Azwar, H., Adrian, A., Putra, T., Wulandari, D.P., Suyuthie, H., Pasaribu, P., Susanti, D., Aisiah, A., Yulfa, A., Pratama, V.M., Harmawan, V., Fadilah, R., Donie, D., & Waryono, W. (2024). Driving Sustainable Tourism Villages: Evaluating Stakeholder Commitment, Attitude, and Performance: Evidence from West Sumatra, Indonesia. *Sustainability*, 16(14), 6066. <https://doi.org/10.3390/su16146066>
- Flores, J.C., & Terán, M.M. (2022). Content validity of expert judgment on an instrument to measure the influence of psychosocial factors on organizational stress in companies in the hotel industry. *Compendium Journal: Economics and Administration Notebooks*, 9(3), 219-231. <https://doi.org/10.46677/compendium.v9i3.1130>
- Gong, F., & Chen, H. (2023). Ways to bring private investment to the tourism industry for green growth. *Humanit Soc. Sci. Commun.*, 10, 651. <https://doi.org/10.1057/s41599-023-02186-9>
- Griffith, D. (2024). Self-correlated spatial random variables: From an auto – to a sui-model respecification. *Spatial Statistics*, 63, 100855. <https://doi.org/10.1016/j.jspasta.2024.100855>
- Guillen, D., Medina, A., Guillen, N., & Regalado, M. (2025). Experiential marketing and customer satisfaction in Lima's fast food delivery: Challenges and opportunities. *Geojournal of Tourism and Geosites*, 61(3), 1767–1775. <https://doi.org/10.30892/gtg.61335-1545>
- Han, L., & Li, L. (2021). Sustainable Development of Tourism under the Background of Low-Carbon and Green Economy. *Advances in Materials Science and Engineering*, 2021(1), (8587024). <https://doi.org/10.1155/2021/8587024>
- Ingaldi, M. & Dziuba, S. (2022). The importance of sustainable tourism in the light of the results of the research based on structured interview. *Journal of Management & Technology* 22, 102-148. <https://doi.org/10.20397/2177-6652/2022.v22i0.2373>
- Jiménez, D., Pérez, M.E., Álvarez, J., & del Río, M. dl C. (2024). Mapping Scientific Knowledge of Renewable Energy and Tourism. *Sustainability*, 16(15), 6356. <https://doi.org/10.3390/su16156356>
- Jo, Y., Kim, M. J., Yoon, Y. shik, & Hall, C. M. (2026). Tourism green growth through technological innovation. *Journal of Sustainable Tourism*, 34(2), 313–335. <https://doi.org/10.1080/09669582.2025.2482675>
- Kou, I.E, Wu, J., & Lin, Z. (CJ), & Gong, T.E. (2024). Staycation: A review of definitions, trends, and intersections. *Tourism and Hospitality Research*, 25(4), 568-579. <https://doi.org/10.1177/14673584241251992>
- López, V. & Cisneros, P (2026). City, cultural heritage and sustainable tourism in the 21st century: the cases of Madrid and Barcelona. *Journal of Tourism and Cultural Heritage*, 24(1), 269-280. <https://doi.org/10.25145/j.pasos.2026.24.017>
- Luekveerawattana, R. (2024). Successful Green tourism in remote cultural community areas. *Cogent Social Sciences*, 10(1). <https://doi.org/10.1080/23311886.2024.2330733>
- Manotungvorapun, N., & Gerdri, N. (2025). Roadmap Toward Sustainable Tourism Development: An Evidence- and Knowledge-Based Approach from Thailand. *Sustainability*, 17(13), 6028. <https://doi.org/10.3390/su17136028>
- Marques, C., Richter, M., Steigleder, C., Fonseca Holz, R., Paraguassú-Chaves, C., Almeida, F., Trindade, C., Filho, S., Smith, R., & Aznar, S. (2022). Tourism and Sustainability: resumption after COVID-19. *International Journal for Innovation Education and Research*, 10(11), 72-87. <https://doi.org/10.31686/ijier.vol10.iss11.3985>

- Marvin, I. (2024). European Capital of Culture and Sustainable Tourism: Challenges, Trends and Perspectives. *Tourism: An International Interdisciplinary Journal*, 72(1), 20-34. <https://doi.org/10.37741/t.72.1.2>
- Novovic, M., Jaksic, A., Lalevic Filipovic A. & Kascelan, L. (2022). Research of Attitudes toward Implementation of Green Accounting in Tourism Industry in Montenegro-Practices, and Challenges. *Sustainability*, 14(3),1725. <https://doi.org/10.3390/su14031725>
- Ospanova, A., Popovychenko, I., & Chuprina, E. (2022). Green Economy –Vector of Sustainable Development. *Problemy Ekorozwoju*, 17(1),171-181. <https://doi.org/10.35784/pe.2022.1.16>
- Pié, R., & Vilanova, J. (2017). A century of tourism in Europe. New challenges to the discipline of Urbanism. *Ara: Journal of Tourism Research*, 3(2),111–116. <https://doi.org/10.1344/ara.v3i2.19029>
- Rakhimzhanova, G., & Mussina, K. (2025). Defining a sustainable tourism perspective in eastern part of BalkhashAlakol Basin. *Geojournal of Tourism and Geosites*, 58(1), 32–41. <https://doi.org/10.30892/gtg.58103-1388>
- Raykov, T., Marcoulides, G., Anthony, J., & Menold, N. (2024). Evaluating Cronbach's Coefficient Alpha and Testing Its Identity to Scale Reliability: A Direct Bayesian Confirmatory Factor Analysis Procedure. *Measurement: Interdisciplinary Research and Perspectives*, 22(1), 78-89. <https://doi.org/10.1080/15366367.2023.2201963>
- Sahabuddin, C., Azis, S., Irmayani, N. & Basri, B. (2026). Evaluating key indicators for sustained environmental campaigns through a community based tourism social policy model. *Discov Sustain*, 7, 119 (2026). <https://doi.org/10.1007/s43621-025-02432-x>
- Salvador, J.A., Marco, G., & Arquerro, R. (2021). Evaluation of research using surveys in articles published in journals in the field of Library and Information Science. *Spanish Journal of Scientific Documentation*, 44(2), 295. <https://doi.org/10.3989/redc.2021.2.1774>
- Sharpley, R. (2021). On the need for sustainable tourism consumption. *Tourist Studies*, 21(1), 96-107. <https://doi.org/10.1177/1468797620986087>
- Spadaro, I., Pirlone, F., Bruno, F., Saba, G., Poggio, B., & Bruzzzone, S. (2023). Stakeholder Participation in Planning of a Sustainable and Competitive Tourism Destination: The Genoa Integrated Action Plan. *Sustainability*, 15(6),5005. <https://doi.org/10.3390/su15065005>
- Streimikiene D., Svagzdiene B., Jasinskas E., & Simanavicius A. (2021). Sustainable tourism development and competitiveness: The systematic literature review. *Sustainable Development*, 29, 259–271. <https://doi.org/10.1002/sd.2133>
- Singh, S. S. K., Gopal, N. R., John, S., Xavier, H., Lalrosanga, & Kumar, J. S. (2025). Sustainable Tourism Practices: Balancing Economic Growth and Environmental Conservation. *Journal of Information Systems Engineering and Management*, 10(4), 714-724. <https://doi.org/10.52783/jisem.v10i4.9751>
- Surdez, E. G., May, E. G. & Pérez, A. G - (2026). Validation of a scale for measuring green competencies. Its application in companies in the tourism sector. *Pasos. Journal of Tourism and Cultural Heritage*, 24(1), 43-55. <https://doi.org/10.25145/j.pasos.2026.24.003>
- Toubes, D.R., & Araújo, N. (2022). A review of research on tourism in the green economy. *Economies*, 10(6), 137. <https://doi.org/10.3390/economies10060137>
- UN Tourism (2023). *The Sustainable Development Goals Report 2023: Special edition – Towards a Rescue Plan for People and Planet* 5-15. Department of Economic and Social Affairs. Available online: <https://unstats.un.org/sdgs/report/2023/> (accessed October 22, 2026).
- Vrana, V. (2023). Sustainable Tourism Development and Innovation: Recent Advances and Challenges. *Sustainability*, 15(9), 7224. <https://doi.org/10.3390/su15097224>
- Wang, S., & Cheablam, O. (2025). Sustainable Tourism and Its Environmental and Economic Impacts: Fresh Evidence from Major Tourism Hubs. *Sustainability*, 17(11), 5058. <https://doi.org/10.3390/su17115058>
- Xue, C., Te tu, Y., Ananzeh, M., Aljumah, A., Trung, L., & Quang Ngo., T. (2023). The role of economic conditions and sustainable rural development on the sustainability of tourism development: evidence from China. *Environmental Science and Pollution Research*, 30, 30588–30602. <https://doi.org/10.1007/s11356-022-24062-w>
- Yang, Y., Wani, G. A., Nagaraj, V., Haseeb, M., Sultan, S., Hossain, M. E., Kamal, M., & Shah, S. M. R. (2023). Progress in sustainable tourism research: An analysis of the comprehensive literature and future research directions. *Sustainability*, 15(3), 2755. <https://doi.org/10.3390/su15032755>
- Zhang, H., Liang, Q., & Gao, P. (2023). Promoting eco-tourism for the green economic recovery in ASEAN. *Economic change and Restructuring*, 56, 2021-2036. <https://doi.org/10.1007/s10644-023-09492-x>