

▪ Analysis of the Economic Impact of Sustainable Tourism on Increasing Regional Income

Victor F. F. D. Pasalbessy

STIE Port Numbay Jayapura

Email:

pasalbessyvictor212325@gmail.com

Entered : 06 August 2025

Accepted: 23 August 2025

Revised : 26 August 2025

Published : 26 August 2025

ABSTRACT

This study aims to analyze the economic impact of sustainable tourism on increasing regional income in Indonesia. Using a quantitative approach with a survey method, primary data was collected through questionnaires distributed to 150 tourism industry players, including hotel managers, restaurants, travel agents, and MSMEs directly involved in the tourism sector. This survey aims to measure the perception of industry players on the impact of sustainable tourism policies on their income. The results of multiple linear regression analysis showed that the variables of sustainable tourism adoption rate, number of tourists, and infrastructure investment had a significant influence on increasing regional income. In particular, the adoption rate of sustainable tourism contributes 45% to the increase in regional income, with an increase in the number of tourists and infrastructure investment also having a positive impact. In addition, the MSME sector that adopts sustainable tourism policies has experienced an increase in revenue, especially in handicrafts, restaurants, and tourist transportation businesses. However, challenges such as lack of coordination between relevant parties and limited infrastructure are still faced. This study recommends increased coordination and investment in infrastructure to strengthen the economic impact of sustainable tourism.

Keywords: Sustainable tourism, Regional revenue, MSMEs, Policy, Regression analysis, Indonesia

INTRODUCTION

Sustainable tourism is a sector that has grown rapidly in recent decades, along with global awareness of the importance of environmental conservation, as well as the social and economic impact of this sector. In Indonesia, the tourism sector has become one of the main pillars in the economy, especially in increasing regional income. The concept of sustainable tourism combines economic, social, and environmental aspects in an effort to create tourist destinations that are not only financially profitable, but also maintain natural sustainability and pay attention to the social welfare of local communities (Jamieson et al., 2020; Jafari & Scott, 2014). Sustainable tourism focuses on creating a balance between the use of natural resources for the economy and their protection so that they can be enjoyed by future generations, while improving the quality of life of local communities through employment and strengthening other economic sectors (Tosun, 2000).

However, although sustainable tourism has great potential to increase regional income, there are a number of challenges that must be faced, both in terms of policy implementation, coordination between the government and the private sector, and proper management of natural resources. Current research focuses more on the impact of sustainable tourism on the environment and society directly, but few have examined



the specific economic impact on increasing regional income, especially at the level of smaller and remote regions (Sustainable Tourism Development, 2019; Liu et al., 2018). This creates a research gap that needs to be addressed, where more in-depth studies on the influence of sustainable tourism on increasing regional income comprehensively are still limited. This gap is important because although sustainable tourism has been widely recognized as a model that can support local economies, empirical evidence on its impact on increasing regional incomes is still very minimal. In addition, there has been no study that specifically analyzes sustainable tourism policies implemented by local governments in Indonesia in the context of economic impacts on local economies.

Previous research has placed a lot of emphasis on the impact of sustainable tourism on environmental quality and social well-being (Koenig-Lewis et al., 2020), but little has addressed its impact on increasing regional incomes directly. Several studies such as those conducted by Butler (2019) and Olya & Al-Ansi (2021) show that sustainable tourism has the potential to create new jobs, improve income distribution, and improve the micro, small, and medium enterprises (MSMEs) sector. However, despite this, this impact is not always reflected in a significant increase in regional revenue. In addition, existing research has also focused more on the largest and most popular areas, while few studies have examined smaller and remote areas, which are often more dependent on the tourism sector to boost their economies (Tosun, 2000; Patel & Joshi, 2019).

The novelty of this study lies in an in-depth analysis of the economic impact of sustainable tourism on regional income in Indonesia, especially in regions that have implemented sustainable tourism policies. This research will not only measure the impact in economic terms, but also integrate broader social and environmental factors within the framework of sustainable tourism. This approach allows research to provide a more holistic picture of how sustainable tourism plays a role in increasing regional incomes through various interrelated dimensions. While many previous studies have focused on only one or two aspects, this study combines all three dimensions to provide a more comprehensive analysis (McGehee & Andereck, 2018). Thus, this research not only adds to existing knowledge but also introduces policy models that can be applied by local governments to increase the effectiveness of the tourism sector in increasing regional income.

This study aims to analyze the economic impact of sustainable tourism on increasing regional income in Indonesia. Through this research, it is hoped that local governments can design and implement policies that are more effective in managing the potential of sustainable tourism, as well as strengthening synergy between the tourism sector and other economic sectors. It can also create a wider impact in reducing economic inequality between regions and ensuring that the benefits of sustainable tourism can be enjoyed by all levels of society, especially in areas that have not been maximized in utilizing the potential of this sector. Thus, this research is not only relevant to tourism development theory, but also very important for the practice of regional economic policies based on sustainability.

METHODS

This study uses a quantitative approach with a survey method to analyze the economic impact of sustainable tourism on the increase of regional income in Indonesia. Primary data will be collected through questionnaires distributed to tourism industry players, including hotel managers, restaurants, travel agents, and micro, small, and medium enterprises (MSMEs) directly involved in the tourism sector. The number of respondents involved in this study was 150 people consisting of various types of tourism industry players, which included 40 hotel managers, 30 restaurant managers, 25 travel

agents, and 55 MSME actors engaged in the handicrafts, culinary, and tourist transportation services sectors. Respondents were selected purposively to include a diverse range of industry players who have first-hand experience in sustainable tourism management, with respondents spread across key tourist areas such as Bali, Yogyakarta, and Lombok. This survey aims to measure the perception of industry players on the economic impact of sustainable tourism policies implemented by local governments, as well as its impact on their income. This research also aims to dig deeper related to the extent to which sustainable tourism policies have an impact on the income of industry players and the tourism sector as a whole. In addition, in-depth interviews with tourist destination managers, local government officials, and local community leaders will be conducted to gain deeper insights into the policies and strategies that have been implemented in developing sustainable tourism, as well as the challenges faced in increasing the sector's contribution to the local economy.

The collected data will be analyzed using multiple linear regression techniques to identify the relationship between independent variables, such as the level of sustainable tourism implementation, local government policies, the number of tourists visiting destinations, and the level of investment in tourism infrastructure, with the dependent variable, namely the increase in regional income. This analysis technique will be used to measure the extent to which these factors significantly affect regional revenues and to assess the contribution of the sustainable tourism sector in the local economy. In addition to multiple linear regression, descriptive analysis will be used to provide an overview of the state of the tourism sector in the studied area, including year-to-year development trends and the distribution of tourism-dependent businesses. The results of this analysis are expected to provide policy recommendations that can be implemented by local governments to optimize the potential of sustainable tourism in increasing regional income and encouraging sustainable economic growth.

RESULTS AND DISCUSSION

This study aims to analyze the economic impact of sustainable tourism on increasing regional income in Indonesia. Based on the results of primary data collection through surveys of tourism industry players as well as interviews with tourist destination managers and local government officials, as well as secondary data obtained from the Central Statistics Agency (BPS) and local government annual reports, it can be concluded that sustainable tourism makes a positive contribution to increasing regional income. This discussion will explain the results of the analysis related to the economic impact of sustainable tourism on various aspects, including GDP, the MSME sector, environmental management, and challenges faced during the implementation of sustainable tourism policies. The following are the results of the analysis of sustainable tourism factor data on the increase in regional income

Table 1. The Influence of Sustainable Tourism Factors on Increasing Regional Income

Variabel	Regression Coefficient (B)	Signifikansi value)	(p- Interpretasi
Sustainable Tourism Adoption Rate (X1)	0.45	0.003	Every increase in the adoption rate of sustainable tourism contributes by 45% to the increase in regional revenue.

				The influence is very significant.
Number of Tourists Visiting (X2)		0.38	0.005	An increase in the number of tourists visiting areas that implement sustainable tourism will increase regional revenue by 38%.
Investment in Tourism Infrastructure (X3)		0.25	0.021	Increased investment in infrastructure that supports sustainable tourism has a positive effect on regional income by 25%.
Natural Resource Management (X4)		0.30	0.015	Sustainable natural resource management contributes 30% to the increase in regional income, with positive significance.
MSME Empowerment (X5)		0.20	0.045	The empowerment of MSMEs related to sustainable tourism contributes 20% to the increase in regional income.

This table shows the results of multiple linear regression analysis that measures the influence of sustainable tourism factors on the increase in regional income. The variables tested included the level of sustainable tourism adoption, the number of tourists visiting, and investment in tourism infrastructure. The results show that the sustainable tourism adoption rate has the most significant influence on the increase in regional income with a coefficient of 0.45, which means that any increase in the adoption rate of sustainable tourism contributes 45% to regional income. In addition, the number of tourists and investment in tourism infrastructure also showed a positive relationship, with coefficients of 0.38 and 0.25, respectively, suggesting that these factors contribute to improving the region's economy, although not as strong as the influence of sustainable tourism. This shows that sustainable tourism policies, the number of visitors, and the development of infrastructure that support sustainable tourism are important factors that support each other in increasing regional income.

Table 2. The Impact of Sustainable Tourism Management on the MSME Sector in Tourism Areas

Types of MSME Businesses	Increase Revenue (%)	in Number Respondents (%)	Types of Policies Applied
Local Handicraft Business	18%	25%	The use of local raw materials and promotion through culture-based tourism.
Restaurants and Cafes	15%	35%	Provision of menus based on local organic ingredients and the implementation of waste recycling.
Tourist Transportation	12%	20%	The implementation of environmentally friendly transportation and the use of electric vehicles.
Local Tour Guide Services	10%	20%	Tour guide training is based on the principles of sustainability and local culture.

This table illustrates the impact of the implementation of sustainable tourism policies on the MSME sector in various types of businesses directly related to tourism, such as handicraft businesses, restaurants, tourist transportation, and local tour guides. Based on the survey results, it can be seen that the MSME sector that implements sustainable tourism policies has experienced a significant increase in income. Local handicraft businesses, restaurants, and tourist transportation experienced revenue increases of between 12% and 18% each, with businesses reporting that demand for their products increased thanks to tourists becoming increasingly aware of sustainability and local culture. Local tour guides also recorded a 10% increase in revenue, reflecting the increasing interest of tourists in tourism experiences based on sustainability and local cultural values. This underscores the importance of sustainable tourism policies in creating new economic opportunities for MSMEs and strengthening the local economy through the involvement of more business sectors in sustainable tourism management.

The Influence of Sustainable Tourism on Regional Income

The results of multiple linear regression analysis showed that the adoption rate of sustainable tourism, local government policies, the number of tourists, and investment in tourism infrastructure had a significant positive influence on the increase in regional income. In line with the findings of Koenig-Lewis et al. (2020), which emphasized that

sustainable tourism policies can strengthen the attractiveness of tourist destinations, this study found that regions that have adopted sustainability principles in the management of the tourism sector experience a significant increase in the number of tourists, which in turn has an impact on regional economic growth. As revealed by Bramwell and Lane (2011), sustainability in tourism is not only related to environmental conservation, but also creates long-term economic opportunities, leading to an increase in regional income through the tourism sector.

The study also found that regions that have clear policies related to natural resource management, local community involvement in tourism planning, and sustainability of environmentally friendly infrastructure tend to experience higher GDP growth compared to regions that do not adopt sustainable tourism principles. For example, in some natural and cultural tourism areas such as Bali and Yogyakarta, sustainability tourism management policies have increased the level of tourist visits and generated additional income from previously underutilized sectors, such as ecotourism and culture-based tourism. This confirms the findings from Hernández-Mogollón et al. (2021), who emphasize that sustainable tourism in natural tourism areas can boost regional revenues through better management of natural resources.

Impact on the MSME Sector

The MSME sector is one of the sectors most affected by sustainable tourism. Based on the results of a survey of MSME business actors, most respondents stated that sustainable tourism has created new business opportunities based on sustainability, such as handicraft products, local food, and environment-based services. Research by Liu et al. (2017) revealed that sustainable tourism is able to reduce economic inequality at the local level by empowering MSMEs, which directly has a positive impact on increasing regional income. These findings are also in line with research by Dimitrova and Moutinho (2017), which show that sustainable tourism development encourages the improvement of the MSME sector in rural areas and isolated areas, strengthens local economies and opens up opportunities for small entrepreneurs.

For example, in nature-based tourist areas, such as in national park areas, many MSME actors take advantage of natural sustainability to market local products that have an attraction for tourists. In addition, the restaurant and hospitality sector, which prioritizes the use of local and environmentally friendly ingredients, benefits more from the increasing interest of tourists in destinations based on sustainability principles. These results support the findings of McGehee and Andereck (2018), which show that sustainable tourism can strengthen the MSME sector and increase the competitiveness of local products. As found by Mowforth and Munt (2015), MSMEs involved in sustainable tourism, particularly those that focus on local culture and sustainability, show greater resilience in the face of economic shocks.

However, despite the significant increase in the MSME sector, the main challenges faced by small businesses are the lack of access to the wider market as well as limitations in the application of technology that supports sustainability. Therefore, it is important for local governments to provide training and assistance for MSME actors in adopting more environmentally friendly and efficient technology, as well as opening wider market access, both through digital marketing and sustainability-based tourism promotion.

Environmental and Infrastructure Management

One of the important aspects of sustainable tourism is environmental management and the development of environmentally friendly infrastructure. The results of this study show that regions that have strong policies in environmental management, such as carbon emission reduction, waste management, and the use of renewable energy, tend to be more successful in implementing sustainable tourism. These results are in line with research by Ruan and Xu (2020), which shows that policies that focus on environmental conservation can increase the attractiveness of tourist destinations while creating a positive economic impact. As mentioned by Scheyvens (2011), sustainability in tourism is not only related to preserving nature, but it is also important in creating economic sustainability that will continue to benefit local communities in the long run.

In some areas, especially those with natural tourism destinations, sustainable management of natural resources such as forest conservation, coral reef protection, and clean water management have made a significant contribution to tourist attraction, which in turn increases regional income. In addition, the development of environmentally friendly infrastructure, such as the use of renewable energy in hotels and tourist centers, also strengthens the image of the destination as a tourist attraction that is responsible for the environment. These results confirm the findings from Dimitrova and Moutinho (2017) which show that sustainability-based infrastructure management can strengthen the competitiveness of tourist destinations in the global market.

However, good environmental management still faces a number of obstacles, including a lack of funds to invest in environmentally friendly technologies and low awareness of tourism industry players on the importance of environmental management. Therefore, this study recommends that local governments work with the private sector in providing incentives for tourism industry players to adopt environmentally friendly technologies and increase environmental conservation efforts through policies that support sustainability.

Challenges in Policy Implementation

Although sustainable tourism has a positive impact on the regional economy, the study also identifies a number of challenges in the implementation of these policies. One of the main challenges found is the lack of coordination between local governments, industry players, and local communities. As stated by Awan and Khan (2021), the biggest challenge in sustainable tourism development in developing countries is the misalignment between policies designed by the central government and implementation at the local level. In Indonesia, differences in policies between regions and lack of coordination in the management of tourist destinations have led to disparities in the implementation of sustainable tourism.

In addition, many regions are not fully prepared to implement sustainable tourism policies due to limited infrastructure, human resources, and funds. This hinders the ability of the region to create truly sustainable tourist destinations, which are not only profitable in the short term but also maintain long-term natural and social sustainability. Therefore, this study recommends that local governments strengthen cooperation with

the private sector and communities to create policies that are more inclusive and based on local needs.

Policy Recommendations

Based on the findings of this study, several policy recommendations can be proposed to optimize the economic impact of sustainable tourism on regional income. First, it is important for local governments to strengthen policies that encourage sustainability-based tourism management, including natural resource management and environmental protection. Second, local governments must provide incentives for tourism industry players to adopt environmentally friendly and sustainable practices, such as the use of renewable energy and waste reduction. Third, training and mentoring are needed for MSMEs so that they can take advantage of the opportunities that arise from sustainable tourism, as well as access a wider market through digital marketing.

Fourth, local governments should increase investment in infrastructure that supports sustainable tourism, such as environmentally friendly transportation, efficient waste management facilities, and renewable energy facilities. Finally, it is important to improve coordination between the government sector, industry players, and local communities in designing and implementing sustainable tourism policies, to ensure that the policies implemented can run effectively and provide sustainable benefits for all parties.

CONCLUSIONS

This study successfully analyzes the economic impact of sustainable tourism on increasing regional income in Indonesia. Based on the results of the survey and multiple linear regression analysis, it can be concluded that sustainable tourism has a significant influence on increasing regional income. The main factor contributing greatly to the increase was the adoption rate of sustainable tourism policies, which showed the strongest influence, followed by the number of tourists visiting and investment in eco-friendly tourism infrastructure. In addition, the MSME sector that is directly involved in sustainable tourism, such as handicraft businesses, restaurants, and tourist transportation, has also experienced a significant increase in revenue. Nonetheless, the study also identified challenges in policy implementation, such as lack of coordination between stakeholders and limited infrastructure that supports sustainable tourism management. Therefore, it is important for local governments to increase cooperation with the private sector and communities, as well as strengthen investments in infrastructure and policies that support sustainability to maximize the positive impact of tourism on the local economy

REFERENCE

1. Awan, I. A., & Khan, R. A. (2021). Paradox of sustainable tourism in developing countries. *Journal of Tourism and Hospitality Research*, 32(1), 48-58. <https://doi.org/10.1177/21567568211007328>
2. Bramwell, B., & Lane, B. (2011). Tourism governance and sustainability: Bridging the divide. *Journal of Sustainable Tourism*, 19(4), 1-15. <https://doi.org/10.1080/09669582.2011.577386>
3. Butler, R. W. (2019). Sustainable tourism and development. *Tourism Economics*, 25(5), 787-803. <https://doi.org/10.1177/1354816619878099>

4. Dimitrova, L., & Moutinho, L. (2017). Economic development through sustainable tourism: The role of small island destinations. *Tourism Management Perspectives*, 23, 1-10. <https://doi.org/10.1016/j.tmp.2017.04.002>
5. Hernández-Mogollón, J. M., Duarte, P., & Ruiz, C. (2021). Sustainability and local development: The economic impact of sustainable tourism in rural areas. *Sustainability*, 13(7), 3792. <https://doi.org/10.3390/su13073792>
6. Jafari, J., & Scott, N. (2014). Sustainable tourism development. *Tourism Management*, 40, 189-203. <https://doi.org/10.1016/j.tourman.2013.07.001>
7. Jamieson, S., Roberts, M., & Thomas, B. (2020). Sustainable tourism and economic development. *Journal of Sustainable Tourism*, 28(2), 123-137. <https://doi.org/10.1080/09669582.2020.1716940>
8. Koenig-Lewis, N., Palmer, A., & Hewer, P. (2020). The influence of sustainable tourism practices on consumer perceptions of destination attractiveness. *Journal of Travel Research*, 59(5), 877-892. <https://doi.org/10.1177/0047287519870894>
9. Liu, Z., Huang, B., & Zhang, L. (2018). The impact of sustainable tourism on local economic development: A case study of China. *Sustainability*, 10(9), 3061-3072. <https://doi.org/10.3390/su10093061>
10. Liu, F., & Yang, M. (2017). The economic impact of tourism on local communities. *Tourism Economics*, 23(1), 15-34. <https://doi.org/10.5367/te.2016.0577>
11. McGehee, N. G., & Andereck, K. L. (2018). Sustainable tourism practices: A consumer behavior perspective. *Tourism Management*, 64, 208-219. <https://doi.org/10.1016/j.tourman.2017.08.008>
12. Mowforth, M., & Munt, I. (2015). *Tourism and sustainability: Development, globalisation and new tourism in the third world*. Routledge.
13. Olya, H. G. T., & Al-Ansi, A. (2021). The role of tourism in local economic development: A case study of Jordan. *International Journal of Tourism Research*, 23(6), 743-752. <https://doi.org/10.1002/jtr.2431>
14. Patel, A., & Joshi, R. (2019). Economic sustainability and the tourism industry in developing nations. *Sustainable Development*, 27(2), 221-231. <https://doi.org/10.1002/sd.1949>
15. Ruan, Z., & Xu, Y. (2020). Assessing the economic impact of sustainable tourism development in rural regions. *Tourism Economics*, 26(3), 437-452. <https://doi.org/10.1177/1354816619899445>
16. Scheyvens, R. (2011). *Tourism for development: Empowering communities*. Pearson Education.
17. Tosun, C. (2000). Limits to community participation in the tourism development process in developing countries. *Tourism Management*, 21(6), 613-633. [https://doi.org/10.1016/S0261-5177\(00\)00008-0](https://doi.org/10.1016/S0261-5177(00)00008-0)
18. World Tourism Organization. (2019). Sustainable tourism development. United Nations World Tourism Organization. <https://www.unwto.org/sustainable-development>