

Strengthening Penta-Helix Collaboration in Supporting Sustainable Tourism in Penglipuran Tourism Village from the Perspective of Tourism Law

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Abstract.

Sustainable tourism development requires effective collaboration among multiple stakeholders supported by a strong legal framework. This study aims to strengthen Penta-Helix collaboration in supporting sustainable tourism governance in Penglipuran Tourism Village, Bali, from the perspective of tourism law. The program employed a Participatory Rural Appraisal (PRA) approach involving representatives from government, academia, business, local communities, and the media. The implementation consisted of problem identification, needs assessment, collaborative planning, capacity-building activities, stakeholder discussions, mentoring, and evaluation. Data were collected through field observations, semi-structured interviews, focus group discussions, pre- and post-tests, and participant satisfaction questionnaires. The results demonstrate that the PRA approach effectively enhanced stakeholder participation, strengthened coordination among Penta-Helix actors, and improved participants' understanding of sustainable tourism principles and tourism regulations. The program also produced a collaborative action plan that integrates legal compliance with sustainable tourism practices, reinforcing governance based on participation, accountability, and environmental sustainability. Furthermore, the initiative increased community capacity to manage tourism while preserving local culture and supporting long-term economic development. The findings indicate that integrating the Penta-Helix collaboration model with tourism law provides an effective framework for strengthening sustainable tourism governance. This approach can serve as a replicable model for other tourism villages seeking to enhance stakeholder collaboration, regulatory compliance, and sustainable community development in Indonesia.

Keywords: *Community empowerment; Participatory Rural Appraisal (PRA); Penta-Helix collaboration; Sustainable tourism; Tourism law.*

I. INTRODUCTION

The tourism sector is one of the strategic sectors that contributes to national economic growth through job creation, increased community income, and the preservation of culture and the environment. Following the COVID-19 pandemic, Indonesia's tourism sector has shown a positive recovery trend. According to data from the Central Statistics Agency (BPS), the number of international tourist visits to Indonesia in 2024 reached approximately 13.90 million, an increase from 11.68 million in 2023—representing growth of about 19%. This increase indicates that

tourism has once again become a key driver of national economic growth. Central Statistics Agency. (2025)

In line with this increase, the government continues to develop tourism villages as part of a community-based development strategy, Harsono et al., (2025). The development of tourism villages is not only aimed at increasing the number of tourist visits, Chambers, R. (1994), but also at creating a balance between economic growth, cultural preservation, community empowerment, and environmental conservation through the concept of sustainable tourism. This concept emphasizes that tourism activities must be able to meet the needs of tourists and local communities without compromising the ability of future generations to utilize available resources.

The development of sustainable tourism villages not only requires collaboration among stakeholders but must also be supported by legal certainty through various national regulations. In Indonesia, tourism management is regulated by Law No. 10 of 2009 on Tourism, which stipulates that tourism activities must provide economic benefits, ensure environmental sustainability, preserve culture, and improve community well-being. Furthermore, the concept of sustainable development is reinforced by Law No. 32 of 2009 on Environmental Protection and Management, which emphasizes the importance of balancing the use of natural resources with environmental conservation. In this context, the Penta Helix collaboration serves as an instrument for implementing public policy that strengthens the enforcement of various regulations regarding the sustainable development of tourism villages. From the perspective of administrative law, the Penta Helix model embodies the principles of good governance, which emphasize public participation, transparency, accountability, collaboration, and effectiveness in governance. Thus, the development of tourism villages is not solely the government's responsibility but a shared responsibility among all stakeholders.

One of the tourism villages that has successfully implemented this principle is Penglipuran Tourism Village in Bangli Regency, Bali. This village is known as a culture-based tourism village that continues to preserve traditional architecture, local wisdom, and the Tri Hita Karana philosophy as the foundation for managing community life. Penglipuran has also gained international recognition as one of the cleanest villages in the world. The high level of tourist interest is evident from the increase in visitor numbers, from 32,668 tourists in 2012 to 64,692 tourists in 2014, while during the peak season in 2023, the number of tourists could reach around 3,500 people per day, according to the United Nations World Tourism Organization. (2023). These conditions demonstrate that Penglipuran possesses strong appeal as a cultural and eco-tourism destination. The development of the Penglipuran Tourism Village is also in line with government policy on village development as outlined in Law of the Republic of Indonesia No. 6 of 2014 on Villages, as last amended by Law of the Republic of Indonesia No. 3 of 2024, which grants villages the authority to develop local economic potential through community empowerment and independent management of village resources.

Nevertheless, the increasing number of tourists also presents new challenges in the management of tourist destinations. Heritage, K. K. (2025). An increase in tourism activity has the potential to put pressure on the environment, local culture, institutional capacity, and service quality if not managed collaboratively. Therefore, the development of tourism villages requires not only government support but also the involvement of various stakeholders, including academics, government officials, business operators, local communities, and the media. The synergy among

these five actors is known as the Penta Helix model, which is seen as capable of strengthening innovation, governance, promotion, community empowerment, and the sustainability of tourism destinations. United Nations Educational, Scientific and Cultural Organization (2022).

Various studies over the past five years have shown that Penta Helix collaboration contributes to enhancing the competitiveness of tourism destinations (Hariri, A., Wahyuni, H. I., & Supriyo, A., 2025), strengthening governance, and empowering local communities. However, its implementation at the village level still faces various obstacles, including suboptimal coordination among stakeholders, limited human resource capacity, a lack of integration among cross-sectoral programs, and uneven community participation in the decision-making process. These conditions prevent the potential of tourism villages from being fully developed in an optimal and sustainable manner.

Given these conditions, a Community Service (PKM) initiative is needed that focuses on facilitating the strengthening of Penta Helix collaboration to support the implementation of sustainable tourism in Penglipuran Chamidah Tourism Village, N. (2025). This initiative employs a Participatory Rural Appraisal (PRA) approach, ensuring that the community and all stakeholders are actively involved from the initial stages—including identifying potential opportunities and challenges, conducting needs assessments, planning programs, providing guidance, through to evaluation and follow-up. Through this activity, it is hoped that more effective collaboration among Penta Helix actors will be established, thereby strengthening sustainable tourism governance, enhancing community capacity, and preserving cultural and environmental sustainability in Penglipuran Tourism Village. Unlike previous community service activities, which focused primarily on training in tourism village management, this initiative integrates the Penta Helix collaborative approach with a legal perspective on tourism. Consequently, it not only enhances community capacity but also strengthens the implementation of regulations in the management of sustainable tourism villages.

II. METHODS

2.1 Community Service Participants

Participants in the Community Service (PKM) program are stakeholders involved in the management of Penglipuran Tourism Village in Bangli Regency, Bali. Participants include the village government, the management of Penglipuran Tourism Village, MSME operators, the Tourism Awareness Group (Pokdarwis), traditional leaders, community leaders, village youth, as well as representatives from academia and the media who serve as components of the Penta Helix. The involvement of various parties aims to strengthen collaboration in supporting the implementation of sustainable tourism through capacity building, coordination, and synergy among stakeholders. Vasanicova, P. (2024).

2.2 Community Service Approach

This PKM activity employs the Participatory Rural Appraisal (PRA) approach, which places the community at the center of every stage of the activity. The PRA approach was chosen because it encourages active community participation in identifying problems, analyzing needs, formulating strategies, implementing programs, and jointly evaluating the results of the activities. It is hoped that this approach will foster a sense of ownership, ensuring the sustainability of the implemented programs.

2.2.1 Problem Analysis

The initial phase was conducted through field observations, semi-structured interviews, and Focus Group Discussions (FGDs) with village officials, tourism village managers, MSME operators, community leaders, and other Penta Helix stakeholders. This analysis aims to identify existing conditions, the village's potential, and various challenges in sustainable tourism management. Additionally, the analysis is designed to evaluate the implementation of various regulations related to tourism village management, particularly Law No. 10 of 2009 on Tourism, Law No. 32 of 2009 on Environmental Protection and Management, Law No. 6 of 2014 on Villages as amended by Law No. 3 of 2024, and Regulation of the Minister of Tourism and Creative Economy No. 9 of 2021 on Guidelines for Sustainable Tourism Destinations. The results of the assessment indicate that Penglipuran Tourism Village possesses strong cultural, environmental, and institutional potential. However, there is still a need to strengthen coordination among stakeholders, enhance community capacity, foster program innovation, and establish more structured synergies so that the implementation of sustainable tourism principles and tourism-related legal provisions can proceed optimally (Pretty, 1995).



Figure 1. Problem Tree

2.2.2 Objective Analysis

Based on the results of the problem identification, program objectives were formulated through a participatory process with partners.



Figure 2. Propose of Community Services

The objective of this community service program is to strengthen Penta Helix collaboration in supporting the implementation of sustainable tourism in Penglipuran Tourism Village through synergy among the government, academia, business actors, the community, and the media. This collaboration is aimed at creating sustainable tourism governance in accordance with the principles of sustainable development and tourism regulations.

To achieve this objective, the program focuses on five main goals: enhancing collaboration among stakeholders; increasing community capacity and participation; fostering innovation in tourism programs; strengthening the implementation of tourism regulations; and realizing sustainable tourism management. These five goals are mutually reinforcing in building a more effective, participatory, and sustainability-oriented tourism village management system.

The program's implementation is expected to result in an active Penta Helix collaboration forum, improved community competencies in tourism village management, the availability of sustainable tourism program innovations, increased compliance with tourism regulations, and the realization of tourism village management that delivers economic, social, cultural, and environmental benefits.

Overall, the expected final outcome is the establishment of Penglipuran Tourism Village as a competitive, sustainable tourism destination—based on the Penta Helix collaboration model, compliant with regulations, and capable of improving community well-being and preserving the environment. This program is also expected to serve as a model for sustainable tourism village development that can be replicated in other tourism destinations across Indonesia.

2.2.3 Program Strategy Analysis

The program implementation strategy was designed based on the results of a needs analysis of the partners, integrating the Penta Helix concept as a model for multi-stakeholder collaboration in supporting sustainable tourism development (Carayannis & Campbell, 2010). Additionally, the program strategy aligns with the principles of sustainable tourism and the implementation of tourism regulations to strengthen the governance of Penglipuran Tourism Village. The strategies implemented include: (1) outreach on the Penta Helix concept, sustainable tourism, and tourism

regulations; (2) capacity-building training for the community and MSME operators; (3) Focus Group Discussions (FGDs) to strengthen coordination among stakeholders; (4) guidance on developing a collaborative action plan based on the Penta Helix model; and (5) monitoring and evaluation of program implementation, accompanied by the formulation of sustainability recommendations (Hariri et al., 2025).

2.2.4 Evaluation Instruments

Program evaluation is conducted using several instruments, namely:

1. Observation sheets to assess participants' level of participation and engagement during the activities.
2. Pre-test and post-test questionnaires to measure participants' increased understanding of the Penta Helix concept and sustainable tourism.
3. Questionnaires on participant satisfaction with the implementation of the activities.
4. Interview and FGD guides to gather feedback on the benefits, challenges, and recommendations for program development.
5. Activity documentation as evidence of implementation and material for program evaluation.

2.2.5 Success Indicators

The success of the PKM activity is measured based on the following indicators:

Table 1 Success Indicators for Community Service

Indicator	Target
Participant attendance	$\geq 80\%$
Active participation of participants in training and discussions	$\geq 80\%$
Improved understanding of the Penta Helix concept	$\geq 80\%$ attendance knowing Penta Helix concept
Improved understanding of sustainable tourism	Increasing post-test score meningkat $\geq 20\%$ compare with pre-test
Ability to identify the roles of each element of the Penta Helix in the management of tourism villages	$\geq 80\%$ attendance
Development of a collaborative action plan for tourism village development	Minimal 1 action plan document
Participants' level of satisfaction with the mentoring activities	$\geq 85\%$

Establishment of a commitment to
collaboration among the elements of the Penta
Helix

Minimal 1 joint follow-up agreement

III. RESULT AND DISCUSSION

The Community Service (PKM) program was implemented in Penglipuran Tourism Village, Bangli Regency, Bali, using the Participatory Rural Appraisal (PRA) approach. The program was designed in a participatory manner, involving the village government, tourism village managers, MSME operators, the Tourism Awareness Group (Pokdarwis), community leaders, academics, and the media as representatives of the Penta Helix model. This approach aims to foster collaboration among stakeholders in supporting the implementation of sustainable tourism that aligns with tourism regulations and village development (Heritage, 2025). The program was implemented in phases, ranging from problem identification, needs analysis, strategy formulation, implementation of assistance, to evaluation and the development of follow-up plans. Each stage integrates aspects of Penta Helix collaboration, the implementation of tourism regulations, and the principles of sustainable development so that the program proceeds systematically and with a focus on sustainability.

Table 2 Results of Community Service Activities

No	Timeline	Time	Main Activity	Output	Impact
1	Problem Identification	Day 1	Observations, interviews, and focus group discussions (FGDs) with village governments, tourism village managers, MSMEs, Pokdarwis, community leaders, academics, and the Media to identify potential, challenges, and the implementation of tourism regulations.	Potential, challenges, needs, and regulatory aspects that need to be strengthened have been identified.	Partners understand the current conditions and challenges of managing sustainable tourism villages.
2	Needs Assessment	Day 1	Analysis of observation and FGD results to determine program needs, including strengthening Penta Helix collaboration	Program priorities and objectives have been established.	The program is tailored to community needs and complies with applicable laws and regulations.

			and regulatory compliance.		
3	Program Planning	Day 2	Development of outreach materials, definition of Penta Helix roles, and formulation of an action plan based on sustainable tourism and tourism regulations.	Documents outlining activity plans and collaborative action plans.	A mutual understanding has been established regarding the roles of each stakeholder.
4	Implementation of Assistance		Outreach, training, discussions, and mentoring on Penta Helix collaboration, sustainable tourism, and the implementation of tourism regulations.	Enhanced knowledge and capacity of participant	Participants understand the importance of collaboration and compliance with regulations in managing tourism villages.
5	Monitoring and Evaluation	Day 3	Observations, pre-tests, post-tests, program evaluations, and assessments of the implementation of mentoring outcomes.	Program evaluation data and participant satisfaction levels.	There has been an increase in understanding, and recommendations for program improvements have been identified.
6	Reflection and Follow-Up	Day 3	Formulation of recommendations and joint commitments to strengthen Penta Helix collaboration and the sustainable implementation of regulations.	Documents outlining follow-up plans and shared commitments.	Stronger synergy has been established to support the sustainable and regulation- compliant development of Penglipuran Tourism Village.

The results of the implementation show that the Participatory Rural Appraisal (PRA) approach was able to increase active community participation at every stage of the activities. The involvement of the village government, tourism village managers, MSME operators, Pokdarwis, academics, the media, and the community resulted in a more collaborative discussion process, allowing various problems and solutions to be formulated collectively. The results of the assistance program show that collaboration among Penta Helix actors not only improves coordination but also

strengthens the implementation of various regulations regarding tourism village management. The involvement of village governments, academics, business operators, the community, and the media constitutes the implementation of participatory principles as mandated by the Village Law and the Tourism Law.

During the mentoring phase, participants gained an understanding of the Penta Helix concept as a collaborative model that integrates the roles of academics, government, business operators, the community, and the media in the development of tourism villages. Additionally, participants received reinforcement on the principles of sustainable tourism, which emphasize a balance between economic, social, cultural, and environmental aspects in the management of tourism destinations.

Based on the evaluation results, most participants demonstrated a better understanding of the importance of cross-sector collaboration in supporting the sustainability of tourism villages. Participants also noted that the mentoring activities provided new insights into the division of roles among each element of the Penta Helix framework and the importance of developing programs through a participatory approach. Through this initiative, it is hoped that a shared commitment will emerge to continue strengthening collaborative networks so that Penglipuran Tourism Village can maintain the quality of its destination while sustainably improving community well-being.

IV. CONCLUSION

The Community Service Program in Penglipuran Tourism Village, Bangli Regency, Bali, successfully increased stakeholders' understanding of and participation in the importance of Penta Helix collaboration in supporting sustainable tourism management. Through the Participatory Rural

Appraisal (PRA) approach, the village government, tourism village managers, MSMEs, the community, academics, and the media were actively involved in all stages of the program. The program's results demonstrated improved coordination among stakeholders, enhanced community capacity, and the development of a collaborative action plan for the sustainable development of the tourism village. Additionally, this initiative enhanced participants' understanding of the implementation of Law No. 10 of 2009 on Tourism, Law No. 32 of 2009 on Environmental Protection and Management, and Regulation of the Minister of Tourism and Creative Economy No. 9 of 2021 on Guidelines for Sustainable Tourism Destinations as the legal framework for tourism village management. Thus, this program not only strengthens community capacity but also promotes compliance with regulations and reinforces collaborative, sustainable, and law-based governance of tourism villages.

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