

Tourism Development in the Sumenep Archipelago: Policy, Infrastructure, and Stakeholder Synergy

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Abstract

Tourism development in the Sumenep Archipelago faces complex challenges due to geographical fragmentation and limited stakeholder synergy. Despite its significant potential in marine and cultural tourism, efforts remain hindered by sectoral coordination, policy misalignment, and uneven infrastructure development. This study investigates how stakeholders communicate and collaborate in tourism development, identifies key obstacles in implementing tourism policies and infrastructure, and explores local community involvement across island districts such as Gili Iyang, Kangean, and Gili Labak. Using a qualitative approach and multi-case study design, data were collected through in-depth interviews, participatory observation, and document analysis. The findings indicate that stakeholder communication is fragmented and project-dependent, lacking a formal collaboration forum. Infrastructure challenges include poor accessibility, weak digital connectivity, and insufficient sanitation facilities. Policy gaps emerge from the disconnect between national frameworks and island-specific spatial and logistical needs. Meanwhile, local communities participate mainly as microeconomic implementers with minimal empowerment, institutional support, or access to capital. The study concludes with a recommendation to establish participatory policies, strengthen local institutions, and facilitate cross-sector collaboration to build an inclusive, adaptive, and sustainable tourism governance model for the Sumenep Archipelago.

Keywords: *Stakeholder Synergy, Island Tourism, Infrastructure, Community Participation, Collaborative Governance*

INTRODUCTION

Tourism development serves as a vital convergence point for economic advancement, community participation, and environmental stewardship. The concept of sustainable tourism has gained prominence as a normative framework that underscores the necessity of aligning economic gains with ecological preservation and cultural sensitivity. Achieving such equilibrium is crucial to ensuring that tourism delivers tangible benefits to local communities while mitigating adverse effects on natural ecosystems and cultural assets (Güzel et al., 2020; Khan et al., 2021; Nurjaya, 2022). The Sumenep Islands, situated at the easternmost region of Madura Island, possess substantial potential in both marine and cultural tourism. Nevertheless, this potential remains underexploited due to fragmented policy implementation, inadequate infrastructure, and limited stakeholder coordination. Islands such as Gili Iyang, Giligenting, and Sapeken offer

distinct tourism appeal, yet continue to confront persistent barriers related to accessibility, intersectoral communication, and the cohesive integration of tourism development initiatives.



Figure 1. Tourist attractions in Sumenep, Madura, East Java

Source: Instagram (@jatimpemprov; Kompasiana, 2024)

Gili Iyang Island, situated within Dungkek District of Sumenep Regency, East Java Province, encompasses two administrative villages: Bancamara and Banraas. Covering an area of approximately 9.15 square kilometers and home to around 7,800 residents, the island, despite its limited geographic size has attracted increasing tourist attention due to its distinctive environmental characteristics. In recent years, it has gained popularity among international visitors drawn by its unspoiled natural surroundings and exceptional air quality. Among the thousands of islands in the Indonesian archipelago, Gili Iyang has emerged as a noteworthy destination for both domestic and foreign tourists, particularly those seeking to experience the island's high oxygen levels and refreshing atmosphere (Kabupaten Sumenep, 2016).

Often referred to as the “oxygen island,” Gili Iyang maintains consistently high oxygen concentrations, ranging between 20.9% and 21% throughout day and night. These levels surpass those found in many other regions, positioning the island as an appealing destination for individuals seeking respiratory rejuvenation and a clean-air retreat. This environmental attribute renders Gili Iyang an alternative tourism site for health-conscious travelers in search of serenity and ecological well-being (Kabupaten Sumenep, 2016).

The island's natural landscape remains largely undisturbed. Ropet Beach, for instance, presents scenic views of sunrise and expansive marine vistas. Additionally, various caves such as Mahakarya Cave offer tranquil and exotic settings, largely untouched by mass tourism. The geological features of Gili Iyang are further enhanced by the presence of karst formations, including Batu Canggih, which provide elevated viewpoints overlooking the surrounding sea. Recognizing its ecological value, institutions such as Airlangga University have initiated efforts to develop Gili Iyang into a globally recognized ecotourism destination. This initiative aligns with the island's suitability for sustainable and wellness-oriented tourism (Kabupaten Sumenep, 2016).

From an infrastructural perspective, Gili Iyang offers basic accommodations in the form of homestays, public sanitation facilities, and marine transportation via wooden boats operating from Dungkek Port, with travel durations ranging between 30 and 40 minutes depending on sea conditions. The implementation of the tourism village programme has further stimulated the development of complementary tourist amenities, including designated photo spots, souvenir kiosks, and food stalls, all of which are managed by the local community to support inclusive and locally driven tourism development (Kabupaten Sumenep, 2016).

Giligenting Island, located within the administrative jurisdiction of Sumenep Regency in East Java Province, forms part of an island chain situated in the southeastern region of Madura Island. This area encompasses several villages and possesses considerable potential for nature-based tourism, particularly due to its coastal features. Among the island's most prominent attractions is Sembilan Beach, also referred to as Pantai 9. The beach is renowned for its pristine white sand, crystal-clear seawater, and distinctive land formations that are often described as

resembling the number nine, offering a visually striking landscape. The surrounding marine environment also supports snorkeling and coral reef exploration, positioning the site as a viable destination for marine tourism activities (Explore Madura, 2015).

Another notable location is Kahuripan Beach, situated in the island's southern region. This site features an expansive seascape and has become a preferred destination for visitors seeking camping experiences along the shoreline. The relatively undisturbed environment and low levels of pollution create favorable conditions for relaxation and outdoor recreation. Access to Giligenting Island is facilitated through sea transportation from mainland Madura ports, such as Tanjung Port. However, internal mobility within the island remains limited, as travel to key tourist areas depends largely on two-wheeled vehicles due to inconsistent road infrastructure (Explore Madura, 2015).

Although several basic amenities have been established to accommodate tourist needs, including modest accommodations, recreational water facilities such as banana boats, and wooden bridges frequently utilized as photo spots the overall development of tourism infrastructure on the island remains relatively limited when compared to major tourism hubs. This indicates that while Giligenting possesses strong potential, further investment and planning are necessary to enhance its competitiveness and sustainability as a tourism destination (Explore Madura, 2015).

Sapeken Island, located within Sapeken Subdistrict of Sumenep Regency, East Java Province, forms part of the Kangean Islands situated to the east of Madura. The island possesses considerable potential in both marine tourism and ecotourism, supported by its relatively pristine coastal and marine ecosystems (Indonesiana, 2023).

The surrounding waters are distinguished by their exceptional clarity and rich coral diversity, rendering the island a favorable site for snorkeling and underwater exploration. The preserved marine biodiversity enhances its appeal as a destination for tourists seeking immersive nature-based experiences. Along its coastline, stretches of clean white sand and a serene environment provide an additional draw for leisure travelers. Among the island's main attractions is Bajo Beach, which exhibits characteristics comparable to renowned beaches beyond the Madura region. Furthermore, the coastal mangrove forests contribute significantly to ecological stability and serve as a platform for environmental education, reinforcing the island's role in promoting ecotourism (Indonesiana, 2023).

Access to Sapeken Island is limited to sea routes originating from ports on Madura Island en route to the Kangean archipelago. Upon reaching the island, mobility remains constrained due to underdeveloped transportation infrastructure, requiring tourists to rely primarily on motorcycles or pedestrian access to reach key destinations. While several basic amenities are currently in place, including modest accommodations, local eateries, and simple tourism services, these provisions indicate that tourism development remains in its nascent phase. Nevertheless, the island holds substantial promise for sustainable tourism expansion through strategic and community-based initiatives (Indonesiana, 2023).

The effective implementation of tourism policies in island regions is highly contingent upon the functionality of communication mechanisms, the adequacy of infrastructure, and the extent of community participation in both planning and evaluation stages (Gikonyo, 2024). Stakeholder Theory underscores the critical importance of these elements by highlighting the proactive involvement of local communities and the strategic management of stakeholder relationships to ensure long-term sustainability (Hendrayani et al., 2025). In light of this, the present study aims to investigate the dynamics of stakeholder communication and inter-organizational synergy within the Sumenep Archipelago, with a specific focus on their contributions to inclusive and sustainable tourism development.

Existing qualitative research on tourism governance in archipelagic or peripheral areas remains limited, particularly studies that emphasize the communicative dimension in fostering

collaborative tourism models. Much of the prior scholarship has yet to fully address the intricate interactions and relational complexities among stakeholders operating within decentralised governance frameworks, such as those present in Sumenep Regency (Amni et al., 2025; Nashihah et al., 2024). This study intends to address that scholarly gap by offering an in-depth exploration of stakeholder coordination and communication within a decentralised tourism governance context.

This study is designed to answer three main questions, namely how stakeholders communicate and collaborate in tourism development in the Sumenep Islands. What are the main challenges in implementing policies and developing tourism infrastructure in this island region. How do local communities perceive and participate in the ongoing tourism development process (Roxas et al., 2020).

The objectives of this study are to analyse the dynamics of communication among stakeholders involved in tourism development in the Sumenep Islands; to identify obstacles and opportunities in policy implementation and tourism infrastructure development in the archipelago; and to describe how synergy among stakeholders affects the sustainability of tourism development in remote areas (Mutanga et al., 2025).

This study proposes an integrated governance approach as the basis for tourism planning in the archipelago. The main focus is on the strategic role of communication in building synergy between the institutions involved. This study also presents the case of peripheral regions such as Sumenep, which have received little attention in the discourse on national tourism policy. Rooted in local conditions, this study formulates a collaborative island tourism management framework that is relevant for application in developing countries (Panagiotopoulou, 2025).

This research is expected to contribute in three main dimensions. Theoretically, this study broadens the understanding of the implementation of Collaborative Governance in the context of island tourism, which has been minimally explored in Indonesian literature. This study also strengthens the relevance of stakeholder theory and policy implementation theory in challenging geographical conditions. Practically, the findings of this study can be used as a reference for local governments, destination management organisations (DMOs), and tourism industry players in designing more effective collaborative approaches. Data-based recommendations will support institutional strengthening and improved cross-sector communication strategies. This research provides insights for policy makers in the tourism sector, particularly in formulating evidence-based policies that consider the active role of communities and cross-sector synergies to enhance the competitiveness and sustainability of destinations (Li et al., 2023).

RESEARCH METHODS

This study adopts a qualitative approach grounded in the interpretive paradigm, which prioritizes the construction of meaning and the socio-cultural context in understanding empirical reality. The research design employs a multi-case study framework, wherein each island within Sumenep Regency, such as Gili Iyang, Gili Labak, and the Kangean Islands is treated as a distinct analytical unit. Each case reflects a specific configuration of policy implementation, stakeholder dynamics, and physical characteristics. This design enables the researcher to explore the complexity and variability of tourism governance practices and inter-stakeholder communication across multiple island contexts (Creswell & Creswell, 2018).

Data collection was conducted using three primary methods. In-depth interviews were carried out with key informants, including tourism office officials, village leaders, private sector actors in the tourism industry, and representatives from non-governmental organisations. These interviews followed a semi-structured format to elicit rich insights into stakeholder perceptions, experiences, and collaborative efforts in tourism development. Additionally, the study employed

participatory observation to capture tourism-related activities and infrastructure implementation in situ, allowing the researcher to understand both social interactions and material realities firsthand (Creswell & Creswell, 2018). Complementing these methods, document analysis was conducted to examine strategic planning documents, regional tourism policies, and development reports relevant to the Sumenep archipelago. This methodological triangulation ensured a comprehensive and contextualised understanding of each case.

Data analysis followed the model proposed by Miles, Huberman, and Saldaña (2014), comprising three core stages: data condensation, data display, and conclusion drawing/verification. Verbatim transcripts from interviews were thematically coded using qualitative data analysis software such as NVivo to systematically organise categories and identify emerging patterns. Observational notes and policy documents underwent the same coding procedures to ensure methodological coherence and allow cross-validation between sources. Throughout the analysis, the researcher engaged in reflective categorisation, integrating theoretical constructs with inductively derived insights from field data (Miles et al., 2014).

To enhance the validity and reliability of findings, the study applied source and method triangulation. Interview data were cross-checked with observational evidence and official documents to test for informational consistency and convergence. Furthermore, informant triangulation was employed to compare the perspectives of public officials, community stakeholders, and private sector representatives. The research process was documented through an audit trail, and selective member checking was conducted to confirm preliminary interpretations with key participants. These strategies were implemented to ensure that the findings are not only internally consistent but also grounded in the socio-institutional context of island-based tourism governance.

The study population comprised strategic actors involved in various stages of tourism planning, implementation, and evaluation in the Sumenep archipelago. Informants were selected through purposive sampling to ensure their relevance and experience in tourism governance, followed by snowball sampling to identify additional participants based on referrals. The sample included representatives from the Sumenep Regency Tourism Office, local government authorities on the selected islands, tour operators, community leaders, and NGO representatives engaged in regional development and environmental sustainability.

RESULT AND DISCUSSION

Tourism policy implementation in island regions involves intricate dynamics between government agencies, local communities, and private sector actors. For example, research on Penyengat Island demonstrates the critical role of stakeholder engagement, particularly emphasizing how governmental bodies provide essential logistical and regulatory support, including infrastructure and security (Yuniningsih et al., 2022). Governance functions as a central mechanism in harmonizing tourism initiatives with sustainable development objectives, which requires the cultivation of social networks and the promotion of coordinated stakeholder actions (Bozdoglar, 2023). Empirical findings associate the effectiveness of tourism policies with robust stakeholder participation, which facilitates the integration of local priorities into overarching economic strategies (Dodds, 2023).

Based on interviews conducted with business women, the data analysis process was carried out using several stages of coding with the NVIVO approach. These stages include open coding, axial coding, and selective coding, which systematically organize and refine the data to uncover meaningful insights and relationships.

Table 1. Participant Demographics

Participant Code	Type of Business	Gender
P1	MSMEs (Food, Beverages, Medicines)	Women
P2	MSMEs (Food, Beverages, Medicines)	Women
P3	MSMEs (Food, Beverages, Medicines)	Women
P4	MSMEs (Food, Beverages, Medicines)	Women
P5	MSMEs (Food, Beverages, Medicines)	Women
P6	MSMEs (Food, Beverages, Medicines)	Women

The table indicates that all participants (P1 to P6) are women engaged in micro, small, and medium enterprises (MSMEs) operating in the food, beverage, and pharmaceutical sectors. This gender and sectoral uniformity shapes a distinct demographic profile, positioning them as local economic agents directly influenced by infrastructure conditions and tourism governance in the Sumenep archipelago.

Their involvement in MSMEs equips them with grounded insights into on-the-ground challenges, including logistical constraints and limited access to governmental support schemes. As female entrepreneurs, they are likely to approach issues of collaboration, empowerment, and local participation through the lens of community values, social cohesion, and mutual support.

These demographic attributes critically affect their interactions with policy frameworks, institutional actors, and fellow entrepreneurs. Their practices often rely on informal networks rooted in trust and cooperation, yet they operate without systematic institutional backing. Consequently, this demographic context provides a foundational lens through which to interpret the interview findings, particularly regarding policy integration, infrastructure issues, and the dynamics of community participation.

Table 2. Frequency of Mention of Tourism Development in the Sumenep Archipelago: Policy, Infrastructure, and Stakeholder Synergy

Main Theme	Frequency of Mention	Participants Who Mentioned
Stakeholder Collaboration and Communication in Tourism Development	6	P1, P2, P3, P4, P5, P6
Challenges in Implementing Tourism Policies and Infrastructure	6	P1, P2, P3, P4, P5, P6
Local Community Perceptions and Participation in Tourism	6	P1, P2, P3, P4, P5, P6

Table 2 demonstrates that all participants (P1 to P6) uniformly addressed three core themes during the interviews: stakeholder collaboration and communication, obstacles in the implementation of tourism policies and infrastructure, and local community perceptions and participation in tourism development. The recurrence of these themes across all responses suggests a shared awareness and consistent experiential understanding among the participants regarding key structural challenges in archipelagic tourism development. These are not isolated or individual concerns, but rather reflect systemic issues encountered collectively by MSME actors.

The emphasis on stakeholder collaboration stems from the participants' limited engagement in formal coordination mechanisms with governmental bodies or tourism institutions. Additionally, challenges related to infrastructure, particularly sea transportation and access to financial capital emerged as common constraints. While local communities are involved in tourism activities, their participation remains sporadic and lacks integration into long-term institutional frameworks. This pattern of responses underscores the analytical significance and practical urgency of the identified themes. The findings provide empirical grounding for the development of more inclusive and adaptive tourism policies that align with the actual conditions and needs of both local businesses and communities.

Stakeholder Collaboration and Communication in Tourism Development

Stakeholder collaboration and communication are crucial components in the development and sustainability of tourism destinations. The effective integration of various stakeholders, including local communities, government entities, and private sector players addresses the complexities of tourism management, particularly in enhancing community resilience and promoting sustainable development practices. Recent studies illustrate the importance of stakeholder engagement in managing tourist destinations. Ordóñez-Martínez et al. highlight that collaboration and community participation are essential for sharing tourism data and forming strategic partnerships that benefit all stakeholders involved (Ordóñez-Martínez et al., 2023). Networking among stakeholders through platforms like social media has been noted as a method for improving coordination and disseminating information widely; Nguyen et al. indicate how social networking facilitates environmental awareness and supports sustainable tourism practices through effective information sharing (Nguyen et al., 2024). This participatory framework fosters transparency and inclusiveness and supports the development of a shared vision for future tourism endeavors (Arifin et al., 2025).

Table 3. Initial, Axial, and Selective Codes from Stakeholder Collaboration and Communication in Tourism Development

No.	Initial Codes	Axial Code	Selective Code	Participant Quotes	Description
1.	Mutual support and our hope that the region will become more widely known	Community involvement	Limited Coordination and Synergy	<i>“Businesses rely on informal collaboration, but there is no formal coordination system”</i>	Business actors build informal collaborations based on solidarity and collective hope, but they lack structured communication mechanisms or support from formal institutions.

					This reflects a pattern of horizontal collaboration rather than vertical collaboration between stakeholders.
2.	The establishment of a food and beverage producers' cooperative	Cooperatives and associations	Limited Coordination and Synergy	<i>“Collaboration grows more from community initiatives than from government directives”</i>	Institutional initiatives arise from the grassroots through the formation of cooperatives, but are not yet directly linked to regional tourism development strategies. Collaboration occurs out of necessity for survival, rather than as a result of systematic design by policy makers
3.	Becoming part of the MSME community	Solidarity among micro, small and medium enterprises	Limited Coordination and Synergy	<i>“There is collective spirit, but it is not yet fully strategic or integrated across sectors”</i>	Informal networks such as community groups are the main means of sharing resources and promotion. However, there is no integration between these community groups and tourism promotion agencies or the Department of Tourism

Table 3 indicates that stakeholder collaboration and communication in tourism development within the Sumenep archipelago remain largely informal and driven by community-level efforts, with minimal formal coordination mechanisms in place. The initial codes mutual support and shared aspirations, cooperative formation among food and beverage producers, and engagement in MSME communities highlight a core issue: the absence of strategic, cross-sectoral integration. These observations are structured into axial codes such as community involvement, cooperative organization, and MSME solidarity, which converge into a selective code of *Limited Coordination and Synergy*.

MSME actors foster cooperation based on a collective spirit and mutual trust, reflecting a horizontal form of collaboration. However, these efforts are not institutionally supported by formal tourism authorities. For example, although cooperatives have been initiated, they operate independently from regional tourism strategies, suggesting that such collaboration is reactive and survival-driven, rather than the product of deliberate policy design. Furthermore, MSME-based informal networks function as the main platform for sharing resources and promoting local products. Nonetheless, these networks are not integrated with official tourism bodies or government communication channels.

This analysis underscores that, despite substantial grassroots potential for collaboration, tourism governance in Sumenep has yet to fully capitalize on this capacity. The lack of structured, vertical, and inclusive communication frameworks hinders alignment between community initiatives and formal tourism planning. Therefore, policy interventions must focus on institutionalizing community engagement through structured collaboration models that align with long-term development strategies.



Figure 2. Word Cloud of Stakeholder Collaboration and Communication in Tourism Development

The word cloud derived from narrative data on stakeholder collaboration in Sumenep's tourism sector highlights dominant terms such as Collaboration, Community, Initiatives, Informal, Spirit, and System, indicating that cooperation is largely grassroots, horizontal, and solidarity-based among MSMEs. These collaborations rely heavily on informal networks for resource exchange and promotion, developing without structured institutional intervention. In contrast, terms such as Formal, Directives, and System appear less prominently, suggesting that formal governance structures exist but play only a marginal role in guiding or facilitating collaboration. Overall, the visualization confirms that tourism collaboration in Sumenep is reactive and necessity-driven rather than strategically planned, underscoring the urgent need for integrated vertical coordination that aligns community initiatives with regional tourism policy.

To transform this pattern into a more institutionalized and sustainable model, a systemic approach is required. Establishing a formal Regional Tourism Collaboration Forum (FKPD) is proposed to convene government, MSMEs, community groups, academia, and NGOs in

participatory deliberation and long-term strategic planning. Inclusive policymaking should be grounded in empirical community-based data gathered through participatory mapping, focus group discussions, and structured surveys to ensure local needs inform regulatory outcomes. Formal incentive schemes should also be integrated with existing informal networks through cooperative-based logistics subsidies, digital capacity-building initiatives, and village-centered promotional support, enabling vertical alignment within the tourism ecosystem.

Digitalization is essential to strengthen coordination and transparency through centralized platforms such as official tourism websites, mobile applications, and digital marketplaces that consolidate data on businesses, events, and policy programs. In line with the DEA programme and the Small Enterprises Act, as regulated under the Regulation of the Minister of State for Corporations and Small and Medium Enterprises of the Republic of Indonesia Number 2, 2008, which emphasizes training and capacity building for small enterprises, digital empowerment and structured support can enhance MSME resilience (Rhamadona et al., 2024). Finally, a collaborative monitoring and evaluation framework based on participatory indicators, such as community engagement, business sustainability, and socio-economic impact should inform continuous policy refinement. Collectively, these strategies aim to shift tourism governance in Sumenep from ad hoc, survival-oriented collaboration toward institutionalized, equitable, and locally grounded partnerships.

Local Community Perceptions and Participation in Tourism

Local community perceptions and participation in tourism are crucial components for establishing sustainable and effective tourism development. The extent of local community engagement in tourism-related activities often hinges on their perceptions of the associated costs and benefits, as supported by various studies across different contexts.

One key factor influencing local perceptions is the evident correlation between community-based tourism (CBT) and the community's understanding of tourism's impact on their social and economic dimensions. Dagdag highlights that the active participation of local communities in tourism can lead to significant benefits, enhancing their awareness and contribution to tourism development (Dagdag, 2023). Understanding the impacts of tourism, both positive and negative is fundamental for fostering resident support. Medeiros et al. highlight that local perceptions of ecological impacts directly influence how communities respond to tourism initiatives (Medeiros et al., 2021). In contexts where residents feel appreciated and included in tourism planning, as articulated by Kuntariningsih et al., communities display greater empowerment and sustainable engagement in tourism activities (Kuntariningsih et al., 2023).

Table 4. Initial, Axial, and Selective Codes from Local Community Perceptions and Participation in Tourism

No.	Initial Codes	Axial Code	Selective Code	Participant Quotes	Description
1.	Employing local people around Sumenep	Local Workforce	Accessibility and Logistics Challenges	<i>“Most micro-scale businesses do involve the local community, but they have not yet reached the level of sustainable empowerment”</i>	Local communities are involved in economic activities, but more as implementers rather than owners or strategic partners. Participation

					has not yet touched on empowerment aspects such as training or strengthening the institutional capacity of citizens.
2.	It is still not permanent. Only when there are activities	Functional Relationships	Accessibility and Logistics Challenges	<i>“Involvement is temporary and event-dependent, rather than systematic”</i>	Local community participation is ad hoc and opportunistic, depending on the availability of events or projects. This shows that there is no sustainable participatory structure in the tourism development scheme.
3.	Form groups and work independently during activities	Community Participation	Accessibility and Logistics Challenges	<i>“There is a spirit of mutual cooperation, but institutional participation has not yet been established”</i>	Community initiatives tend to be independent, without policy guidance or institutional support. This shows that there is potential for participation, but it has not yet been strategically mobilised within the framework of inclusive tourism development.

Table 5 illustrates that local community perceptions and participation in tourism development within the Sumenep Islands remain functional in nature, temporary in duration, and

lack institutionalization in a sustainable framework. Although community involvement is present, it has not progressed toward meaningful structural empowerment.

The initial codes employment of local residents, ad hoc involvement during tourism-related events, and the formation of self-managed groups demonstrate that community members typically act as operational agents rather than strategic stakeholders. These responses were categorized under axial codes such as *Local Workforce*, *Functional Relationships*, and *Community Participation*, which converge into the selective code *Accessibility and Logistics Challenges*, also shared with infrastructure and policy-related constraints.

Community engagement tends to occur on a short-term basis, contingent upon specific events or tourism activities. While many MSMEs utilize local labor, there is a lack of sustained programs for skill development, institutional capacity building, or shared governance in tourism initiatives. Moreover, these grassroots efforts often operate independently, without strategic alignment or policy support from formal authorities.

This interpretation reveals a significant yet untapped potential to elevate the role of local communities in the tourism ecosystem. However, in the absence of clearly articulated policies and integration into regional development agendas, community participation risks remaining peripheral rather than becoming a central pillar of sustainable island tourism. A more inclusive and transformative policy approach is therefore required one that positions local communities as co-owners, co-designers, and active drivers of tourism development in the archipelago.



Figure 3. Word Cloud of Local Community Perceptions and Participation in Tourism

The word cloud visualization of narratives on community involvement in island tourism highlights dominant terms such as Micro business, Involvement, Temporary, Local Community, and Sustainable Empowerment, indicating that tourism-related economic activities are largely driven by small-scale enterprises operated by local residents. However, the prominence of Temporary and event-dependent participation demonstrates that community involvement remains situational and project-based rather than embedded in a continuous development framework. Although concepts such as Sustainable Empowerment and Institutional Participation appear in discourse, their moderate visibility, alongside the limited presence of terms like Policy Framework and Capacity Building, confirms the absence of structured governance and systematic institutional strengthening. Consequently, local communities remain positioned as implementers rather than co-decision makers, revealing a gap between their potential and their actual role in tourism governance.

Addressing this gap requires a transformative, sustainability-oriented policy framework that formally recognizes communities as central actors in planning, implementation, and evaluation, while ensuring equitable distribution of tourism benefits. Institutional strengthening should include continuous capacity-building programs in destination management, entrepreneurship, digital skills, and ecologically and culturally grounded governance, delivered collaboratively by government, academia, and civil society. Multi-stakeholder forums or tourism

innovation platforms should institutionalize coordination and co-creation among government, private sector, financial institutions, and communities. Improved access to capital through cooperative-based financing and village-owned enterprises (BUMDes), alongside investments in inter-island logistics and digital marketing infrastructure, is essential to building a self-reliant local tourism economy. Long-term tourism planning must embed community participation not only in project execution but also in strategic policymaking, impact monitoring, and cultural preservation, thereby redefining tourism as a platform for empowerment and institutional resilience in island regions such as Sumenep.

Field data further demonstrate that tourism governance in the Sumenep Archipelago remains informal, fragmented, and weakly coordinated. Horizontal collaboration among MSMEs exists but is disconnected from formal institutional systems, and no cross-sectoral forum supports participatory deliberation or joint planning. Women MSME actors identify infrastructure, particularly unreliable maritime transport, high logistics costs, and inadequate sanitation, lodging, cold storage, and digital connectivity as the primary barrier to competitiveness, including in areas such as Gili Iyang. Community participation is largely limited to technical and seasonal roles, lacking structured empowerment, training, and financing access.

Tourism policy remains insufficiently responsive to the spatial and logistical realities of small islands such as Gili Iyang, Sapeken, and Giligenting, with limited fiscal capacity exacerbating disparities. These findings align with Collaborative Governance Theory, which stresses multi-stakeholder engagement and joint decision-making (Rahmawati, 2023), and reflect critiques of traditional governance models in complex tourism systems (Atsakpo et al., 2024). Infrastructure constraints reinforce Stakeholder Theory and Policy Implementation Theory, which emphasize coordinated engagement and resource adequacy for effective outcomes (Areros et al., 2022), consistent with evidence from geographically fragmented regions (Gikonyo, 2024; Rasethunsa & Perks, 2022). Limited empowerment pathways further substantiate Stakeholder Theory's emphasis on meaningful stakeholder inclusion (Hendrayani et al., 2025). Weak context-sensitive regulation and coordination reflect challenges identified in Policy Implementation Theory (Khan et al., 2021; Kuščer et al., 2024), while the absence of an effective Destination Management Organization and limited digitalization confirm concerns raised in Destination Management Theory (Jasrotia & Gangotia, 2023; Putro et al., 2024; Risfandini et al., 2022).

Overall, tourism constraints in Sumenep derive less from resource scarcity than from inadequate collaborative governance and insufficient institutional empowerment of communities. The absence of formal forums, limited vertical integration, infrastructure deficits, and reliance on ad hoc initiatives weaken competitiveness. A shift toward institutionalized, participatory governance is required, positioning communities as co-architects in planning and evaluation. Recommended strategies include establishing a multi-stakeholder tourism forum; integrating community-based data into policy formulation; advancing digitalization through tourism platforms; aligning government incentives with informal networks through logistics subsidies, digital training, and promotional support; and implementing participatory monitoring and evaluation systems grounded in community participation, business sustainability, and socio-economic impact. These measures operationalize Collaborative Governance Theory, Stakeholder Theory, and Destination Management Theory to promote adaptive, inclusive, and sustainable tourism development.

CONCLUSION

Tourism development in the Sumenep Islands continues to encounter significant obstacles, particularly in inter-actor coordination, which remains sectorally fragmented, structurally weak, and predominantly reactive. Stakeholder communication lacks vertical and

horizontal integration. Local governments, private enterprises, and community actors frequently operate in isolation, driven by temporary programs or projects rather than embedded within enduring collaborative frameworks. The absence of an institutionalised forum for cross-sectoral engagement further diminishes the potential for effective synergy.

On the policy and infrastructure fronts, critical challenges include limited fiscal capacity, inadequate inter-island connectivity, and inconsistencies in the enforcement of regulatory frameworks. Foundational infrastructure, such as transport piers, digital connectivity, sanitation, and tourist facilities is unevenly developed, with significant disparities across peripheral islands like Gili Iyang, Kangean, and Gili Labak. Current tourism regulations insufficiently reflect the archipelagic context, which demands spatially nuanced and logistically tailored governance. A misalignment between centralised policymaking and local contextual needs has further deepened implementation fragmentation.

Community participation in destination development remains superficial, characterised by ad hoc, event-specific involvement. The local populace primarily engages in microeconomic functions as technical executors, rather than as strategic business architects or co-owners. Although autonomous initiatives are evident in select regions, the lack of institutional scaffolding and policy coherence inhibits their integration into formal decision-making mechanisms. Moreover, local actors have not received adequate support in institutional development, digital competencies, or financial access necessary to expand their strategic agency in the tourism value chain. To foster inclusive, adaptive, and sustainable tourism development in Sumenep, a transformative approach is essential, one that advances participatory policy making, reinforces community-based institutions, and ensures cohesive multi-sectoral integration.

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