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Disaster-Resilient Village Policies, Community Resilience, and Social Participation: Enhancing Disaster Risk Management in Tourism Villages in Yogyakarta

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ABSTRACT

Purpose of the study: This study examines the implementation of the Disaster Resilient Village (DESTANA) policy aimed at improving disaster risk management in tourism villages in Yogyakarta. It emphasizes the social and institutional dimensions and analyzes the impact of community structures, social networks, and local governance on vulnerability and adaptive capacity, particularly within communities reliant on tourism.

Methodology: A qualitative systematic literature review was conducted, analyzing empirical studies and policy analyses in English and Indonesian. Relevant sources were identified from academic databases and regional repositories, screened for quality and relevance, then thematically synthesized around DESTANA's effectiveness, social capital, policy support, and implementation challenges.

Main Findings: The study found a strong positive link between community participation, social capital, and resilience in disaster-prone tourism villages. Active engagement fosters trust, shared norms, and collective action, enhancing the community's disaster preparedness and recovery. Social capital strengthens networks that facilitate information flow and cooperation. DESTANA supports this by promoting multi-stakeholder collaboration and integrating disaster risk reduction into tourism management. Challenges remain in coordination, resource allocation, safety communication, and local adaptation.

Novelty/Originality of this study: This research uniquely connects disaster policies with social resilience and tourism management in vulnerable villages. It highlights the integration of social capital within institutional frameworks to strengthen resilience and emphasizes multi-dimensional factors—social, institutional, infrastructural, and cultural—in disaster preparedness and sustainable recovery. The study critically assesses DESTANA's role in embedding disaster risk reduction into tourism governance, fostering collaboration, and reinforcing the social fabric vital for long-term resilience.

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1. INTRODUCTION

Geographically, the Special Region of Yogyakarta is located in a disaster-prone zone. To the south, Yogyakarta borders directly on the Southern Coast with an active fault line that poses the threat of earthquakes, tsunamis, and tidal floods. To the north, it borders Mount Merapi directly, which remains highly active and poses the threat of pyroclastic flows, volcanic earthquakes, and volcanic mudflows during the rainy season. In addition,

climate change-related disaster threats such as extreme weather, hydrometeorological disasters, and droughts often cause forest and land fires. A study on disaster preparedness conducted by the National Disaster Management Agency corroborates these findings, indicating that the province contains 438 villages or sub-districts susceptible to disasters distributed across 77 sub-districts, with disaster risk levels varying from moderate to high [1].

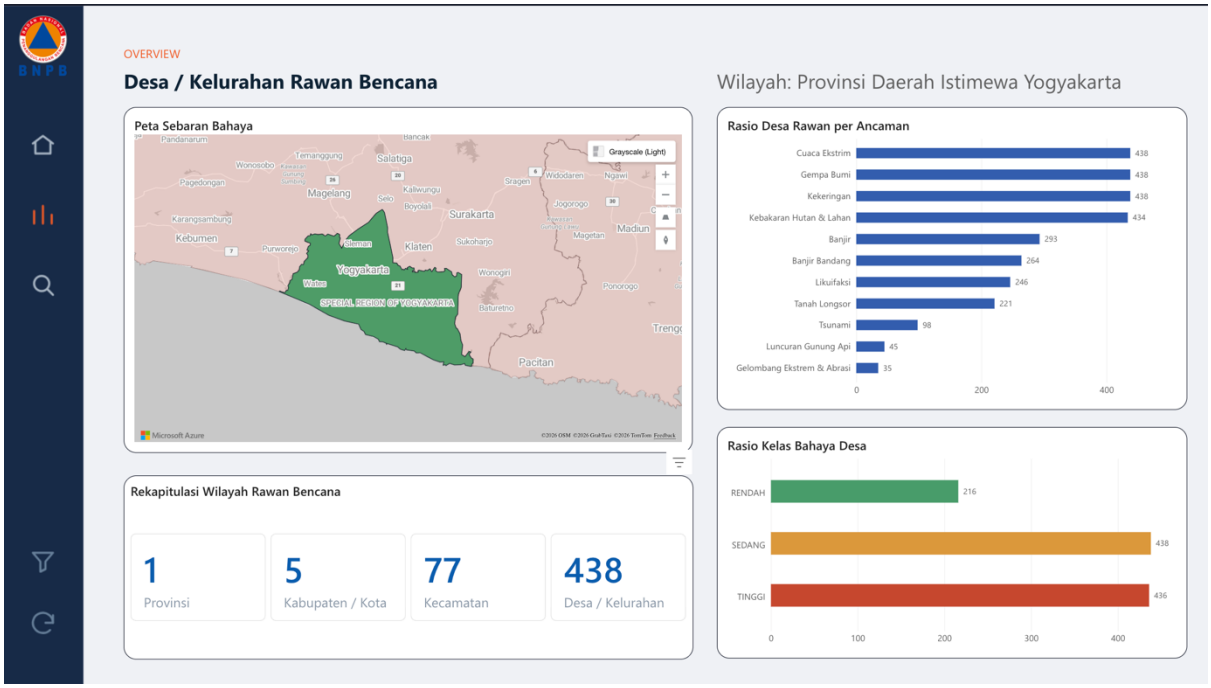

Figure 1. Disaster-prone villages in the Special Region of Yogyakarta, Hazard Class Ratio and Existing Disaster Threats
(Source: https://katalogketangguhan.bnpb.go.id/destana/)

In the context of regional tourism development, particularly rural tourism, tourist villages play a vital role in enhancing the local economy and preserving both indigenous knowledge and the natural environment. Recent statistics from the Tourism Village Network show that Yogyakarta has 233 tourist villages distributed across four regencies and the city [2], with some located in disaster-prone areas. The disaster risks encountered by tourism villages in Yogyakarta are both significant and complex. Community involvement is crucial because it ensures that local knowledge and priorities inform disaster policies, promoting ownership and sustainability. Existing local social structures facilitate effective communication and coordination during disaster events. Social capital, characterized by trust and networks, enhances mutual aid and collaboration with external agencies. Furthermore, social cohesion drives collective action and underpins joint initiatives, such as early warning systems and evacuation plans. These social factors integrate resilience within a community, thereby improving the implementation of disaster policies. Effective disaster risk management based on social participation in these vulnerable villages is essential to sustain their viability as rural tourism destinations. This management strategy reduces disaster impacts, both casualties and material losses, and strengthens community resilience and preparedness for disaster-related challenges. This strategy aligns with Article 11, Paragraph 4 of Law Number 18 of 2025 on Tourism, which stipulates that disaster mitigation in tourism destination management should be executed through physical development measures, awareness-raising activities, and capacity enhancement for disaster response [3].

One strategy employed to optimize disaster mitigation and risk management in disaster-prone rural areas is the Disaster Resilient Village (DESTANA) program. DESTANA denotes villages that possess the autonomous capacity to adapt to and confront disaster threats as well as swiftly recover from the adverse impacts of disasters. Additionally, DESTANA is capable of identifying threats within its area, organizing community resources to reduce vulnerability, and concurrently enhancing the capacity to mitigate disaster risk [4]. The Regional Disaster Management Agency in the Special Region of Yogyakarta later implemented this policy by creating 304 villages and urban wards that were resilient to disasters, surpassing half of the 438 villages and urban wards identified as disaster-prone [4].

Numerous studies have shown that DESTANA significantly enhances community awareness of disaster threats, preparedness, and organized response efforts. It also promotes multi-stakeholder (pentahelix) collaboration to strengthen DESTANA's effectiveness [5]. Research conducted in disaster-prone regions, such as the rural slopes of Mount Merapi, indicates that the structural aspects of social capital—comprising the formation of volunteer

groups, development of village contingency plans, and implementation of communal projects aimed at risk prevention—are essential for enhancing a village's capacity for disaster preparedness. Equally significant is the cognitive aspect, which encompasses traditional values and collective norms that facilitate cooperation and collective action during disaster mitigation efforts. This dual strategy strengthens both the practical and cultural bases of resilience within these communities [6]. Furthermore, DESTANA incorporates essential components, such as health services, sanitation, clean water, and health education, in the phases preceding, during, and following disasters [7]. However, several studies have identified multiple deficiencies in the implementation of DESTANA. These deficiencies include inadequate facilities, low participation rates, insufficient government support, ineffective processes for volunteer renewal, and a lack of continuous monitoring and evaluation [8], [9].

In assessing the resilience of villages, five critical components are essential for determining the status of a village or urban ward: essential services, disaster management laws and policies, prevention and mitigation strategies, emergency preparedness, and recovery planning [1]. As stipulated by Law Number 24 of 2007 on Disaster Management, DESTANA signifies a shared responsibility between central and local governments, with its implementation delegated to village or urban ward administrations [10]. Nevertheless, there is a specific gap in how disaster policy implementation, particularly DESTANA, affects community involvement, social capital, and local resilience in tourism villages. Although prior research might have looked at these aspects individually, this research emphasizes the dynamic interactions and mechanisms by which policy implementation affects community participation and fortifies social networks, thereby boosting the resilience of local communities in the face of disasters. By exploring these connections, this study fills a knowledge gap regarding the socio-political processes and community-level factors that influence the effectiveness of disaster policies in rural areas reliant on tourism.

The urgency of this research stems from the increasing frequency and complexity of disaster threats faced by tourism villages in Yogyakarta, exacerbated by both natural hazards and climate change impacts. While existing studies have addressed components of disaster preparedness and community resilience, there remains a critical gap in understanding how the implementation of disaster policies like DESTANA dynamically interacts with community involvement and social capital to enhance local resilience specifically within the context of rural tourism. This research is novel in its focus on the socio-political mechanisms and community-level processes that underpin effective disaster risk management in tourism-dependent villages, making it essential for informing policy adjustments and practical interventions that can sustain these vulnerable communities amid escalating disaster risks.

2. RESEARCH METHOD

This qualitative study employed a systematic literature review to analyze the Desa Tangguh Bencana (DESTANA) program and its contribution to disaster risk management in Yogyakarta's tourist villages. The review identifies the latest relevant studies published in both English and Indonesian, sourced from major international academic databases and regional repositories, using specific keywords focused on the field of rural tourism and disaster risk management policy. The keywords used included “Disaster-Prone Village,” “Disaster Resilient Village Policy,” “Disaster Risk Management,” “Tourism Village,” and “Yogyakarta.” A literature search was conducted in October 2026, focusing on publications from the past 10 to 15 years. The policy documents utilized were the most recent and remained valid.

The inclusion criteria emphasized empirical studies and policy analyses pertinent to DESTANA or analogous programs in disaster-prone rural or tourism settings, excluding irrelevant or inaccessible studies. Articles were selected through a screening process involving titles, abstracts, and full texts, and duplicates were removed. The extracted data included the study context, methods, findings, policy implications, and challenges, which were thematically organized around DESTANA's effectiveness, social capital, policy support, and implementation issues. Narrative synthesis elucidates patterns and gaps, and methodological quality is assessed. The limitations of this study include potential publication bias and language restrictions. This approach ensures a comprehensive and transparent review, and provides policy recommendations for enhancing disaster risk management in Yogyakarta's tourist villages. The flowchart below illustrates the workflow employed in the qualitative analysis of this study.

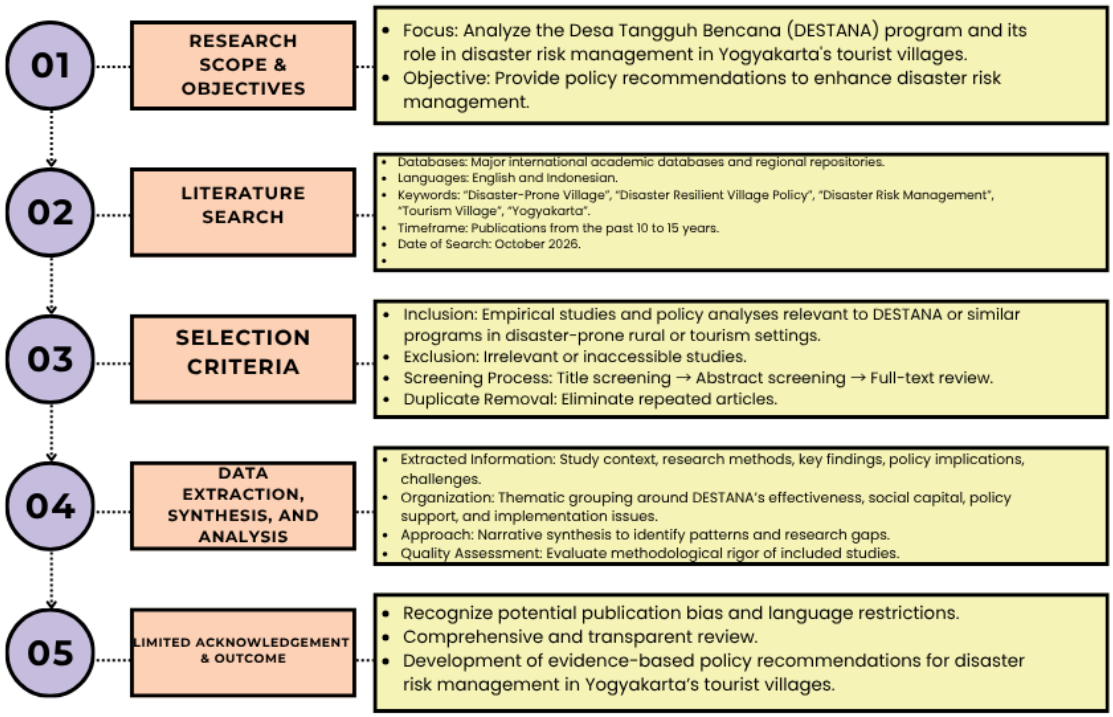

Figure 2. The Qualitative Research Analysis Process

3. RESULTS AND DISCUSSION

A qualitative analysis of the relevant literature suggests that the Disaster Resilient Village (DESTANA) policy strengthens the readiness of tourism village communities in Yogyakarta. Nonetheless, its success in promoting tourism development relies on collaboration between tourism managers and disaster management agencies. Research conducted in three villages confirms that institutional backing exists, but challenges remain in operational coordination and in effectively communicating safety information to tourists [8]. Establishing disaster-resilient villages has significant implications for improving disaster risk management in tourism villages in Yogyakarta. Although achieving DESTANA status does not directly result in increased tourist numbers, it lays the groundwork for creating destinations that are more capable of handling disasters. This enhanced preparedness can lead to improvements in both the quality of the destination and tourist experience.

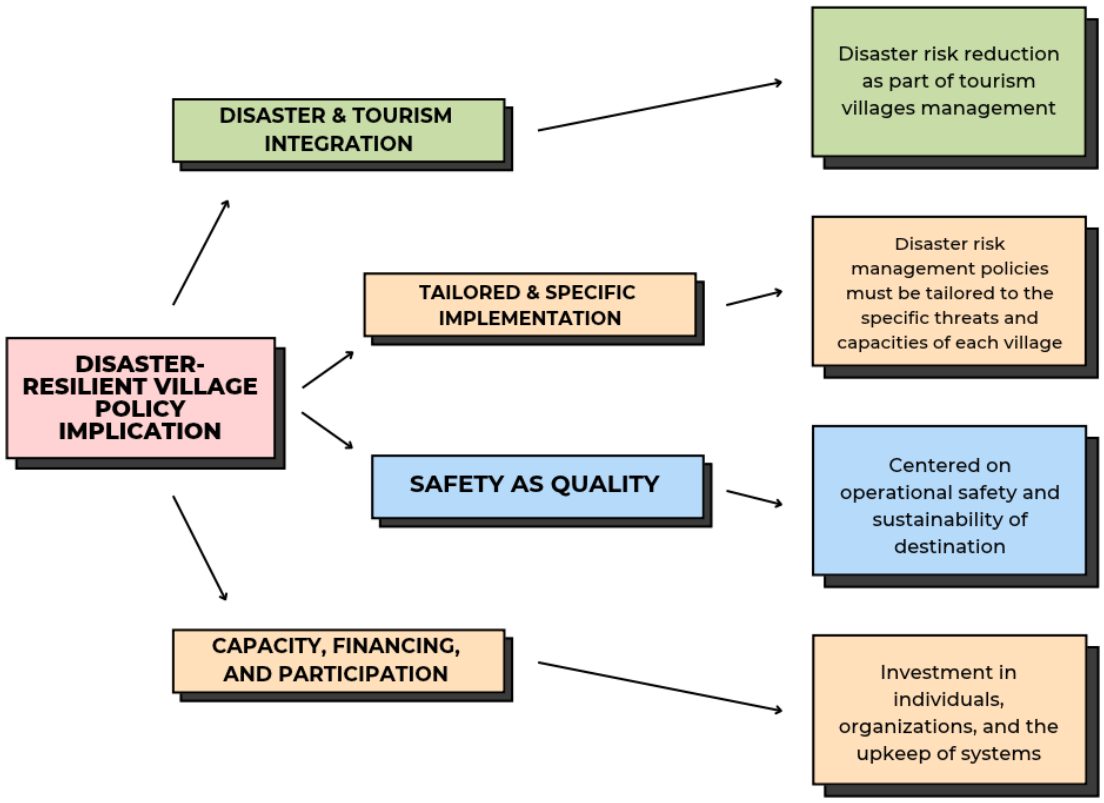

Figure 3. The Mind Map of Analysis on DESTANA Implication Policy

An analysis of multiple relevant studies reveals that incorporating disaster resilience strategies at the village level into tourism management can substantially bolster the preparedness, response, and sustainability of tourist destinations, with a particular focus on tourist villages. Several key points can be outlined as follows:

3.1. Integration of Disaster and Tourism Aspects

Integrating disaster risk reduction into the management of tourism villages, rather than relegating it to a separate entity, constitutes a crucial policy insight. Research conducted in three villages indicates that although formal policies have enhanced community preparedness, they have not explicitly incorporated community resilience into tourism development in disaster-prone areas [9]. The Yogyakarta case review identified missed opportunities within governor regulations (Pergub No. 49 of 2011 and Perda No. 13 of 2015) [11], [12] to integrate community resilience concepts into rural tourism risk management [8]. Tourism development strategies should integrate preparedness responsibilities with the development and promotion of attractions. Case studies of tourism villages in Yogyakarta recommend aligning national policies with local tourism strategies, with a focus on capacity building and equitable resource distribution. At the village level, this involves defining collaborative roles among tourism awareness groups (Pokdarwis), village authorities, village-owned businesses, and disaster management forums. The resilience framework article further emphasizes the necessity of policies that specify community roles in tourism management [13].

Integrating disaster risk reduction into the management of tourism villages in Yogyakarta requires an approach that simultaneously addresses local vulnerabilities, leverages community-based resources, and involves multi-stakeholder collaboration while considering the specific disaster risks indigenous to the area, such as volcanic eruptions, earthquakes, landslides, extreme weather, and forest wildfires. A few practical implementations have already been practiced in the field, such as in the case of the Pentingsari tourism village, which is located on the slope of Mount Merapi. Community-based tourism shows resilience by transforming a destination through local initiatives and external support, shifting from reactive recovery to active adaptation. Integrating disaster risk reduction empowers communities as agents of change rather than passive aid recipients

[14]. Furthermore, given the vulnerability of communities dependent on tourism to natural disasters, it is crucial to comprehensively integrate disaster risk management into the management plans of tourism destinations. This integration requires effective collaboration among government agencies, industry stakeholders, and community members to develop detailed preparedness and resilience strategies at various levels [14]. Policies should mandate the incorporation of disaster scenarios into tourism planning, encourage scenario-based training for all parties involved, and delineate clear roles and responsibilities, thereby demonstrating a collective commitment to reducing vulnerability and fostering sustainable tourism development [15].

Conversely, disaster management in Indonesia's rural tourism villages encounters significant challenges due to the reactive nature of government policies and decentralization, which reveals capacity gaps and inadequate coordination at the village level. Village officials, who serve as primary disaster risk reduction actors, frequently operate inefficiently, marginalizing residents, and thereby impeding the transfer of knowledge and preparedness. Enhancing community involvement and translating disaster knowledge into actionable measures are essential for the successful integration of disaster risk reduction in tourism villages [16], [17]. Community empowerment stands out as a crucial element in addressing the challenges faced by Yogyakarta's rural tourism villages, particularly the socioeconomic disparities between rural and urban areas. Take, for example, the Nglanggeran Tourism Village in Gunungkidul Regency, where the sustainability of rural tourism driven by the community is heavily reliant on collaboration among organizations, facilitated by local community members, especially youth. The primary reason for the success of sustainable tourism in this area is the active involvement of the local community and network of supportive stakeholders. To replicate this success, disaster risk reduction strategies should be incorporated through initiatives led by the community, with backing from government and external organizations, to effectively manage tourism villages in the face of disaster risks [18].

Integrating disaster risk reduction into the management of tourism villages in Yogyakarta is crucial for boosting the resilience of communities in areas susceptible to disasters. While formal policies enhance preparedness, they frequently fail to explicitly integrate resilience into tourism development. Successful integration necessitates the alignment of national policies with local strategies, along with the establishment of well-defined collaborative roles among village authorities, tourism awareness groups (Pokdarwis), village-owned enterprises, and disaster management forums. This approach, involving multiple stakeholders, utilizes community resources, tackles local vulnerabilities, and encourages proactive adaptation, as seen in the Pentingsari and Nglanggeran tourism villages. Issues such as decentralized governance and capacity deficiencies at the village level underscore the importance of inclusive participation and capacity building. By embedding DRR into tourism planning through scenario-based training, a clear role definition, and fair resource allocation, sustainable tourism development can be promoted, empowering communities to become active agents of change.

3.2. Different Implementation Across Regions

Disaster risk management policies must be tailored to the specific threats and capacities of each village. Field studies by Pribudi and Sugiarto revealed elements of community resilience across three villages; however, institutional achievements and integration with tourism activities vary [9]. In Tirtohargo Tourism Village, situated less than 5 km from the southern coastline, safety procedures for attractions have developed despite incomplete household preparedness. Local interviews indicated that disaster knowledge has not consistently translated into the provision of emergency bags or practical readiness, suggesting that outreach alone is insufficient as a measure of policy success. In Pagerharjo Tourism Village, located in the Menoreh Mountain area, the division of responsibilities between tourism and disaster management is linked to the absence of evacuation routes, early warning systems, tourism information, and specific SOPs for risk reduction in tourism. Conversely, Turgo Tourism Village, positioned within the hazardous radius of Mount Merapi's slopes, exhibits stronger learning capital from eruption experiences: the community is aware of when to evacuate, what to prepare, and when to leave evacuation shelters. Nonetheless, resident preparedness does not inherently ensure that the destination is equipped to protect visitors, as the threat and risk information accessible to tourists remains limited. The effective implementation of disaster risk management in tourist villages requires collaborative efforts across various sectors.

The social interpretation of variations in disaster risk management implementation among the tourism villages of Tirtohargo, Pagerharjo, and Turgo can be understood through an analysis of local capacity, community experience, access to information, and institutional coordination. Local capacity, encompassing skills, resources, and leadership within a community, is pivotal in determining the effectiveness of disaster risk management. Villages with enhanced local capacity are more adept at mobilizing resources and organizing collective action, resulting in more comprehensive preparedness measures. For example, a village equipped with trained volunteers and financial resources can sustain disaster preparedness efforts more effectively, which may account for the differences in disaster risk management implementation between the three villages. Community experience, characterized by historical exposure to disasters and collective memory, also impacts DRM practices. Communities with frequent disaster encounters tend to develop stronger social cohesion and adaptive strategies, enhance risk perception, and promote proactive preparedness. If Tirtohargo has a more extensive history of dealing with hazards such as floods or earthquakes, its residents are likely to be more vigilant and better prepared than

those in Pagerharjo or Turgo, where such events may be less frequent. This accumulated experience facilitates local knowledge transfer, embedding the lessons learned into community practices to bolster resilience. Access to timely and accurate information is another crucial factor that influences disaster risk management outcomes. Villages with effective communication channels, including local radio, mobile alerts, and community meetings, enable residents to receive early warnings and updates on disaster risks. Differences in infrastructure, literacy, and technology adoption affect the circulation of information in each village. For instance, if Turgo faces limitations in digital communication or lower literacy rates, its community members may encounter difficulties obtaining or interpreting disaster-related information, thereby diminishing their preparedness levels. Institutional coordination, involving collaboration among local governments, NGOs, and community organizations, further affects the effectiveness of disaster risk management. Robust institutional networks facilitate harmonized risk-reduction efforts, resource sharing, and clear role definitions. Variations in governance structures, trust, and prior partnerships among villages can lead to differing levels of coordination. A village with well-established institutional collaboration can conduct disaster drills more efficiently, implement recovery plans, and enhance overall community resilience. Collectively, these social factors interacted to create distinct disaster risk management landscapes in Tirtohargo, Pagerharjo, and Turgo. Understanding how local capacity, community experience, access to information, and institutional coordination influence community preparedness provides a nuanced explanation for the observed differences in disaster risk management implementation across these tourism villages.

The Penta-Helix model, which includes government, the tourism industry, higher education institutions, media, society, and the environment, serves as an example of an integrative governance strategy in Yogyakarta. Policies that facilitate interactions among these stakeholders can enhance tourism management, improve community capacity for disaster response, and increase the attractiveness and sustainability of tourist villages. This integrated framework fosters innovation, accurate risk communication, and shared responsibility among stakeholders, all of which are crucial for a resilient tourism system [19].

Several factors must also be considered in relation to regional policy implementation. First, land-use planning that integrates disaster risk information is essential for managing tourism villages with resilience to disasters. Nevertheless, the existing land-use planning systems in Indonesia, including those in Yogyakarta, have predominantly been influenced by development objectives and lack adequate integration of disaster risk reduction and climate change adaptation measures. For tourism villages in Yogyakarta, it is imperative that legislative and planning frameworks advance to incorporate hazard-informed land-use policies. This advancement should encompass zoning, building regulations, and settlement design that account for volcanic and other disaster risks, thereby mitigating potential damage and enhancing community safety [20]. In regions susceptible to geological and complex disasters, such as the sloped areas of Taiwan, it is crucial to incorporate comprehensive risk analyses into planning frameworks. These analyses should encompass potential disaster impacts, structural vulnerabilities, and loss probabilities. Such integration ensures that land-use decisions prevent overdevelopment in high-risk zones, thereby safeguarding human life and economic assets vital to tourism [21]. Systematic knowledge management and evaluation frameworks for localized land-use strategies that incorporate disaster risk tailored to the specific hazards and socioeconomic realities of each tourism area can guide policymakers and planners to integrate disaster risk data into development efforts, fostering a more resilient tourism sector [22]. Second, integrating local knowledge and community heritage into disaster risk reduction (DRR) strategies is essential. Research in rural areas prone to disasters has demonstrated that incorporating local knowledge, such as traditional practices and community resources, enhances resilience.

In tourism villages that depend on cultural and natural heritage, recognizing and applying indigenous knowledge can improve early warning systems, preparedness education, and post-disaster recovery planning in ways that are contextually relevant and accepted by the community [23]. Indigenous knowledge, long histories of reconstruction, and awareness of the environmental and economic impacts of tourism contribute to adaptive management strategies [23]. This collective awareness should be integrated into spatial planning guidelines to mitigate vulnerability and enhance resilience at multiple levels within tourism villages [24]. Thirdly, infrastructure development specifically designed to meet Disaster Risk Reduction requirements considerably enhances the safety and sustainability of tourism villages. Insights from other disaster-prone communities underscore the importance of multipurpose shelters, durable embankments, and efficient transportation networks that facilitate evacuation and rapid response. While such infrastructure is frequently prioritized in coastal or flood-prone regions, areas at risk of volcanic activity, such as Yogyakarta's tourism villages, can also benefit substantially from similar strategic infrastructure investments. These investments enable safe evacuation and reduce economic disruptions during disasters [25]. From a technological infrastructure standpoint, the collection of information and data-driven planning are essential for the development of effective evacuation routes and disaster response strategies, especially in urban areas or regions with high tourist activity [25]. Technologies such as Bluetooth low-energy sensors, navigation applications, and population behavior modeling allow planners to predict risk exposure both spatially and temporally. This information informs land-use design that prioritizes safe evacuations and reduces disaster impacts on both tourists and residents [26].

3.3. Safety as a Destination Quality

The primary implications for the development of tourism villages are centered on operational safety and sustainability, rather than solely on evidence of increased tourist numbers. The study conducted by Pribudi and Sugiarto [8] in Yogyakarta emphasizes risk management as a strategy to ensure destination sustainability, reduce damage and casualties, and expedite recovery following disasters. Field studies indicate that the provision of disaster information to tourists is a crucial component of this integration, which requires further reinforcement [9]. The integration of early warning systems requires effective communication of alerts to end users. In the case of Tirtohargo, the community lacked direct access to these systems, relying instead on volunteer networks and local communication channels to disseminate warnings. This situation underscores the need for policies that prioritize the enhancement of information accessibility over merely providing devices. Identifying the specific risks associated with tourism villages is essential for facilitating targeted development. The study conducted in Yogyakarta highlighted the absence of a comprehensive map of disaster-prone tourism villages and their associated risks. In the absence of such mapping, uniform programs may fail to account for variations in threats and local requirements. The same article underscores that top-down standardization frequently does not correspond to the diverse strengths of communities.

Enhancing communication frameworks and stakeholder connections is essential for addressing information barriers that often hinder effective disaster preparedness and response in tourist regions. Robust communication systems enable the timely dissemination of critical information among local authorities, tourism businesses, emergency responders, and tourists, thereby facilitating coordinated efforts before, during, and after disasters. By integrating a diverse range of stakeholders into a well-connected network, the exchange of knowledge and mobilization of resources are streamlined, reducing delays and misunderstandings that could exacerbate the impact of disasters. Furthermore, fostering cooperative relationships among stakeholders builds trust and shared accountability, which are vital for developing adaptive and resilient disaster management strategies tailored to the specific vulnerabilities of tourist destinations. These networks support continuous monitoring, early warning, and rapid response systems that can be swiftly activated to protect human lives and tourism resources. Ultimately, such integrated communication and stakeholder engagement structures contribute to creating safer and more resilient tourism environments capable of effectively withstanding and recovering from adverse events [27]. Identifying the specific risks linked to tourism villages is vital for promoting targeted development. Research conducted in Yogyakarta highlights the absence of a thorough mapping of disaster-prone tourism villages and their associated risks. Without such mapping, standardized programs may fail to effectively address diverse threats and local needs. Furthermore, this study points out that top-down standardization often does not align with the unique strengths of individual communities [27].

Hermawan et al. [6] in their study emphasized the significant impact of community involvement in enhancing safety culture and promoting collective efforts for disaster readines s. When local populations engage in safety programs, they cultivate social capital that strengthens trust, collaboration, and a sense of shared duty. This social groundwork facilitates more efficient disaster response and recovery, ensuring that safety practices are culturally ingrained and broadly endorsed. In addition, integrated development strategies that merge the conservation of rural landscape quality with the delivery of secure, high-quality tourism services enhance the appeal and resilience of destinations, as observed by Yi et al. [28]. This dual approach not only protects natural and cultural resources but also aligns tourism expansion with safety and sustainability goals. Collaborative governance frameworks enhance these efforts by involving diverse stakeholders in decision-making processes, which promotes transparent safety management and equitable benefit distribution [29]. Residents' awareness and perceptions of the effects of tourism are strongly linked to their capacity to adapt and prioritize safety, underscoring the importance of disaster management strategies centered on the community [24]. Effective disaster management relies on planning, building trust, marketing, and stakeholder collaboration to maintain the safety and resilience of destinations [30]. Economically, reducing disaster risk safeguards tourism flows and bolsters local economies, strengthening the rationale for investing in safety measures [31]. Ultimately, incorporating safety into broader sustainability frameworks ensures that tourism village development not only thrives economically, but also enhances long-term resilience and community well-being [32].

Finally, integrating disaster risk reduction into tourism management requires continuous learning and skill enhancement. The social aspect of destination safety is enhanced by guaranteeing equitable access to risk information, fostering trust through community engagement, establishing effective communication among multiple stakeholders, and promoting shared responsibilities. These components contribute to the development of a culture that safeguards both residents and tourists, thereby supporting resilient and sustainable tourism destinations. By equipping local communities, tourism operators, and government bodies with training in disaster preparedness, effective risk communication, and modern technology, their abilities to respond to emergencies and recover can be strengthened. Establishing a safety-first mindset in tourism areas not only lessens the impact of potential disasters but also reassures tourists of their safety, thereby supporting the economic health of these communities [33].

3.4. Capacity, Financing, and Participation

Building resilience in villages necessitates ongoing investment in individuals, organizations, and the upkeep of systems. According to the resilience framework article, challenges such as shortages in human resources, infrastructure, capital, and technology, along with conflicts among stakeholders, hinder the progress of tourism villages. The study conducted in Yogyakarta further notes that villages that are more advanced and self-sufficient tend to exhibit greater resilience due to their better awareness and resource availability. Field cases provide evidence of disaster financing in practice: Tirtohargo allocated an IDR. 227,443,251.00, Pagerharjo set aside the IDR. 50,000,000, and Purwobinangun dedicated the IDR. 120,000,000 for disaster management within their respective jurisdictions. Although these figures do not directly measure the effectiveness of each village's efforts, they demonstrate that the policy is supported by concrete financial resources. Participation should involve active engagement in decision-making processes rather than merely attending training sessions. The resilience framework underscores the significance of community control in development to ensure that tourism aligns with local priorities. Simultaneously, the Yogyakarta study advocates the integration of local knowledge with scientific methods to maintain the relevance of policies to the environmental context and community experiences. Consequently, support from the government and external partners should enhance local capacities while preserving the residents' role in identifying safety requirements [8], [9], [13].

In rural areas susceptible to vulnerability, structural social capital, exemplified by organized volunteer groups, local contingency plans, and collective mitigation actions, interacts with cognitive social capital, which includes preserved traditional values and collective norms, to enhance resilience. Policies that promote community participation and integrate resilience into local social structures should be prioritized as a fundamental strategy for tourism villages. This approach ensures that residents actively participate in disaster risk reduction and management efforts [6]. Another study also added that in tourism villages, preparing for disasters involves spreading awareness about risks, educating on health emergencies, and creating early warning systems with the community's active participation. Initiatives focused on community education boost the understanding of health risks and enhance self-reliance, enabling locals to act as initial responders and effectively mitigate the effects of disasters. Implementing policies that integrate Health Emergency and Disaster Risk Management (Health EDRM) education into tourism village initiatives can strengthen community preparedness and resilience [34]. Additionally, emphasis on community-based tourism models that prioritize local leadership, economic diversification, and strong social capital shows a greater ability to endure and bounce back from crises. Mechanisms that promote inclusivity and fair distribution of benefits improve adaptive capacities, enabling tourism villages to maintain their livelihoods and sociocultural assets during disruptions [35]. Community participation, which is also the core of community-based tourism, serves as the foundation for enhancing disaster resilience in tourism villages. Research conducted in Yogyakarta underscores that perceived benefits, community attachment, and resilience are key motivators for local populations to actively engage in crisis management and tourism development. Such participation not only fortifies social cohesion but also converts challenges into opportunities for development and renewal, particularly when the community recognizes tangible benefits from their involvement [36]. Additionally, the perspectives of local inhabitants on tourism development underscore the essential equilibrium between the advantages of tourism and its social costs. The limited consensus on social costs and community involvement variables indicates difficulties in engaging the community, which could impact resilience if not properly managed [37].

Frameworks centered on post-disaster recovery and sustainable livelihoods underscore the need of formulating inclusive and equitable policies to enhance the resilience of community systems in the aftermath of disasters. The "Build Back Better" approach advocates not only for the restoration but also for the improvement of social systems, economic activities, and environmental conditions through community engagement, risk prediction, disaster education, and supportive institutional structures. Policies concerning tourism villages in Yogyakarta should incorporate these principles to reinforce the resilience of local livelihoods and tourism infrastructure, thereby ensuring that recovery efforts lead to more sustainable and adaptable community development [38], [39] Sustainable livelihood strategies focus on managing diverse assets—physical, natural, financial, social, human, and political—to build resilience. Effective asset management enables communities to anticipate, absorb, and recover from shocks. Physical and natural capital provide infrastructure and resources, financial capital supports investment and recovery, and social and political capital fosters networks and governance for collective action. Policies supporting MSMEs and local tourism initiatives strengthen these assets, emphasizing cultural and social capital to promote behavioral adaptation, preserve traditional knowledge, and build trust. Together, these factors create resilient communities capable of thriving post-disaster and ensuring sustainable development [39]. For example, in Yogyakarta, small tourism enterprises, particularly those intertwined with local sectors such as the silver souvenir trade in Kotagede, demonstrate that robust development paths can be forged through local funding and community involvement. Their ability to withstand challenges is rooted in their integration with household economies and subcontracting networks, which offer protection against economic

disruptions and calamities. These localized financial systems enable ongoing livelihoods and recovery from crises without depending exclusively on external assistance [40].

Moreover, social capital, community involvement, local livelihoods, and resource allocation are interconnected elements that bolster community resilience. Social capital, characterized by networks, norms, and trust that enable cooperation, lays the groundwork for effective community involvement. When individuals participate not only by attending events but also by actively engaging in decision-making processes, they help build shared ownership and collective efficacy, which are vital for adaptive capacity. The difference between mere and meaningful participation is crucial. Attendance signifies physical presence or involvement in community activities, which may strengthen social connections but does not ensure influence or empowerment. In contrast, meaningful participation involves active involvement in shaping decisions, priorities, and resource distribution, ensuring that diverse perspectives are considered and integrated. This level of participation enhances local livelihoods by aligning resource allocation with community needs and priorities, and promoting sustainability and equity. Collectively, these elements form a dynamic system in which social capital fosters inclusive participation, which in turn supports equitable resource management and livelihood strategies. This interaction enhances a community's capacity to withstand shocks, adapt to changes, and transform in response to challenges, thereby strengthening its resilience.

Disaster resilience in tourism villages is determined by an integrated social system. Public policy establishes a regulatory framework and allocates resources essential for coordinated disaster management. Concurrently, social capital promotes trust and collective action among community members. Community participation is crucial because it ensures that local needs and perspectives inform resilience strategies, thereby empowering residents and enhancing their ownership of solutions. In addition, local knowledge provides culturally relevant insights that complement scientific methodologies. Institutional collaboration further connects diverse stakeholders, facilitating resource pooling and a coordinated response. Collectively, these elements form a comprehensive foundation that enables tourism villages to effectively prepare for, respond to, and recover from disasters while preserving their social and economic vitality.

4. CONCLUSION

Previous studies corroborate this research by underscoring the critical roles of community engagement, social capital, and collaboration among diverse stakeholders in enhancing disaster resilience in rural tourism regions. Analyses of the DESTANA program and analogous initiatives affirm that integrating structural and cognitive social capital, such as volunteer organizations, traditional values, and shared norms, augments preparedness and response capabilities. Moreover, prior research emphasizes the necessity of aligning disaster risk reduction (DRR) strategies with tourism development, highlighting local knowledge, institutional coordination, and capacity building as vital elements for sustainable disaster management in vulnerable communities.

The findings of this study reveal that the implementation of the DESTANA program in Yogyakarta's tourism villages enhances community readiness and resilience by fostering active participation, social cohesion, and collaborative governance. Although the integration of disaster risk management into tourism planning remains incomplete, it provides a framework for improving destination safety and sustainability. Variations in the effectiveness of disaster management among villages are influenced by differences in local capacity, experience, access to information, and institutional coordination. The essential factors for maintaining resilience include financial support, community empowerment, and inclusive participation, while challenges such as decentralized governance and limited communication infrastructure persist. The study also highlights the importance of embedding disaster preparedness within broader socioeconomic and cultural contexts to sustain the viability of tourism-dependent rural communities.

The implications of this research highlight the necessity for policies that explicitly incorporate community resilience into tourism development and disaster risk management, emphasizing multisectoral collaboration and equitable resource distribution. The limitations include potential publication bias inherent in the literature review approach and language barriers that may have excluded relevant studies. Additionally, the qualitative nature of this study limits its generalizability beyond the specific regional context of Yogyakarta. Future research on this topic could benefit from exploring longitudinal, empirical evaluations of DESTANA's impact on tourism village resilience, employing quantitative measures and comparative analyses across various disaster-prone regions to enhance the understanding of effective policy implementation and community adaptation strategies.

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