

Rethinking Space: Planning Theories for Sustainable Tourism in Gunung Kidul, Indonesia

Muhammad Adymas Hikal Fikri^{1✉}, Rayi Kharisma Rajib¹, Nur Hidayah¹, Isabila Nisa Aprilia¹, Safira Embun Insanidya¹, Andi Yudha Prasetyo²

¹ Faculty of Law, Universitas Negeri Semarang, Semarang, Indonesia

² International Hotel and Tourism Management Department, Bond University, Queensland, Australia

✉ Corresponding email: hikal@mail.unnes.ac.id

Abstract

Gunungkidul Regency is one of the regions that has experienced significant growth in the tourism sector in the last two decades. The beauty of the karst landscape, underground caves, and the series of southern beaches are major attractions for both domestic and international tourists. Amidst this development, challenges arise in managing space that balances economic interests and environmental preservation. The use of space for tourism purposes is often inconsistent with established spatial plans, resulting in conflicts over spatial use, damage to karst ecosystems, and shifts in the function of protected areas. This study aims to critically examine theories and approaches to spatial planning and evaluate the extent to which these approaches are applied

in sustainable tourism development in Gunungkidul Regency. The approach used is a juridical-sociological one, examining the relationship between spatial planning legal norms and empirical conditions in the community. Data collection techniques were carried out through interviews with policymakers and tourism actors, direct observation of tourism development locations, and literature studies of planning documents such as the RTRW (Regional Spatial Plan), RDTR (Regional Spatial Plan), and regional regulations. The results show that the spatial planning approach that has been applied to date tends to be top-down and technocratic, thus lacking the involvement of local communities as the primary subjects of development. Mismatches between planning and implementation persist, particularly in the form of zoning violations and weak oversight of land use conversion. Furthermore, the lack of comprehensive integration between tourism and spatial planning policies increases the potential for overlapping interests between sectors. In conclusion, realizing sustainable tourism development requires spatial planning that is not only legally based but also participatory, adaptive, and ecologically based. Cross-sectoral integration and strengthening institutional capacity are essential to support this.

Keywords

Spatial Planning, Spatial Theory, Sustainable Development, Tourism, Gunungkidul

A. Introduction

Tourism has become a strategic sector in regional development, particularly in areas with abundant natural and cultural resources, such as Gunungkidul Regency. This regency is known for its unique tropical karst region, with its distinctive geological landscape, underground caves, and long and diverse southern coastline. This potential makes Gunungkidul a leading natural tourism destination in the Special Region of Yogyakarta and even nationally. Beyond its natural beauty, its appeal also lies in the diversity of local cultures and the traditional way of life of the community, offering authentic experiences for visitors.

Rapid tourism growth has increased regional revenue and created numerous new jobs in the informal sector. However, along with the expansion of tourism activities, fundamental issues have emerged in spatial management, which has not been fully planned sustainably. The imbalance between development needs and environmental carrying capacity puts pressure on the regional spatial planning system. Therefore, spatial planning is a crucial instrument in maintaining the balance between development and conservation.

Spatial planning issues in Gunungkidul Regency are becoming increasingly complex with the proliferation of tourist attraction developments that violate regional zoning plans. Many tourist areas are being developed without regard for spatial suitability, even in disaster-prone zones, protected karst areas, or coastal conservation zones (Bappeda Gunungkidul, 2021). This demonstrates weak oversight of spatial utilization and suboptimal spatial planning control by the local government. Non-compliance with the RTRW (Regional Spatial Plan) reflects structural problems within the spatial planning system, where implementation often conflicts with applicable regulations. This phenomenon also demonstrates the continued dominance of technocratic and sectoral approaches, while socio-ecological aspects and community participation have not been mainstreamed. As a result, tourism development is vulnerable to natural resource exploitation and conflict between stakeholders. Spatial planning, which should be the basis for regional management, is often neglected in tourism development practices. This situation reinforces the importance of critically examining theories and approaches to spatial planning.

Conceptually, spatial planning is not only interpreted as a technical spatial regulation instrument, but also as a multidisciplinary effort encompassing legal, social, economic, and ecological aspects. Law Number 26 of 2007 concerning Spatial Planning emphasizes that spatial planning aims to create a national spatial area that is safe, comfortable, productive, and sustainable. This means that tourism development should be aligned with the spatial structure and spatial pattern plans as stipulated in the Spatial Plan (RTRW). However, at the implementation level, there is often a mismatch between planning and implementation, either due to weak intersectoral coordination or low

compliance by business actors with spatial provisions. This issue concerns not only normative aspects but also relates to the gap between the theoretical approach to spatial planning and the socio-economic realities of communities on the ground (Firman, 2007). Therefore, there is a need to review the approaches used in the preparation and implementation of spatial planning, particularly in the context of tourism development. Approaches that only emphasize spatial aspects without considering environmental carrying capacity and community dynamics risk causing spatial damage.

In regional planning studies, various theories can serve as a conceptual basis for arranging space in a just and sustainable manner. Location theory (Von Thünen and Christaller) emphasizes the importance of accessibility and spatial function in determining development priorities. Meanwhile, the social ecology approach (Burgess) emphasizes that space is also shaped through social and cultural interactions. In the context of tourism development, sustainable development theory serves as a primary reference, underscoring the need for a balance between economic growth, environmental preservation, and social justice (Nugroho, 2020). Furthermore, a participatory approach to spatial planning is considered crucial to ensure that spatial policies do not disadvantage local communities as owners of living space. Therefore, theories and approaches in spatial planning must be studied integratively to support effective and equitable policies. A lack of integrated approaches can lead to overlapping policies and spatial conflicts. Therefore, the choice of approach in spatial planning is crucial for determining the direction of regional development, including the tourism sector.

Tourism development in Gunungkidul requires spatial planning that addresses the challenges of sustainability and regional vulnerability. As is known, karst areas are ecosystems vulnerable to land-use changes and overexploitation. If not carefully managed, tourism development in karst areas can disrupt hydrological balance, eliminate protective functions, and destroy endemic habitats (Setyowati & Widodo, 2022). Several cases demonstrate the conversion of conservation areas into parking areas and commercial buildings, carried out without adequate environmental impact assessments. This is clear

evidence that spatial planning has not been used as a primary reference in tourism sector development. In the long term, such practices can degrade the quality of tourist destinations and generate resistance from local communities. Therefore, spatial planning needs to be strengthened not only from a legal perspective, but also from an institutional and implementation perspective.

Furthermore, spatial planning in Gunungkidul still lacks meaningful local community involvement. Public participation is a crucial element in a democratic and sustainable spatial planning approach. In many cases, communities are only symbolically involved in deliberation forums, without any real involvement in decision-making. This situation often results in spatial policies not reflecting local aspirations and needs. In the context of tourism, communities are often seen as objects of development, rather than active subjects. This approach is prone to generating resistance and social conflict, especially when development compromises community living space. Therefore, strengthening community capacity in spatial planning is a crucial strategy for realizing inclusive tourism development. Without authentic participation, spatial planning policies will continue to face obstacles in implementation.

Another equally significant issue is the lack of integration of spatial planning with sectoral development policies, particularly in the tourism sector. In practice, the tourism sector often develops destination development master plans without strictly referring to the RTRW (Regional Spatial Plan) or Detailed Spatial Planning (RDTR). This disconnect results in many tourism projects being out of sync with the designated spatial zoning, even leading to overlapping land uses. Furthermore, weak synergy between regional government agencies (OPDs) worsens coordination in spatial policy implementation. Therefore, cross-sector integration is crucial to ensuring the consistency of tourism development with spatial planning. Local governments need to strengthen intersectoral coordination mechanisms to unify the vision and direction of development. Without strong synergy, tourism potential will continue to grow outside the legal and sustainable spatial framework.

Based on this background, this study aims to analyze various theories and approaches in spatial planning and evaluate their application in the context of sustainable tourism development in Gunungkidul Regency. This study is expected to provide a conceptual contribution to strengthening spatial planning theory based on sustainable development and offer practical recommendations for improving spatial policy at the regional level. Furthermore, this study also aims to encourage the integration of legal, technical-spatial, and participatory approaches in the formulation and implementation of spatial planning policies. In this way, tourism development will not only serve as an economic instrument but also a tool for social transformation and environmental preservation.

B. The Relevance of Spatial Planning Theory and Approach to Sustainable Tourism Development

Spatial planning is a systematic approach to regulating the use of space in order to create integration between regions, efficient land use, and a balance between development and environmental sustainability. According to Law Number 26 of 2007 concerning Spatial Planning, spatial planning aims to create safe, comfortable, productive, and sustainable spaces. In an academic context, spatial planning theory refers to spatial interaction models, landscape ecology approaches, and regional systems, which emphasize the importance of integrating spatial allocation and the socio-economic functions of an area (Hudalah & Woltjer, 2007). The functional-spatial approach is the foundation for designing spatial structures that are responsive to regional potential, including for the development of the tourism sector. Therefore, spatial planning is not merely a physical arrangement of land but also reflects multidimensional long-term development policies. This includes institutional roles, licensing systems, and community participation in the planning and implementation processes. Good spatial planning must be able to anticipate conflicts of interest between sectors and serve as a legal basis that binds all stakeholders. Thus, spatial planning serves as a strategic foundation for directing development towards sustainability.

Meanwhile, sustainable tourism development is a development paradigm that emphasizes a balance between economic, socio-cultural, and environmental aspects in managing tourist destinations. Sustainable development theory, as proposed by the Brundtland Report (1987), emphasizes the principle of meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. In the context of tourism, this approach is operationalized through the principles of natural and cultural resource conservation, local community empowerment, and improving regional economic well-being (UNWTO, 2013). A participatory approach to tourism development is crucial because the success of tourism management is greatly influenced by the involvement of local communities as both actors and direct beneficiaries. Furthermore, ecosystem and landscape approaches are used to maintain the environmental integrity around tourist destinations to ensure they remain sustainable and undamaged by human activities. In practice, sustainable tourism development requires clear regulations, policy incentives, and ongoing evaluation of impacts. This necessitates synergy between legal instruments and technical implementation in the field. Therefore, a spatial planning framework is needed that can bridge the gap between tourism policy and regional planning.

The relevance of spatial planning theory and sustainable tourism development lies in their shared goal: to create a harmonious and sustainable spatial order for human life. In the context of regional development, spatial planning must be able to direct the allocation of space for tourism activities without sacrificing the ecological and social functions of the region (Firman, 2009). Spatial planning that fails to consider environmental carrying capacity can trigger ecosystem damage, local cultural degradation, and social conflict between stakeholders. Therefore, the spatial planning approach serves as a policy instrument that ensures tourism development does not deviate from the sustainability corridor. Integration between Regional Spatial Planning (RTRW) documents and tourism policies is a crucial aspect of comprehensive development planning. In practice, synchronization between technical OPDs such as the PUPR Office, Bappeda, and the Tourism Office determines the effectiveness of sustainable tourism

development policies. Spatial planning also allows for zoning of tourist areas, protected areas, and buffer zones that can protect environmental and cultural assets from overexploitation. Thus, spatial planning theory and approaches can strengthen efforts towards sustainable tourism, both normatively and practically.

This study used a sociological juridical approach to evaluate the extent to which the legal norms of spatial planning stipulated in Law No. 26 of 2007 and the Gunungkidul regional regulation on the Spatial Planning (RTRW) are actually implemented in the context of sustainable tourism development. This approach allows researchers not only to examine the normative aspects of the legislation but also to observe the dynamics of implementation in the field. In social reality, spatial planning often does not align with development practices due to budget constraints, conflicts of interest, or weak coordination between institutions. Therefore, this study combines a review of legal documents with in-depth interviews with key actors such as officials from the Tourism Office, the Regional Development Planning Agency (Bappeda), the Ministry of Public Works and Housing (PUPR), tourism business actors, and community leaders. The collected data will reflect how spatial planning and tourism policies are interpreted and implemented socially. In this way, the effectiveness of regulations can be measured through the perceptions, experiences, and real challenges faced by actors in the field (Iriani, 2008). This approach also allows researchers to identify gaps between the ideals of norms and the reality of practice. The results can be used to provide realistic and contextual policy input.

Substantively, spatial planning theory provides a logical and technocratic framework for managing tourist areas, particularly in areas with high natural attractions such as Gunungkidul. Gunungkidul's geospatial characteristics, consisting of karst, coastal, and hilly areas, require spatial planning that is sensitive to the risk of environmental damage. Spatial planning must be able to accommodate tourism interests without sacrificing the area's protective functions, such as forests, coastal boundaries, and water catchment areas. Based on regional systems theory, tourism area development needs to be integrated with adequate transportation systems, infrastructure

networks, and public services. Therefore, tourism area zoning must be designed by considering accessibility, inter-location connectivity, and regional carrying capacity. This confirms that spatial planning theory has a direct correlation with the formulation of tourism development policies, particularly in maintaining the compatibility of spatial functions with developing economic and social activities (Hudalah & Woltjer, 2007). When spatial planning is carried out in a participatory and data-driven manner, the direction of tourism development will be more focused and sustainable. The implementation of this theory is an important indicator in assessing the success of tourism spatial governance.

Sustainable tourism development theory also emphasizes the importance of involving local communities in planning and decision-making processes. This is because sustainable development is strongly influenced by social acceptance and the availability of local resources. This approach encourages recognition of local wisdom and cultural preservation as an integral part of the tourism product. In the Gunungkidul context, community participation in homestay development, ecotourism, and coastal management demonstrates that a participatory approach can enhance tourism sustainability and inclusiveness (Fitriana, 2015). However, this participation needs to be facilitated by a supportive spatial planning framework, such as the provision of tourist land, zoning management, and ease of licensing. If spatial planning does not accommodate community activities, the risk of land conflicts and social marginalization will increase. Therefore, the integration of spatial planning and tourism development strategies is key to achieving spatial justice and social sustainability. Sustainable development theory provides an ethical and normative basis for measuring the impact of development on the well-being of current and future generations.

At the policy level, the relationship between the Spatial Planning (RTRW) document and tourism development strategies needs to be examined through a legal-institutional approach. This is because spatial planning cannot be separated from the legal and institutional structures that govern it. Good spatial planning policies must be able to bridge the gap between sectoral development directions and spatial utilization

controls. When regional tourism policies are not aligned with the RTRW, disharmony can occur between program plans and regional carrying capacity. In the context of Gunungkidul, several cases of tourist destination development in protected areas or coastal boundaries reflect weak oversight of spatial utilization. Therefore, more operational derivative regulations are needed, such as the Detailed Spatial Planning Plan (RDTR), which can regulate permits specifically and location-based. The institutional approach to spatial planning must also regulate cross-sectoral coordination mechanisms to create synergy between agencies. Thus, an integrative spatial planning legal approach will strengthen region-based and sustainable tourism development.

Gunungkidul, a region with rapid tourism growth, faces significant challenges in maintaining harmony between development and conservation. The high demand for tourism infrastructure development is often not matched by controls on land-use changes. This has the potential to lead to environmental degradation such as erosion, pollution, and damage to coastal ecosystems. Therefore, it is crucial for the local government to consistently apply spatial planning theories and approaches through licensing mechanisms, monitoring, and regular evaluation. Tourism development should be directed toward areas designated as tourism development zones in the Spatial Plan (RTRW) and Regional Spatial Plan (RDTR). Furthermore, the use of spatial technologies such as GIS can assist in monitoring spatial planning changes and identifying areas vulnerable to development pressures. Regular evaluation of spatial planning policies is also necessary to align development direction with socio-economic dynamics and climate change. With an adaptive approach, spatial planning can be a key instrument in maintaining the sustainability of tourist destinations in Gunungkidul.

C. Evaluation of Spatial Planning Implementation in the Context of Tourism Development in Gunungkidul Regency

Gunungkidul Regency, Yogyakarta Special Region, has experienced significant development in the tourism sector over the past two decades. However, this progress has created new challenges in

sustainable spatial management. The implementation of the Gunungkidul Regional Spatial Plan (RTRW) 2011–2031 serves as the primary foundation for regulating spatial use. Gunungkidul Regency Regulation Number 6 of 2011 concerning the RTRW serves as the normative reference for zoning tourism, agriculture, conservation, and residential areas. In practice, there are several discrepancies between spatial planning and actual development, particularly in coastal tourist destinations such as Indrayanti and Baron. According to an interview with the Head of Spatial Planning at the Gunungkidul Public Works and Housing Agency (PUPRKP), "many tourism investors do not comply with the RTRW zoning and immediately build in areas prone to geological disasters." This discrepancy reflects weak oversight and enforcement of spatial planning laws at the local level (Interview, 2024).

One important indicator in evaluating spatial planning implementation is the degree of alignment between actual land use and the zoning plan. Data from the Gunungkidul Land and Spatial Planning Agency shows that by 2024, 27% of the coastal conservation zone had been converted into tourist accommodations. This indicates a serious deviation in spatial function. However, the Spatial Planning (RTRW) document designates the southern coast as a geological protection zone and a coastal conservation area. This mismatch threatens the sustainability of environmental carrying capacity and impacts the social resilience of local communities. Residents of Tepus and Purwodadi villages, in a focus group discussion (FGD) conducted by researchers in April 2024, expressed concerns about declining groundwater quality and increased abrasion due to the construction of hotels and villas near the coast. Thus, spatial planning implementation has not fully supported the principles of ecology and participation.

The evaluation of spatial planning policies also includes their impact on local economic growth through the tourism sector. Data from the Central Statistics Agency (BPS) of Gunungkidul in 2024 recorded that the tourism sector contributed approximately 15.6% to the district's GRDP, with an increasing trend each year. However, this increased contribution is not always accompanied by equitable distribution of economic benefits, especially for local communities in outlying areas. In an interview with the Head of Kemadang Village, he

stated, "Residents are merely laborers in tourism businesses controlled by external investors, while access to land resources is limited." This inequality in economic access indicates that spatial planning has not succeeded in realizing spatial justice as mandated by Law No. 26 of 2007, Article 2 letter f, concerning justice and the social function of space. Therefore, the implementation of spatial planning remains elitist and has not adopted a comprehensive social approach.

In addition to ecological and economic impacts, evaluation of spatial planning implementation needs to consider socio-cultural aspects, which are often overlooked. The development of tourist destinations such as HeHa Ocean View and the Pengilon Hill area demonstrates the exploitation of space without considering the local wisdom of the Samin indigenous community and traditional farmers. Several residents of Watu Lawang Hamlet stated in interviews: "We lost our ritual sites and sacred springs because the area is now a tourist parking lot." This social conflict indicates that the spatial planning process does not accommodate substantial participation from indigenous communities. The participatory principle as stipulated in Article 65 of the Spatial Planning Law has not been adequately implemented. This has led to social alienation and threatened the preservation of local cultural identity.

The Gunungkidul Regency Government has made several efforts to evaluate the implementation of the RTRW through quarterly revision and monitoring mechanisms. However, the results of these internal evaluations are often not publicly disclosed. This transparency is crucial to ensure accountability and public participation. According to a 2024 Public Satisfaction Survey (IKM) conducted by the Public Works and Housing (PUPRKP) Agency, only 42% of respondents were aware of the RTRW document and its amendments. Public ignorance of this crucial document reinforces the suspicion that spatial planning remains the exclusive domain of bureaucrats and technocrats. Therefore, the principle of transparency, as stipulated in Article 3 of Law No. 26 of 2007, needs to be upheld through the digitization of RTRW documents and the active involvement of civil society.

In terms of controlling spatial use, existing legal instruments, such as permits, incentives, and sanctions, as stipulated in the Spatial

Planning Law, have not been operating optimally. According to 2024 Gunungkidul Regional Government monitoring data, there were 54 cases of spatial use violations, but only 7 of these cases resulted in permit revocation. This indicates low institutional capacity to enforce spatial planning regulations. The Head of the Spatial Planning Control Section stated in an interview: "Administrative sanctions are ineffective because investors prefer to pay fines rather than halt development." This phenomenon indicates that economic logic trumps compliance with legal norms. Without strengthened legal capacity and oversight, spatial planning violations will continue.

One of the main issues hampering spatial planning implementation in Gunungkidul is the suboptimal integration of the Spatial Planning (RTRW) with tourism sector permits. Many tourism projects have obtained Building Construction Permits (IMB) before there is certainty about spatial zoning. In an interview with staff from the Investment Office, they acknowledged that coordination between agencies remains weak, particularly between the Tourism Office and the PUPRKP Office. This lack of synchronization results in policy disharmony and opens up room for permit manipulation. In fact, the RTRW should be the primary guideline for all forms of spatial utilization permits, as stipulated in Article 17 of Law No. 26 of 2007. Reform of the licensing bureaucracy is an urgent need to realize sustainable tourism development.

Spatial evaluation also shows that most tourism infrastructure development tends to be concentrated in the southern coastal areas. According to Gunungkidul Regency's Spatial Planning (RTRW) data (2024), of the total 39 strategic tourism areas, 26 are located in coastal zones. This concentration causes excessive environmental pressures, such as coastal erosion, declining groundwater quality, and seasonal waste explosions. Spatial overlay analysis using Landsat satellite imagery data shows 18% vegetation degradation in the coastal karst zone between 2015 and 2024. This situation indicates that the principles of sustainability and spatial equity have not been the primary reference in spatial planning implementation. It would be better if the northern and central areas of Gunungkidul, which have potential for cave, cultural, and agricultural tourism, also be strategically developed. Spatial

diversification of tourism development can reduce ecological pressure and increase the distribution of economic benefits.

The following table presents a comparison between the tourism zoning planning in the RTRW and actual conditions in the field based on monitoring by the field observation team in 2024:

TABLE 1. Comparison of RTRW Tourism Zoning and Actual Conditions

Area	RTRW Zoning	Field Realization	Compliance Status
Indrayanti Beach	Conservation area	Hotel & tourist parking	It is not in accordance with
Baron Beach	Tourist area	Tourist area	In accordance
Pengilon Hill	Geological protected zone	Cafe & ATV trails	It is not in accordance with
Pindul Cave	Natural tourist area	Tubing tours	In accordance
Nglanggeran Village	Cultural area	Edu-tourism & homestay	Partially Appropriate

Source: Research Observation Team Documentation (2024)

The data in Table 1 shows that the mismatch occurs in important areas with ecological and geological functions. Indrayanti Beach and Pengilon Hill, which should be protected, are instead being developed extensively for intensive tourism activities. In the context of spatial planning law, this constitutes a violation of zoning and is subject to administrative or criminal sanctions under Articles 69–70 of the Spatial Planning Law. However, law enforcement is disproportionate to the scale of the violations. This indicates that short-term economic interests often trump ecological and legal interests. Strengthening the oversight function of the Public Order Agency (Satpol PP) and the Environmental Agency is crucial to preventing further degradation.

The issue of overlapping authority also weakens spatial planning implementation in the tourism sector. The development of the Gunungsewu Geosite tourist area, for example, involves at least three agencies: the Public Works and Housing (PUPRKP), the Tourism Agency, and the Environmental Agency. However, there is no integrated cross-sectoral forum to systematically regulate the synergy

between these agencies. This weak sectoral coordination has implications for the slow resolution of spatial conflicts and the suboptimal use of development funds. One potential solution is the establishment of a cross-sectoral Regional Spatial Planning Coordination Team (TKPRD) with a strong mandate. This multi-level governance approach will strengthen policy consistency from planning to oversight.

A social evaluation of communities surrounding tourist areas shows that not all residents are enjoying the benefits of the sector's growth. In a survey of 105 residents of Tepus and Girisubo villages, 61.9% of respondents stated that they had not been involved in decision-making regarding tourism development in their villages. Furthermore, only 23% of residents were directly involved as tourism business operators (warungs, homestays, guides). This unequal participation indicates that a top-down approach still dominates the implementation of tourism spatial planning. Yet, the principles of inclusivity and public participation are key principles in the Spatial Planning Law and sustainable development planning. Therefore, reforms to public participation in spatial planning and oversight must be substantial, not merely formal.

A strategy that can be adopted to improve spatial planning implementation is the integration of the RTRW document with the Regional Tourism Development Master Plan (RIPPDA). Currently, these two documents are still running parallel and do not reference each other. Synchronizing these two documents will strengthen tourism sectoral planning that aligns with spatial carrying capacity and conservation principles. In an interview with an official from the Tourism Office, it was stated that "during the preparation of the RIPPDA, consultation was not always carried out with the PUPRKP Office, as the RTRW document holder." As a result, tourism project plans emerged that conflicted with protected zoning. Aligning these planning documents should be a priority in institutional reforms for spatial planning and tourism.

Spatial information technology such as GIS (Geographic Information System) has been used to a limited extent in the preparation and monitoring of Gunungkidul's spatial planning.

However, its use remains technical and has not been integrated with public decision-making systems. Ideally, spatial data should be publicly accessible through geoportals, allowing the public to monitor spatial allocation in real time. This spatial transparency is crucial for building an effective social oversight system. A study by the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (2025) stated that districts/cities with active geoportal systems tend to experience a 34% reduction in spatial planning violations. Therefore, digitalization of the Spatial Plan (RTRW) and integration with e-government systems should be a strategic agenda for the Gunungkidul Regional Government going forward.

Evaluation of spatial planning implementation must also consider aspects of adaptation to disaster risks. Most of Gunungkidul's coastal areas are located in tsunami and landslide-prone zones according to the BNPB Disaster Hazard Map (2021). However, many tourist attractions, such as restaurants and inns, were built without adequate evacuation systems. In an interview with the Gunungkidul Satlinmas Region II SAR Team, they revealed, "Many buildings in the red zone do not have standard evacuation routes." This situation indicates that disaster risk mitigation principles have not been integrated into spatial planning policies. The Disaster Management Law and the Spatial Planning Law require risk mapping in spatial plans. This requires the integration of the Disaster Risk Assessment (KRB) document with the RTRW (Regional Spatial Plan) and building permits.

Implementing spatial planning for sustainable tourism development in Gunungkidul requires strengthening governance oriented toward justice, sustainability, and transparency. Spatial planning should not be merely a technocratic instrument, but rather an arena for dialogue between the state, communities, and the private sector. Good spatial governance demands accountability at every stage of planning, permit issuance, project implementation, and oversight. Therefore, evaluations must be conducted periodically and involve multiple actors, including academics, environmental NGOs, traditional leaders, and local tourism stakeholders. This cross-actor involvement will strengthen the legitimacy of spatial planning policies and prevent spatial conflict.

D. Integrative Strategy in the Formulation and Implementation of Sustainable Spatial Planning Policy

Spatial planning in areas experiencing rapid tourism growth, such as Gunungkidul Regency, requires an integrative, adaptive, and participatory strategy. An integrative strategy means combining a technical-spatial approach with social, economic, legal, and environmental dimensions within a single sustainable spatial planning policy framework. This is crucial to address the challenges of policy fragmentation, weak intersectoral coordination, and increasing conflicts over spatial use. This approach also aligns with the principles of equitable spatial governance as stipulated in Law No. 26 of 2007 concerning Spatial Planning. According to Putra, Santoso, and Pranoto (2020), horizontally and vertically integrated spatial planning results in a more efficient and equitable distribution of space. Therefore, policy strategies cannot be implemented sectorally but must be developed through synergy between institutions, sectors, and regions. In the context of Gunungkidul, an integrative strategy must address the characteristics of karst areas, disaster vulnerability, and inequality in land ownership in tourist areas.

The first strategy is to synchronize planning documents and sectoral policies. The RTRW, as the primary reference for spatial planning, must be aligned with the RPJMD, RIPPDA, KLHS, and other sectoral documents to avoid overlapping or conflicting spatial functions. This lack of synchronization often occurs, such as the development of new tourist destinations that violate conservation zoning because they are not included in the RPJMD or RIPPDA. The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (2025) stated that only 41% of local governments' RTRW documents align with sectoral development plans. Yet document integration is a crucial prerequisite for ensuring that every sectoral policy is implemented in accordance with the spatial framework. In Gunungkidul, the 2023 RTRW revision must serve as momentum to ensure that all sectors, particularly tourism, the environment, and infrastructure, are designed based on a single spatial framework. If

planning documents are not synchronized, development will continue to pose risks to the environmental and social functions of space.

The second strategy is strengthening community participation in spatial planning and oversight processes. Public participation should not be merely formalistic, such as one-way consultations in the preparation of the Spatial Plan (RTRW), but must be implemented through meaningful and inclusive dialogue, especially for directly affected groups. According to Rahayu (2022), substantial community participation in spatial planning has been proven to reduce social conflict and increase the effectiveness of RTRW implementation. Gunungkidul communities, particularly in coastal and rural areas, often lack access to zoning and permit information related to tourism projects. Therefore, the local government should encourage the establishment of village forums or spatial monitoring communities that can provide input and oversee spatial use practices at the local level. This mechanism will strengthen the social legitimacy of spatial planning and encourage the realization of true spatial justice.

One of the main obstacles to implementing sustainable spatial planning is the low institutional capacity and human resources at the regional level. The third strategy that needs to be implemented is institutional reform and capacity building of spatial planning officials. Many regional technical agencies still lack regional planners who understand landscape ecology approaches, disaster risk mitigation, and karst area management. A 2024 report by Bappenas (National Development Planning Agency) states that only 38% of regencies/cities in Indonesia have an active Regional Spatial Planning Coordination Team (TKPRD) capable of overseeing the intersectoral implementation of the RTRW. Therefore, Gunungkidul needs to activate the TKPRD, which involves elements of the PUPRKP (Public Works and Housing Agency), the Tourism Office, the Environment Agency, tourist villages, and universities. This institutional strengthening is not only structural but also cultural through regular training and mentoring for regional officials to be more responsive to sustainability issues.

The fourth strategy is the digitization of spatial information systems and the transparency of spatial planning data. Transparency of spatial information is crucial for encouraging public oversight and the

involvement of non-governmental stakeholders. Gunungkidul currently lacks an interactive geoportal accessible to the public for information on zoning status, spatial use permits, and development progress. Yet, such digitization has become common practice in various districts/cities as part of evidence-based planning systems. Nugroho (2021) emphasized that the transparency of spatial data through online systems promotes governance efficiency, prevents zoning violations, and strengthens collaboration. The geoportal should also be integrated with public service applications and an online complaint system for spatial planning violations. This step will strengthen the principle of transparency and shorten the bureaucratic chain in permitting and development oversight.

The fifth strategy is the integration of risk mitigation and climate change adaptation principles into spatial planning practices. Gunungkidul Regency faces various environmental risks such as drought, coastal erosion, and potential tsunamis, which must be mitigated through a spatial approach. Spatial planning that fails to address disaster risk factors can increase community vulnerability, particularly in coastal areas that are rapidly developing into tourist destinations. Therefore, the Spatial Planning (RTRW) document must include disaster risk maps, evacuation routes, and safe development zone boundaries based on a disaster risk assessment (KRB). The UNDP (2022) noted that areas that incorporate climate and risk variables into the RTRW have greater long-term economic and ecological resilience. This integration is also crucial to prevent tourism development from creating conflicts between economic interests and community safety. Therefore, spatial planning must be a tool for adaptation, not simply an instrument for regulating physical space.

The five strategies described are not short-term programs, but rather long-term policy frameworks that require consistency, commitment, and synergy from all parties. Local governments play a central role in orchestrating various interests and ensuring that development remains within established spatial boundaries. However, the role of the community, academics, business actors, and the media is equally important as supervisors and strategic partners. An integrative strategy must be seen as a dynamic mechanism, capable of responding

to social change, economic pressures, and environmental dynamics. In the context of Gunungkidul, the implementation of this strategy must take into account the socio-rural character and local values of its communities. Without an adaptive and participatory approach, spatial planning will continue to fail to meet the challenges of sustainable development. Therefore, spatial planning must become a shared arena for realizing intergenerational prosperity and sustainability.

The implementation of an integrative strategy must also consider the structural and cultural barriers that frequently arise in regional spatial planning practices. One such barrier is weak cross-sectoral coordination, which leads to delays in decision-making and inconsistencies between plans and implementation. Furthermore, a bureaucratic culture that is still oriented toward short-term projects often neglects sustainability aspects in spatial planning. For example, massive tourism infrastructure development is carried out without considering conservation zoning due to political or economic pressures. Firman (2019) cautions that spatial planning that is not supported by a strong institutional culture will only produce formal documents without any controlling power. Therefore, an integrative strategy must be based on a shift in the bureaucratic paradigm from mere administration to responsive, collaborative, and sustainable governance. This transformation also requires regional leadership that has a long-term spatial planning vision and the courage to face immediate political pressures.

An integrative strategy will be difficult to achieve without the support of a fair system of incentives and disincentives for controlling spatial use. Local governments must encourage compliance with the Spatial Planning (RTRW) not only through administrative or criminal sanctions, but also through positive incentives for developers who adhere to zoning and ecological principles. For example, tourism operators who build homestays in accordance with tourism village zoning can be granted tax reductions or priority for MSME development. Conversely, zoning violations should be subject to progressive fines or business permit restrictions, as stipulated in Government Regulation No. 21 of 2021. This incentive and disincentive approach has proven effective in regulating development

behavior based on voluntary compliance (Nugroho, 2021). Such a scheme also provides space for local communities to feel rewarded for complying with spatial planning regulations, which they often lack technical understanding. Therefore, this system must be designed in a participatory manner to suit the local social and economic context.

Furthermore, multi-actor collaboration is a crucial prerequisite for realizing sustainable spatial planning strategies. The government cannot work alone without involving civil society, the private sector, academics, and the media in the spatial planning and oversight process. In Gunungkidul, sustainable tourism development needs to be built through collaborative forums between technical agencies, tourist villages, business actors, and youth groups. This collaboration must be deliberative and not merely a formality in the annual musrenbang forum. Arnstein (1969) stated that the ideal form of participation is when communities have real power in decision-making, not merely symbolic involvement. Therefore, village spatial forums or community spatial forums need to be established in strategic tourism areas to bridge the interests of development and conservation. By building trust and shared ownership of space, integrative strategies will be easier to implement in a real and sustainable manner.

An integrative strategy also requires a comprehensive and sustainable monitoring and evaluation system. Evaluation of the implementation of the Spatial Planning Plan (RTRW) must be conducted periodically, not only based on administrative parameters but also through indicators of ecological sustainability and social justice. For example, indicators of spatial planning success could include the proportion of green open space, the percentage of people aware of their area's zoning, or the level of compliance of business permits with the RTRW. The involvement of research institutions and universities in this evaluation is crucial to ensure objectivity and in-depth analysis. Bappenas (2023) recommends the establishment of a Spatial Planning Observatory at the district/city level to monitor spatial planning implementation thematically and spatially. If this evaluation is conducted well, the results can form the basis for policy revisions and timely corrections to development direction. Therefore, evaluation

should not be a symbolic activity, but rather a corrective and strategic instrument in spatial governance.

An integrative strategy will be most effective if accompanied by political reform of spatial planning policies. Spatial planning must be free from short-term interests such as land speculation, pressure from economic elites, or zoning manipulation for exclusive investment. Zoning changes in the RTRW (Regional Spatial Plan) are often implemented without adequate environmental assessments or public consultation, even though this can have systemic impacts on regional sustainability. Therefore, transparency in the RTRW amendment process, the involvement of the Information Commission, and oversight by anti-corruption agencies such as the Corruption Eradication Commission (KPK) are crucial. As noted in the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) report (2024), many spatial planning violations are related to uncontrolled capital interests. Therefore, spatial planning policy reform must be grounded in ethical values, intergenerational justice, and the community's right to a healthy and safe environment. With a clean and participatory political foundation, an integrative spatial planning strategy will be able to bring substantial change to sustainable regional development.

E. Conclusion

This research demonstrates that spatial planning plays a strategic role in realizing sustainable tourism development in Gunungkidul Regency. The spatial planning theories and approaches used, ranging from functional-spatial approaches, regional systems, to landscape ecology approaches, have proven relevant in directing spatial distribution that aligns with ecological, social, and economic functions. However, its implementation still faces serious challenges, including disharmony between planning documents, low compliance with zoning regulations, weak law enforcement, and minimal public participation. An in-depth evaluation of the implementation of the Spatial Planning (RTRW) and tourism sectoral policies reveals a gap between the ideals of regulations and field practice. Inconsistencies in spatial use in coastal tourism areas are a key indicator of weak oversight and low awareness

of sustainability in the development process. Therefore, it is crucial to strengthen spatial governance based on the principles of legality, accountability, and information transparency.

As a conceptual contribution, this study emphasizes the importance of integrating legal, technical-spatial, and participatory approaches in the formulation and implementation of spatial planning policies. Spatial planning should not be understood merely as a technocratic instrument, but rather as an arena for social transformation capable of ensuring sustainability across generations. Integrative strategies in spatial planning, as formulated in this study, including document synchronization, strengthening community participation, institutional reform, spatial digitalization, and integration of disaster risk mitigation, are expected to serve as practical guidelines for policy improvement at the regional level. With a just, inclusive, and adaptive spatial policy direction, tourism development in Gunungkidul can be a catalyst for improving community welfare while simultaneously preserving the environment. This research opens the space for further discussion on the importance of democratic and evidence-based spatial planning institutional design for the future of sustainable regional development.

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