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Overtourism, Land Use Change, And Environmental Carrying Capacity: Policy Gaps In Bali Tourism Governance

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Abstract

Bali represents the center of Indonesia's tourism industry, contributing more than half of the regional economy and attracting nearly half of Indonesia's international tourist arrivals. Rapid tourism growth over the past decade has intensified environmental and spatial pressures, particularly in South Bali, through increasing infrastructure congestion, expansion of tourism amenities, and conversion of agricultural land into tourism-related development. These conditions indicate emerging overtourism pressures and raise critical questions regarding the operationalization of Environmental Carrying Capacity within Bali's tourism governance. This study aims to analyze policy gaps in managing overtourism by examining how Environmental Carrying Capacity principles are translated into tourism and spatial planning policies in Bali. The research employs a qualitative case study approach using policy document analysis, secondary tourism statistics, and simple spatio-temporal analysis based on historical satellite imagery during the 2014 to 2024 period. The findings reveal that tourism growth in Bali has been accompanied by rapid expansion of tourism amenities concentrated in South Bali, particularly in Badung and Gianyar. Spatial analysis indicates continuing agricultural land conversion and urban expansion despite the existence of sustainability-oriented tourism and spatial planning policies. The study concludes that tourism governance in Bali remains strongly growth-oriented and that Environmental Carrying Capacity has not been effectively operationalized in development control mechanisms. This research contributes to tourism governance studies by positioning land use change as a spatial indicator for understanding policy gaps in tourism-dependent destinations.

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Keywords: Overtourism, Tourism Governance, Environmental Carrying Capacity, Land Use Change, Bali Tourism Development.

INTRODUCTION

I. INTRODUCTION

Bali is Indonesia's leading tourism destination and one of the world's iconic tourism destinations. According to data from Statistics Indonesia (Badan Pusat Statistik or BPS), the number of international tourist arrivals to Bali increased significantly after the pandemic and exceeded 6.33 million visits in 2024, making Bali the destination for nearly half of Indonesia's total international tourist arrivals. This contribution has positioned the tourism sector as the backbone of Bali's economy, accounting for more than 50 percent of the province's Gross Regional Domestic Product. However, behind the success of tourism as the main driver of Bali's economy, the rapid growth of tourist arrivals has also generated increasing pressures on the environment, infrastructure, and spatial planning.

In recent years, overtourism has become a global issue in many tourism destinations and has been associated with growing pressures on the environment, infrastructure, and the quality of life of local communities (Goodwin, 1980). In Bali, several studies have shown that tourism growth, particularly in South Bali areas such as Canggu, Ubud, and Sanur, has intensified pressure on infrastructure, triggered socio-spatial transformation, and accelerated the conversion of agricultural land into tourism facilities (Suyadnya, 2021; Sukariyanto et al., 2024; Pradnyana, 2025).

On the other hand, the government has normatively established various policy frameworks aimed at regulating sustainable tourism development. At the national level, tourism development is regulated through the National Tourism Development Master Plan (RIPPARNAS), which emphasizes the importance of developing tourism destinations while considering environmental carrying capacity and sustainable development principles. At the regional level, the Provincial Government of Bali has also enacted several strategic policies, including the Bali Provincial Tourism Development Master Plan 2015 to 2029, the Regional Regulation on Bali Cultural Tourism Standards, and the Bali Provincial Spatial Plan 2023 to 2043, all of which emphasize that spatial utilization should maintain environmental, social, and cultural balance in Bali. Nevertheless, the growing pressures of tourism development indicate that these policy frameworks have not been fully effective in controlling tourism growth dynamics in Bali's major

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tourism areas. This condition is reflected in the continuous expansion of tourism accommodation facilities and ongoing land use change despite the implementation of various spatial control policies. In the context of Bali, overtourism does not merely reflect pressure resulting from tourism growth, but also highlights the limitations of tourism governance in integrating environmental carrying capacity into destination development policies.

Previous studies in Bali have tended to discuss overtourism, land use change, or tourism sustainability separately, while studies linking land use change as a spatial indicator of weak Environmental Carrying Capacity operationalization within tourism governance remain limited.

Based on these conditions, it is important to further evaluate how tourism and spatial planning policies in Bali accommodate the concept of Environmental Carrying Capacity in destination management. This study aims to analyze the relationship between tourism growth, land use change, and policy gaps in Bali's tourism governance, particularly in the operationalization of Environmental Carrying Capacity. Through policy document analysis, secondary statistical data, and simple spatial analysis of land use change during the 2014 to 2024 period, this research seeks to identify the extent to which Bali's tourism policies are capable of responding to overtourism challenges while maintaining environmental sustainability within tourism destinations.

RESEARCH METHOD

2.1 Research Approach

This study employs a qualitative approach with a case study design to analyze the relationship between tourism growth, overtourism pressure, land use change, and policy gaps in Bali's tourism governance. A qualitative approach was selected because the study focuses on policy interpretation, governance dynamics, and the interrelationship among tourism development phenomena rather than on the quantitative or mathematical measurement of environmental carrying capacity.

Bali was selected as the case study because it is Indonesia's primary tourism destination with a high level of economic dependency on the tourism sector, while simultaneously experiencing significant development pressures resulting from tourism growth and the expansion of tourism investment. The research focuses on major tourism areas in South Bali, particularly several areas in Badung and Gianyar Regencies, which have experienced relatively high intensities of tourism amenity development and land use change over the past decade. The case study

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approach enables the researcher to gain a deeper understanding of the relationship between tourism development dynamics, policy implementation, and spatial transformation within the context of tourism destination governance. The 2014 to 2024 period was selected to capture tourism growth dynamics before the pandemic, disruptions to tourism activities during the COVID-19 pandemic, and the post-pandemic tourism recovery phase.

This research adopts an analytical framework that positions land use change as a spatial indicator for understanding how tourism development pressures reflect the weak operationalization of Environmental Carrying Capacity within tourism and spatial planning policies. Accordingly, the study seeks to identify the relationship between tourism growth, tourism governance orientation, and the emergence of policy gaps in controlling tourism destination development.

2.2 Data Resources

This study utilizes secondary data obtained through policy document analysis, tourism statistical data, and simple spatial analysis using historical satellite imagery.

Policy Documents and Regulations

The policy documents and regulations analyzed in this study include:

1. *Rencana Induk Pembangunan Kepariwisataan Nasional* (RIPPARNAS)
2. *Rencana Induk Pembangunan Kepariwisataan Daerah* (RIPPARDA) Provinsi Bali 2015–2029
3. *Peraturan Daerah tentang Standar Penyelenggaraan Kepariwisataan Budaya Bali*
4. *Rencana Tata Ruang Wilayah* (RTRW) Provinsi Bali 2023–2043
5. RTRW Kabupaten Badung
6. RTRW Kabupaten Gianyar
7. Tourism accommodation development moratorium policies

Document analysis was conducted qualitatively through the identification of policy themes related to sustainability, environmental carrying capacity, development control, and spatial utilization. In addition, the analysis aimed to identify the extent to which sustainability principles and Environmental Carrying Capacity (ECC) are integrated into tourism and spatial planning policies. The study not only identifies the presence of sustainability principles within policy documents, but also evaluates the extent to which these principles are translated into

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operational development control instruments. The indicators examined within policy documents include: (1) the existence of environmental carrying capacity principles within policies; (2) tourism development control instruments; (3) spatial utilization regulations; (4) tourism amenity development control mechanisms; and (5) policies related to development restrictions or tourist distribution management.

Tourism Statistical Data

Secondary statistical data were obtained from Statistics Indonesia (BPS), the Ministry of Tourism, the Provincial Government of Bali, and other official publications. The data used include: (1) the number, growth, and concentration of international tourist arrivals; (2) the contribution of the tourism sector to the regional economy; and (3) the development and distribution of tourism amenities. Tourism statistical data were used to understand tourism growth trends and identify indications of overtourism pressure in major tourism areas in Bali.

Spatial Data

This study also employs simple spatial analysis through the comparison of historical satellite imagery during the 2014 to 2024 period. The analysis was conducted visually and comparatively using Google Earth satellite imagery to identify indications of land use change in Bali's major tourism areas. The use of historical Google Earth imagery was selected because it enables longitudinal visual identification of land use change within major tourism destinations in Bali. The spatial analysis focuses on: (1) agricultural land conversion; (2) built-up area expansion; (3) growth of tourism accommodation facilities; and (4) changes in spatial utilization patterns within major tourism areas.

In this study, land use change is positioned as a spatial indicator for understanding tourism development pressure and indications of weak development control within tourism destination governance. The use of multiple data sources aims to strengthen analytical triangulation between tourism growth dynamics, policy implementation, and spatial transformation in tourism areas.

2.3 Data Analysis

The analysis was conducted by comparing sustainability commitments contained in policy documents with tourism development dynamics reflected through trends in tourist growth,

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tourism amenity expansion, and land use change. The analytical process was carried out through several stages, including:

1. Identifying tourism growth and overtourism pressure based on trends in tourist arrivals, the development of tourism facilities, and the concentration of development within Bali's major tourism areas;
2. Analyzing land use change to understand indications of tourism development pressure on spatial systems and the environmental conditions of tourism destinations;
3. Evaluating how Environmental Carrying Capacity (ECC) is operationalized within tourism and spatial planning policies. The assessment of ECC operationalization was conducted by identifying the existence of policy instruments that specifically regulate tourism amenity development control, development intensity restrictions, spatial utilization control, tourist distribution management, and protection mechanisms for environmental areas and agricultural land;
4. Identifying policy gaps through the analysis of inconsistencies between sustainability principles contained in policy documents and tourism development dynamics occurring in practice. Policy gaps were analyzed based on weak implementation of development control instruments, increasing tourism facility development in environmentally pressured areas, the continuing conversion of agricultural land, and weak spatial utilization control despite the existence of sustainability and spatial planning regulations.

Through this approach, the study does not aim to quantitatively measure ECC, but rather to understand how environmental carrying capacity principles are operationalized within tourism governance and tourism destination development control.

This study has several limitations. First, the research does not conduct numerical or mathematical measurements of ECC. Second, the spatial analysis in this study is illustrative in nature and is intended to indicate patterns of land use change rather than to provide detailed quantitative spatial analysis. Third, the study primarily focuses on governance interpretation and policy analysis in understanding the relationship between tourism growth, land use change, and policy gaps in the management of tourism destinations in Bali.

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RESULTS AND DISCUSSION

3.1 Theoretical Framework

3.1.1 Overtourism

In recent years, the phenomenon of overtourism has become one of the major issues in sustainable tourism studies. Overtourism refers to a condition in which the number of tourists visiting a destination exceeds its social, economic, and environmental capacities, thereby generating negative impacts on local communities and the destination environment (Koens et al., 2018).

Cases of overtourism in destinations such as Barcelona, Venice, and Dubrovnik have resulted in various impacts, including increasing tourist congestion, social conflicts between tourists and local residents, and urban environmental degradation (Milano et al., 2019). Recent studies increasingly view overtourism not merely as a consequence of excessive tourist numbers but also as the result of tourism governance models that are overly oriented toward economic growth and fail to control the distribution of tourism activities (Goodwin, 1980; Sharpley, 2023). In the context of Bali, studies indicate that major tourism areas in South Bali have begun to experience symptoms of overtourism, particularly due to the increasing number of tourists and the expansion of tourism facilities (Pradnyana, 2025). Therefore, overtourism can be understood as the failure of tourism destinations to sustainably control the intensity of tourism growth and development distribution.

3.1.2 Environmental Carrying Capacity (ECC)

The concept of Environmental Carrying Capacity (ECC) is one of the key concepts in sustainable tourism destination management. ECC refers to the environmental limits in accommodating human activities without causing significant environmental degradation or reducing the quality of tourism experiences (Saveriades, 2000). In the tourism context, carrying capacity encompasses not only ecological aspects, but also social, economic, and infrastructure dimensions. Therefore, sustainable tourism destination management requires policies capable of regulating tourist numbers, development intensity, and spatial utilization to ensure that environmental limits are not exceeded.

However, several studies suggest that the concept of environmental carrying capacity is often difficult to implement in policy practice due to factors such as economic pressures, investment interests, and the complexity of tourism governance (Goodwin, 1980). In destinations

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that are highly dependent on tourism, the implementation of environmental carrying capacity principles frequently faces pressure to maintain economic growth and tourism investment. As a result, environmental thresholds are often not determined objectively but are instead negotiated through economic interests, investment priorities, and regional development politics.

ECC is frequently included in policy documents as a normative principle of sustainability, yet it remains difficult to translate into clear operational limits for tourism development control and spatial planning management. Furthermore, measuring ECC also faces methodological challenges because determining the limits of tourism destination capacity is often a political and governance issue rather than purely a technical environmental matter.

3.1.3 Tourism Governance

Tourism governance refers to the decision-making processes and coordination among various actors involved in the development and management of the tourism sector, including government institutions, the private sector, and local communities. In destinations that are highly dependent on tourism, local governments often face dilemmas between maintaining economic growth and implementing development restrictions based on environmental carrying capacity. This economic dependency tends to encourage tourism governance that prioritizes tourist growth and investment over environmental pressure control. Consequently, sustainability principles and environmental carrying capacity are often difficult to implement consistently within operational tourism policies.

UNWTO (2018) highlights that tourism governance frequently faces challenges such as policy fragmentation, weak interinstitutional coordination, and the dominance of economic growth orientation in tourism policies. Policy fragmentation creates overlapping authorities and weakens coordination in spatial utilization for tourism development. Weak supervision of tourism amenity licensing also constitutes an important issue, as many tourism amenities in Bali have been developed without clear legal authorization.

From a policy implementation perspective, these conditions indicate that the effectiveness of tourism governance is also influenced by implementation environments, actor interests, and institutional capacity in translating policy objectives into tourism destination development practices (Grindle, 1980).

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3.1.4 Tourism Development and Land-Use Change

The development of the tourism sector often significantly affects land use change, particularly in destinations experiencing rapid tourism growth. Tourism investment in the form of hotels, villas, restaurants, and other tourism facilities can drive the conversion of agricultural land and open spaces into tourism areas.

Research on tourism gentrification in Bali shows that tourism investment growth has encouraged significant socio-spatial transformation in several tourism areas, particularly through land use change and rising land values (Suyadnya, 2021). Similar conditions are evident in emerging tourism destinations such as Canggu, which has experienced rapid growth in tourism facilities over the last decade (Sukariyanto et al., 2024).

Based on these studies, this research views overtourism not only as a consequence of increasing tourist numbers but also as a reflection of tourism governance that has not fully integrated ECC principles into tourism development control. This study also argues that overtourism in Bali is influenced by tourism governance that remains strongly oriented toward economic growth, resulting in the incomplete integration of ECC principles into tourism development control and spatial planning management. Consequently, land use change not only reflects regional economic transformation, but can also be understood as spatial evidence of weak development control within tourism governance.

3.1.5 Conceptual Framework

Rapid tourism growth is one of the main factors driving overtourism pressure in many tourism destinations. In the context of Bali, increasing tourist arrivals and the concentration of tourism development in South Bali indicate growing pressure on infrastructure, the environment, and destination spatial systems. These conditions suggest that tourism growth is not always accompanied by adequate destination management capacity, thereby increasing the risk of overtourism.

Overtourism pressure is reflected not only through increasing tourist numbers, but also through the intensity of tourism facility development and land use change in major tourism areas. The expansion of hotels, villas, restaurants, and other tourism facilities has accelerated agricultural land conversion and urban expansion in areas such as Badung, Gianyar, and Canggu. In this study, land use change and tourism urbanization are also viewed as factors that may intensify environmental pressure and further reduce destination capacity over time.

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From the perspective of sustainable tourism, tourism destination development should consider ECC principles, namely the ability of the environment to accommodate tourism activities without causing significant environmental degradation. However, in destinations that are highly dependent on tourism, tourism governance is often more oriented toward economic growth and investment than toward controlling environmental impacts. This condition makes ECC principles difficult to translate into effective operational instruments for controlling tourism development and spatial utilization.

Based on this conceptual framework, the study positions land use change as a spatial indicator for understanding policy gaps in Bali's tourism governance. Land use change is understood as a manifestation of weak development control and the ineffective integration of ECC principles into tourism and spatial planning policies. Therefore, policy gaps in this study are defined as the mismatch between sustainability commitments contained in policy documents and tourism development practices that remain dominated by economic growth orientation.

Figure 1. Conceptual Framework



Source: *Processed by authors (2024)*

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3.2 Tourism Growth and Overtourism Pressure

Over the last decade, Bali has demonstrated a significant tourism growth trend that has become increasingly concentrated in the major tourism areas of South Bali. According to data from Statistics Indonesia (BPS), the number of international tourist arrivals to Bali increased from approximately 3.7 million visits in 2014 to more than 6.2 million visits in 2019 before experiencing a drastic decline due to the COVID-19 pandemic during the 2020 to 2021 period. Following the pandemic, Bali's tourism sector experienced a rapid recovery, with international tourist arrivals reaching more than 6.3 million in 2024. This increase indicates that Bali remains the primary tourism hub of Indonesia, accounting for nearly half of the total international tourist arrivals to the country.

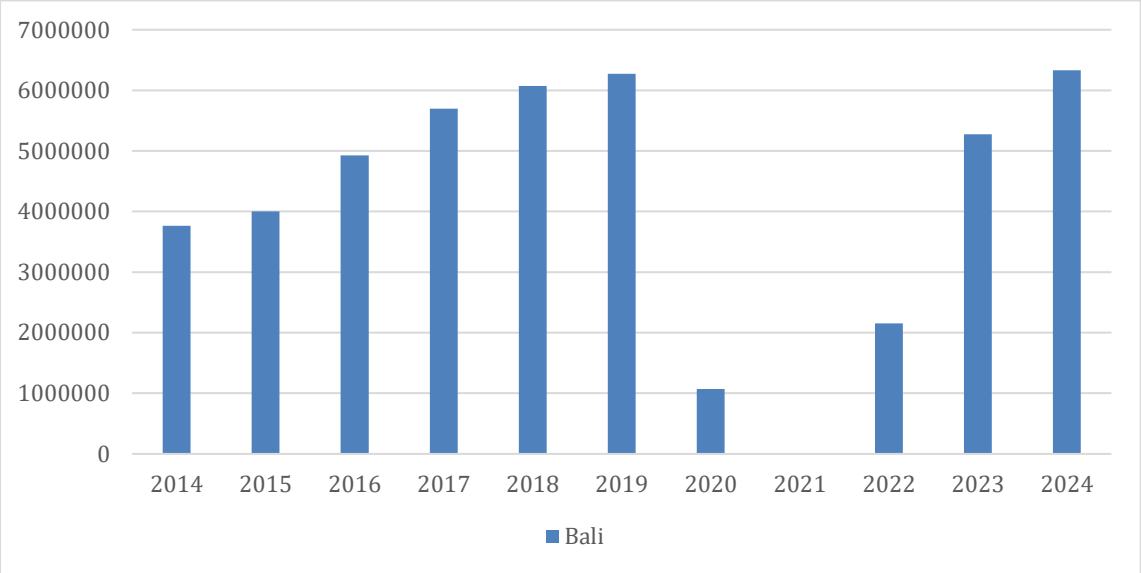


Figure 2. Number of International Tourist Arrivals to Bali (Person), BPS Bali
Source: *BPS Provinsi Bali (2026)*

In line with this trend, Bali also remains a major destination for domestic tourists. In 2019, the number of domestic tourist trips to Bali reached approximately 1.8 million and increased again in 2024 to around 2.2 million trips.

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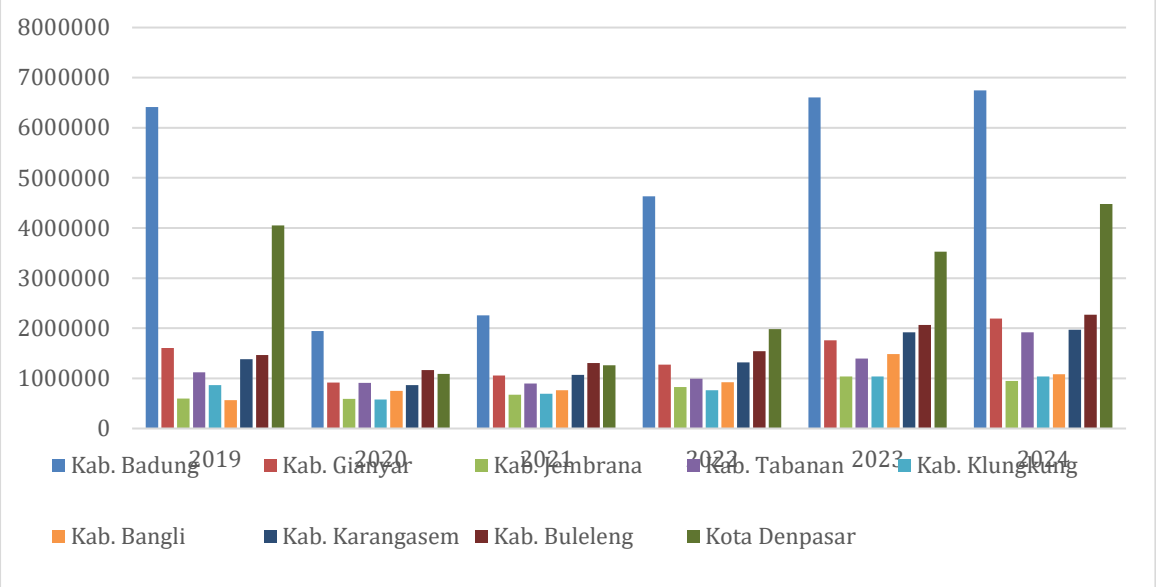


Figure 3. Distribution of Domestic Tourists (Trips), BPS Bali
Source: *BPS Provinsi Bali (2026)*

However, tourism growth has not been distributed evenly across all regions of Bali. Tourism activities tend to be concentrated in South Bali, particularly in Badung Regency and parts of Gianyar Regency, which have become centers for the growth of tourism amenities such as hotels, villas, restaurants, beach clubs, and tourism commercial areas. This concentration of tourism activities has intensified development and tourism density in specific areas, thereby increasing pressure on infrastructure, the environment, and spatial systems.

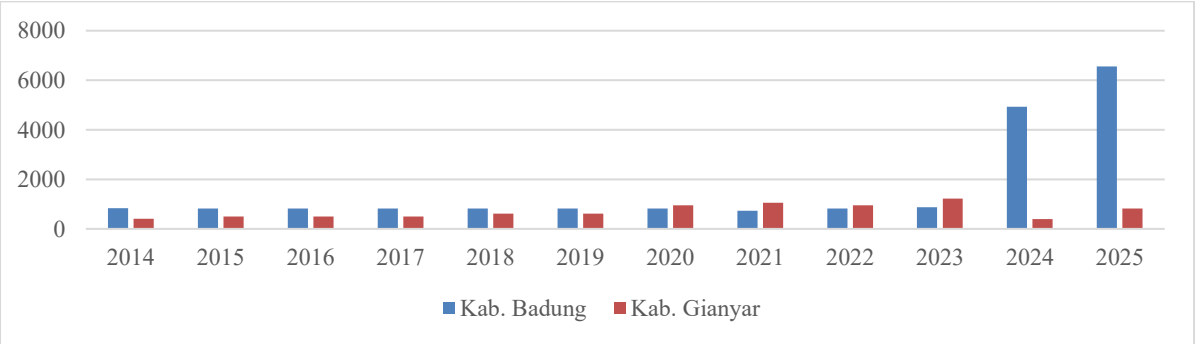


Figure 4. Number of Restaurants and Food Establishments (Units)
Source: *BPS Provinsi Bali (2026)*

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Several indicators of overtourism have begun to emerge in Bali's major tourism areas. Increasing traffic congestion in tourism destinations such as Kuta, Seminyak, Canggu, and Ubud indicates growing pressure on transportation infrastructure capacity. In addition, the expansion of tourism accommodation facilities has intensified pressure on clean water supply, waste management systems, and spatial land utilization. In the context of South Bali, the relatively uncontrolled growth of tourism amenities demonstrates that tourism expansion has not been fully accompanied by adequate destination management capacity and effective spatial development control.

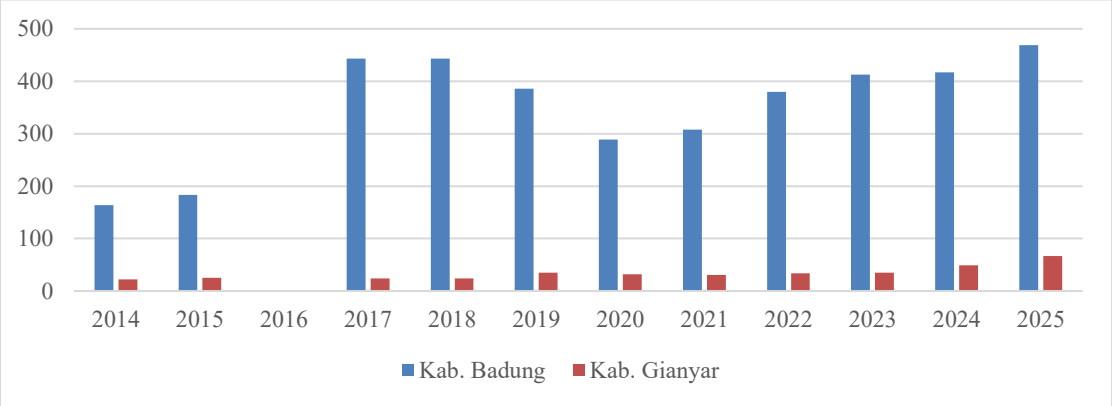


Figure 5. Number of Star-Rated Hotels (Units), BPS Bali
Source: *BPS Provinsi Bali (2026)*

The increasing number of tourists accompanied by the rapid growth of tourism amenities indicates that tourism growth in Bali is not only associated with tourist mobility, but also with increasingly intensive development expansion within major tourism areas. These conditions suggest that tourism development in Bali remains predominantly oriented toward economic expansion rather than toward controlling the environmental capacity of tourism destinations.

3.3 Spatial Transformation and Land-Use Change

Tourism development pressure in Bali is also reflected in the decline of agricultural land over recent years. Data from Statistics Indonesia Bali Province indicate that the total area of irrigated rice fields in Bali decreased from approximately 70,996 hectares in 2019 to around 64,474 hectares in 2024, representing a reduction of approximately 6,522 hectares within five

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years. This decline primarily occurred in tourism metropolitan areas such as Badung and Gianyar, which have experienced high pressure from tourism amenity development and urban expansion. In Gianyar Regency, agricultural land area reportedly decreased from approximately 14,376 hectares in 2016 to around 13,456 hectares in 2021. Based on visual interpretation of historical satellite imagery from 2014 to 2024, major tourism areas such as Canggu, Seminyak, and parts of Ubud demonstrate significant built-up area expansion, particularly through the development of hotels, villas, restaurants, beach clubs, and other tourism commercial facilities.



Figure 6. Land Use Change between 2014 and 2024 in the Ubud Area, Gianyar
Source: ***Google Earth historical imagery, processed by authors (2026)***

Previous spatial studies also indicate that Badung Regency experienced a consistent increase in built-up areas during the 2014 to 2024 period, accompanied by a decline in rice field areas within major tourism zones. Canggu represents one of the clearest examples of spatial transformation driven by tourism growth. Over the past decade, areas previously dominated by rice fields have rapidly transformed into tourism zones characterized by a high density of tourism amenities. The rapid development of villas and tourism facilities in the area demonstrates how tourism investment pressure directly influences spatial land utilization change.

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Figure 7. Comparative Satellite Imagery of Land Use Change in Canggu, Badung (2014 vs 2024
Source: *Google Earth historical imagery, processed by authors (2026)*

Similar spatial transformation is also evident in several areas of Badung and Gianyar Regencies that have experienced increased tourism accommodation development. The conversion of agricultural land into tourism commercial areas indicates that tourism development pressure not only affects local economic structures, but also influences environmental sustainability and the ecological functions of these areas. The reduction of agricultural land in major tourism destinations potentially increases pressure on water systems, reduces green open spaces, and accelerates tourism urbanization.

Within the context of this study, land use change is understood as a spatial indicator of increasing overtourism pressure and weak tourism development control. The continuing expansion of tourism amenities indicates that tourism development in Bali remains predominantly oriented toward economic growth and investment, while spatial utilization control and environmental carrying capacity protection have not been effectively implemented.

3.4 Tourism Governance and Weak ECC Operationalization

Normatively, the Government of Indonesia and the Provincial Government of Bali have established various policies emphasizing the importance of sustainable tourism development and the protection of environmental carrying capacity. The National Tourism Development Master Plan (RIPPARNAS), the Bali Provincial Tourism Development Master Plan (RIPPARDA) 2015–2029,

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and the Bali Provincial Spatial Plan (RTRW) 2023–2043 explicitly position sustainability principles and environmental balance as part of the direction of tourism development in Bali.

However, the findings of this study indicate that ECC principles have not been fully translated into operational development control instruments. Although various policy documents emphasize the importance of environmental carrying capacity, policy implementation in practice still demonstrates weak control over tourism amenity development and spatial land utilization.

One example of tourism development control policy in Bali is the moratorium policy on hotel and tourism accommodation development in several areas of South Bali. The policy was intended to control the density of tourism amenity development and reduce environmental pressure. However, in practice, the implementation of the moratorium continues to face various challenges, including weak supervision, fragmented institutional authority, and the emergence of business permit misuse to circumvent development restrictions.

In addition, tourism development control also faces strong pressure from investment interests and Bali's high economic dependency on the tourism sector. These conditions have encouraged tourism policies that prioritize tourist growth and investment expansion rather than development restrictions based on environmental carrying capacity. In this context, ECC more frequently appears as a normative principle within policy documents rather than as an operational instrument with clearly defined development limits, spatial control mechanisms, or development intensity restrictions.

The weak operationalization of ECC demonstrates that Bali's tourism governance continues to face policy implementation challenges, particularly in integrating sustainability principles into tourism destination development control. These conditions reflect a contradiction between sustainability commitments contained in policy frameworks and tourism development practices that remain strongly oriented toward economic growth.

3.5 Policy Gaps in Managing Overtourism

The findings of this study indicate the existence of a policy gap between sustainability principles contained in policy documents and the dynamics of tourism development occurring in practice. Normatively, various tourism and spatial planning policies in Bali have emphasized the importance of sustainable tourism development, environmental protection, and spatial utilization control. However, the continuing increase in tourism development pressure demonstrates that the implementation of these policies has not been fully effective.

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This gap is reflected in the ongoing expansion of tourism amenities, the continued conversion of agricultural land, and the increasing pressure on major tourism areas despite the implementation of various development control regulations. In this context, the sustainability rhetoric contained in policy documents has not been fully translated into operational and effective development control instruments.

One of the primary factors influencing this condition is Bali's high economic dependency on the tourism sector. This dependency has encouraged tourism governance that is more oriented toward economic growth, particularly through increasing tourist arrivals and tourism investment. As a consequence, policies related to development restrictions and environmental carrying capacity control are often difficult to implement consistently because they are perceived as potentially hindering regional economic growth.

In this context, the weak operationalization of Environmental Carrying Capacity demonstrates that sustainability principles have not been fully integrated into tourism development control systems and spatial planning governance. The absence of clearly defined development limits, weak supervision of tourism amenity development, and the continuing process of land use change indicate that environmental carrying capacity has not become a primary basis for tourism development decision making in Bali.

Therefore, overtourism in Bali can be understood not only as a consequence of increasing tourist numbers, but also as a reflection of tourism governance that remains dominated by economic growth orientation and has not been able to effectively integrate Environmental Carrying Capacity principles into tourism destination development control.

CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

This study demonstrates that the phenomenon of overtourism in Bali is not solely associated with increasing tourist numbers, but also reflects the intensifying pressure of tourism development in major tourism areas of South Bali. The growth of international and domestic tourists, accompanied by the expansion of tourism amenities such as hotels, villas, restaurants, and other tourism commercial facilities, has accelerated land use change and increased pressure on infrastructure and the environmental conditions of tourism destinations. In the context of Bali, land use change, particularly the conversion of agricultural land into built-up areas, indicates that tourism growth has significantly transformed the spatial structure of tourism areas.

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The findings of this study indicate that, normatively, the Government of Indonesia and the Provincial Government of Bali have established various policies emphasizing sustainable tourism development and the protection of environmental carrying capacity. Nevertheless, the implementation of these policies continues to face multiple challenges, particularly in translating Environmental Carrying Capacity (ECC) principles into operational development control instruments. Weak control over tourism amenity development, limited mechanisms for restricting development intensity, and the continuing conversion of agricultural land indicate that environmental carrying capacity principles have not yet become the primary basis for tourism development management in Bali.

This study also reveals that Bali's high economic dependency on the tourism sector has encouraged tourism governance that tends to prioritize economic growth, commonly referred to as *growth-first governance*. These conditions make development control and environmental protection policies difficult to implement consistently due to the pressure to maintain tourist growth and tourism investment. In this context, overtourism in Bali can be understood as a reflection of the policy gap between sustainability commitments contained in policy documents and tourism development practices occurring in reality.

Academically, this research contributes to the broader discussion on overtourism by positioning land use change as a spatial indicator for understanding the weak operationalization of Environmental Carrying Capacity within tourism governance. The study demonstrates that land use change does not merely represent regional economic transformation, but can also be used to interpret development pressure and contradictions in the implementation of sustainability policies within rapidly growing tourism destinations.

4.2 Recommendations

The implications of this study highlight the importance of strengthening tourism governance that is more strongly based on environmental carrying capacity and spatial development control:

1. **Strengthen Amenity Controls:** Local governments need to strengthen the implementation of tourism amenity development control policies and improve supervision of spatial utilization.
2. **Operationalize ECC Indicators:** Authorities must integrate Environmental Carrying Capacity indicators into operational and measurable policy instruments.

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3. **Future Research Directions:** Future research may employ quantitative spatial approaches or numerical Environmental Carrying Capacity measurements to deepen understanding of the relationship between tourism growth, land use change, and the sustainability of tourism destinations in Bali.

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