

Managing Overtourism Through Destination Carrying Capacity Policy: Lessons from Bali's Tourism Governance

Pande Kadek Bayu Semara¹, Nyoman Diah Utari Dewi²

Universitas Ngurah Rai, Denpasar, Indonesia^{1,2}

semarabayu4@gmail.com¹,



Article History

Received on 07 January 2026

1st Revision on 15 January 2026

2nd Revision on 05 February 2026

3rd Revision on 19 February 2026

Accepted on 04 March 2026

Abstract

Purpose: This study examines the transformation of carrying capacity concepts into tourism governance policies in Bali amid post-pandemic recovery and increasing sustainability challenges.

Research Methodology: Using qualitative policy-document analysis, this study evaluates statutory regulations, official reports, and secondary literature from 2020–2026 through the integration of the Tourism Area Life Cycle and destination carrying capacity frameworks. The analysis focuses on the Foreign Tourist Levy (*Pungutan Wisatawan Asing*), Nusa Penida's zonation and visitor-quota policies, and regulations governing foreign tourist behavior.

Results: The findings reveal that Bali has adopted several carrying-capacity mechanisms; however, their effectiveness remains constrained by fragmented governance, limited compliance, weak quota enforcement, and the absence of an integrated monitoring system.

Conclusions: The study demonstrates that sustainable tourism governance requires adaptive and coordinated carrying-capacity management rather than isolated regulatory interventions.

Limitations: This study relies on policy documents and secondary sources, limiting insights into stakeholder perceptions and direct environmental outcomes.

Contributions: This research extends tourism governance literature by developing an integrated carrying-capacity framework that combines monitoring systems, differentiated visitor management, regulatory enforcement, and the role of local customary institutions (*desa adat*) in achieving sustainable destination management.

Keywords: *Bali, Carrying Capacity, Destination Management, Overtourism, Tourism Policy*

How to Cite: Semara, P. K. B., & Dewi, N. D. U. (2026). Managing Overtourism Through Destination Carrying Capacity Policy: Lessons from Bali's Tourism Governance. *Jurnal Studi Perhotelan dan Pariwisata*, 4(2), 15-28.

1. Introduction

Tourism has long served as the principal engine of Bali's regional economy, shaping employment, public revenue, and land use across the province. Following the near-total collapse of international travel during the COVID-19 pandemic, Bali experienced what is widely described in the industry as "revenge travel": a sharp rebound in visitation that, within a few years, surpassed pre-pandemic peaks. International arrivals reached 6.33 million in 2024, marginally exceeding the previous record of 6.28 million recorded in 2019 and representing a 20.1 percent increase over the 5.27 million foreign arrivals of 2023. Domestic travel followed a similar trajectory, with 22.64 million domestic trips

recorded in 2024, a 25.3 percent increase over 2019 levels. Provincial authorities have continued to set ambitious visitation targets, aiming for 6.5 million foreign arrivals in 2025, even as officials themselves acknowledge that further growth risks intensifying the very congestion, environmental degradation, and socio-cultural strain that already characterize the island's most visited areas ([BPS-Statistics of Bali Province, 2025](#)).

This tension between tourism expansion and the finite capacity of environmental, physical, and socio-cultural systems places Bali within the broader global debate on overtourism and sustainable destination management. Previous studies have highlighted that uncontrolled tourism growth may generate negative externalities, including resource depletion, overcrowding, declining resident quality of life, and degradation of destination assets ([Butler, 1980](#); [Peeters et al., 2018](#)). Similar challenges have been observed in various international destinations, including Venice, Barcelona, Kyoto, and protected tourism areas such as Komodo National Park, where visitor management policies have been introduced to balance conservation objectives and tourism benefits.

Recent studies have emphasized that overtourism should no longer be understood merely as a problem of excessive visitor numbers, but as a complex governance challenge involving institutional coordination, spatial management, and socio-ecological sustainability. [Ziming \(2026\)](#) argues that overtourism governance research has been largely dominated by a managerial perspective that frames tourism pressure through congestion, visitor density, and destination efficiency. Although this approach has produced practical instruments such as visitor caps, timed-entry systems, pricing mechanisms, dispersal strategies, and crowd monitoring, it may narrow the understanding of overtourism by overlooking broader institutional, political, and socio-ecological dimensions. Therefore, effective overtourism governance requires not only technical interventions but also integrated policy arrangements capable of addressing the structural conditions that generate tourism pressure.

Despite the growing policy activity, academic assessments of how these instruments relate to one another, and whether they constitute a coherent carrying-capacity strategy rather than a set of fragmented responses, remain limited, particularly within the Indonesian tourism governance and public-administration literature. This article addresses this gap by formulating three research questions:

- RQ1:* What policy instruments has the Provincial Government of Bali adopted to manage overtourism and destination carrying capacity between 2023 and 2026?
- RQ2:* How do these instruments align with established theoretical models of tourism carrying capacity and destination life cycle development?
- RQ3:* What institutional and policy-design gaps limit their effectiveness, and what adjustments could strengthen Bali carrying-capacity governance?

To answer these questions, the article proceeds as follows. Section 2 reviews the theoretical literature on tourism carrying capacity, the Tourism Area Life Cycle, and policy instruments for managing overtourism, situating this discussion within Indonesia's own regulatory concept of *daya dukung dan daya tampung lingkungan hidup* (environmental carrying and support capacity) and within the local research tradition at Universitas Ngurah Rai's Magister Administration Publik program. Section 3 outlines the qualitative, document-based research design. Section 4 presents the analysis of three policy instruments: the Foreign Tourist Levy, the Nusa Penida zonation and quota scheme, and behavioral circulars, supplemented by a comparative look at the Komodo National Park quota experience. Section 5 discusses these findings against the theoretical framework and highlights institutional fragmentation and distributive concerns. Section 6 concludes with policy recommendations and directions for further research.

2. Literature Review

2.1 Tourism Carrying Capacity

The concept of carrying capacity entered tourism studies from ecology and range management, where it referred to the maximum population a given environment could sustain without degradation.

[Mathieson and Wall \(1982\)](#), adapted the concept to tourism, defining it as the maximum number of visitors an area can accommodate without causing unacceptable deterioration of the physical, economic, or socio-cultural environment, or an unacceptable decline in visitor satisfaction. This formulation is useful because it decomposes carrying capacity into at least four interrelated dimensions: physical capacity (the finite space, infrastructure, and natural features of a site), environmental or ecological capacity (the tolerance of ecosystems to disturbance), socio-cultural capacity (the tolerance of host communities and their traditions to the presence and behavior of visitors), and economic capacity (the point at which tourism activity begins to crowd out or degrade other economic sectors or raise living costs for residents). A destination may exceed one dimension of capacity well before others become binding, which explains why single-instrument policy responses, such as a visitor levy alone, are rarely sufficient on their own.

Recent empirical studies have further demonstrated that tourism carrying capacity should be understood as a governance mechanism rather than merely a quantitative threshold of visitor numbers. Studies on sustainable tourism destinations indicate that carrying capacity assessment involves the interaction between environmental vulnerability, infrastructure availability, stakeholder participation, and institutional capacity. [Haribudiman et al. \(2023\)](#) emphasize that tourism carrying capacity functions as an important foundation for destination governance because it connects tourism development policies with environmental sustainability objectives. Their study highlights that carrying-capacity-based planning enables policymakers to identify potential negative impacts of tourism growth and formulate appropriate management interventions. Similarly, recent research on Bali demonstrates that carrying capacity analysis should incorporate physical, ecological, and management dimensions, as tourism pressure may exceed destination resilience even when economic benefits continue to increase.

2.2 Tourism Area Life Cycle and Overtourism

[Butler \(1980\)](#), Tourism Area Life Cycle (TALC) model complements the carrying-capacity concept by describing how destinations evolve through stages of exploration, involvement, development, consolidation, stagnation, and eventual decline or rejuvenation. Butler argued that the stagnation stage is typically reached once visitor numbers approach or exceed the destination's carrying capacity, producing symptoms such as environmental, social, and economic problems that erode the destination's original appeal. Left unmanaged, a destination in stagnation risks decline; managed proactively through capacity-based interventions, product diversification, or market repositioning, it can instead be rejuvenated. This framework is directly relevant to Bali, where several sub-destinations, most visibly the southern tourism corridor, display classic stagnation symptoms, including chronic congestion and rising resident-tourist friction, even as aggregate arrival figures continue to climb.

The term overtourism itself gained prominence only in the past decade to describe situations in which the local population's or visitors' quality of life is negatively affected by an excessive concentration of tourists in time and space (UNWTO, 2018). [Milano, Novelli, and Cheer \(2019\)](#) trace overtourism to the confluence of low-cost mobility, digital platform-driven demand concentration, and short-term rental growth, arguing that it is best understood not as a fixed threshold but as a dynamic mismatch between visitor volume, destination capacity, and host community tolerance. A study commissioned by the European Parliament ([Peeters, Gössling, Klijs, Milano, Novelli, Dijkmans, Eijgelaar, Hartman, Heslinga, Isaac, Mitas, Moretti, Nawijn, Papp, & Postma, 2018](#)) catalogued the policy instruments available to destinations facing overtourism, grouping them into demand-management instruments (pricing, taxation, and quotas), supply-management instruments (zoning, infrastructure investment, and dispersal strategies), and demarketing or behavioral instruments (visitor codes of conduct and targeted communication). This typology provides a useful lens for classifying Bali's own emerging policy mix, discussed in Section 4.

2.3 The Indonesian Regulatory Concept of Environmental Carrying and Support Capacity

Indonesian environmental and spatial-planning law provides its own operational vocabulary for carrying capacity through the concept of environmental carrying and support capacity, formalized in

the Regulation of the Minister of Environment Number 17 of 2009 concerning Guidelines for Determining Environmental Carrying and Support Capacity in the Utilization of Natural Resources ([Kementerian Lingkungan Hidup, 2009](#)). This regulatory concept is meant to be embedded in spatial plans issued under Law Number 26 of 2007 concerning Spatial Planning, and it underpins provincial and regency-level spatial plans in Bali, including the Bali Provincial Spatial Plan (RTRW) 2023-2043 and the Klungkung Regency Spatial Plan 2024-2044, both of which are cited as legal bases for tourism zoning in the Nusa Penida archipelago. The persistence of this environmental-carrying-capacity framework in Indonesian law suggests that Bali's tourism-specific policy instruments, discussed below, should ideally be read as an application of a broader, pre-existing legal obligation to manage development within ecological limits, rather than as a wholly new policy innovation.

2.4 Local Research Context: Tourism Policy Studies at Universitas Ngurah Rai

The Magister Administration Publik program at Universitas Ngurah Rai has produced a body of applied research on Balinese tourism policy that speaks directly to the carrying-capacity problem examined in this article, even though none of these studies address the province-wide policy mix explicitly. [Dewi \(2020\)](#) examined the formulation, implementation, and evaluation of the state electricity company's (PLN) blackout-mitigation policy as it relates to Bali's tourism industry, underscoring how infrastructural reliability, itself a component of physical carrying capacity, is treated as a policy variable requiring deliberate government intervention rather than a fixed constraint. [Prajanata, Dewi, and Widnyani \(2024\)](#), studying the Tukad Bindu urban tourism attraction in Denpasar, found that community participation through local tourism-awareness groups (Pokdarwis) was central to maintaining the attraction's environmental quality and visitor appeal, illustrating how socio-cultural and environmental carrying capacity can be managed through decentralized, community-based governance rather than top-down regulation alone.

In a related regional-development study, [Setyawan and Dewi \(2023\)](#) examined tourism development potential in the Petang sub-district of North Badung, showing that agrotourism assets such as coffee plantations and adventure-tourism sites could support a geographic dispersal of Bali's tourism economy away from the already saturated southern corridor. Taken together, this local research tradition supplies two insights that this article builds upon: first, that community-based co-management is a recurring and locally validated instrument for managing tourism's socio-cultural footprint in Bali; and second, that under-tourism-developed areas such as North Badung represent a latent capacity-relief valve that provincial carrying-capacity policy could more deliberately activate ([Dewi et al. 2023](#)). What remains absent from this local literature, and what this article seeks to contribute, is an integrated analysis of the province-wide fiscal, spatial, and normative instruments that Bali has adopted since 2023 specifically to manage overtourism at the destination-carrying-capacity level.

Community-based tourism (CBT) has increasingly been recognized as an important governance approach for sustainable destination management because it positions local communities as active stakeholders in tourism planning, resource management, and benefit distribution rather than merely as recipients of tourism development. [Sutama et al. \(2023\)](#) highlight that CBT can strengthen community participation, preserve local identity, enhance visitor experiences, and support environmental sustainability through locally driven tourism management practices. This perspective reinforces the argument that Bali carrying-capacity governance should extend beyond provincial regulatory instruments by integrating community-based institutions as active partners in monitoring, conservation, and destination management.

Tourism planning plays an essential role in ensuring that destination development is aligned with environmental sustainability, community welfare, and long-term resource management. Strategic tourism development requires an integrated approach that considers destination capacity, infrastructure readiness, stakeholder collaboration, and sustainable utilization of local resources. [Ximenes et al. \(2024\)](#) emphasize that effective tourism development planning should incorporate destination management strategies, infrastructure improvement, community involvement, and institutional coordination to strengthen tourism competitiveness while maintaining sustainability. This

perspective supports the argument that Bali carrying-capacity governance should integrate spatial planning and sustainability-oriented management approaches rather than focusing only on controlling visitor numbers.

3. Research Methodology

This study employs a qualitative policy-document analysis design, which is appropriate for examining how policy problems are constructed, translated into formal instruments, and implemented through institutional arrangements. Document analysis enables researchers to systematically examine written materials, including regulations, government reports, policy documents, and other official records, to generate meaningful interpretations of policy processes and outcomes ([Bowen, 2009](#)).

The qualitative approach is particularly suitable for this study because it focuses on understanding the relationship between policy intentions, regulatory frameworks, and reported implementation practices rather than measuring causal relationships through numerical analysis. Qualitative policy analysis allows researchers to investigate how policy instruments are designed, justified, and operationalized within specific governance contexts ([Owen, 2014](#)). Accordingly, this research examines how Bali tourism carrying-capacity policies have been formulated and implemented in response to overtourism challenges.

Three categories of secondary data were collected and analyzed. First, primary legal instruments, including Bali Provincial Regulation (Perda) Number 6 of 2023 on the Foreign Tourist Levy for the Protection of Balinese Culture and Natural Environment and its amendment under Perda Number 2 of 2025; Governor Regulation (Pergub) Number 2 of 2024 and its amendment under Pergub Number 25 of 2025 on levy-payment procedures; Governor Decree Number 699/03-L/HK/2025 on technical implementation guidelines; Governor's Circular Number 7 of 2025 on conduct guidelines for foreign tourists; the Ministerial zonation decree governing Nusa Penida's marine conservation area; and the Regulation of the Minister of Environment Number 17 of 2009 on environmental carrying-capacity determination. Second, official reports and institutional publications, including the Bali Tourism Office's public statements on levy implementation, the Nusa Penida Development Masterplan 2025-2035 prepared jointly by the Bali Regional Research and Innovation Agency (BRIDA) and the Udayana University Institute for Research and Community Service, and a Parliamentary (DPR RI) legislative analysis of the levy's fiscal and socio-cultural performance. Third, secondary literature and credible news reporting published between 2023 and 2026 documenting implementation figures, compliance rates, and comparative cases, including reporting on the Komodo National Park visitor-quota controversy used here as a comparative case.

Data were analyzed using qualitative content analysis, a systematic approach for interpreting textual and documentary materials by identifying categories, patterns, and relationships relevant to the research objectives ([Elo & Kyngäs, 2008](#); Mayring, 2004). The analysis was structured around an input–process–output–outcome policy framework, which enables the evaluation of policy instruments by examining their regulatory foundations, implementation mechanisms, measurable outputs, and broader policy implications ([Rogers, 2014](#)). Accordingly, each policy instrument was analyzed by identifying its legal basis and stated objectives (input), implementation mechanisms (process), reported coverage or compliance levels (output), and documented or potential contributions to destination carrying-capacity management (outcome).

To enhance analytical credibility, findings from different documentary sources were triangulated wherever possible. Source triangulation strengthens qualitative research by comparing evidence from multiple sources to improve consistency, validity, and interpretive confidence ([Denzin, 2012](#); [Bowen, 2009](#)). For example, information regarding the Foreign Tourist Levy was cross-checked between reports from the Bali Tourism Office and independent legislative analysis produced by the Indonesian House of Representatives (DPR RI).

The study acknowledges that reliance on secondary and administrative data represents an important limitation, as it restricts direct measurement of carrying-capacity indicators, including visitor density,

resource consumption, environmental conditions, and resident perceptions. However, documentary analysis remains valuable for policy research because it provides insight into institutional arrangements, regulatory development, and policy implementation processes ([Bowen, 2009](#)). This limitation is addressed in the concluding section as an opportunity for future empirical research involving primary data collection and destination-level measurement.

4. Results and Discussions

4.1 Fiscal Instrument: The Foreign Tourist Levy (*Pungutan Wisatawan Asing*)

The most visible carrying-capacity-related instrument adopted by the Provincial Government of Bali is the Foreign Tourist Levy, known locally as *Pungutan Wisatawan Asing* (PWA). Its legal basis originates in Bali Provincial Regulation Number 6 of 2023 on the Foreign Tourist Levy for the Protection of Balinese Culture and Natural Environment, subsequently strengthened through Perda Number 2 of 2025, with payment procedures detailed in Governor Regulation Number 2 of 2024, later amended by Pergub Number 25 of 2025, and technical guidelines issued through Governor Decree Number 699/03-L/HK/2025. The levy took effect on 14 February 2024 and requires every foreign visitor, with limited exemptions for diplomatic personnel, on-duty crew, and long-term permit holders, to pay a flat fee of IDR 150,000 (approximately USD 10) once per visit, valid for the duration of their stay for up to sixty days. Payment is processed through the province's Love Bali digital platform, supporting bank transfer, virtual account, credit card, and QRIS payment methods, either before arrival or at dedicated counters at the airport and seaports.

The stated objectives of the levy, as articulated by provincial officials at its launch, are threefold: to fund environmental conservation, cultural preservation, and tourism-infrastructure improvement, and, more indirectly, to encourage a more selective, higher-value visitor profile that eases pressure associated with overtourism. In terms of output, the Bali Provincial Government targeted levy revenue of IDR 360 billion for 2025, and reported realization of approximately IDR 168 billion in the first half of that year, broadly consistent with the annual target trajectory. However, a legislative analysis produced by the DPR RI's parliamentary research body noted that through 2025, only roughly one-third of eligible foreign arrivals were estimated to have paid the levy, reflecting weak enforcement rather than a design flaw in the levy itself, and recommended periodic evaluation of both the flat IDR 150,000 rate and the collection mechanism to determine whether adjustments could improve both compliance and revenue without materially deterring visitation. As of the time of writing, non-payment carries no statutory fine or entry sanction, since a penalty clause proposed in 2024 was never enacted into law, which further limits the levy's practical function as a demand-management tool even as its revenue-generating function has proven durable.

Read against the typology proposed by [Peeters, Gössling, Klijs, Milano, Novelli, Dijkmans, Eijgelaar, Hartman, Heslinga, Isaac, Mitas, Moretti, Nawijn, Papp, and Postma \(2018\)](#), the PWA levy is best classified as a weak demand-management instrument: its flat, low-value fee is unlikely to meaningfully reduce aggregate arrivals, a pattern consistent with the broader finding that small, clearly earmarked visitor fees rarely reduce visitation levels, but it does function as an economic instrument for internalizing part of the environmental and cultural cost that [Milano, Cheer, and Novelli \(2019\)](#) associate with overtourism, provided that collected revenue is transparently reinvested in the affected destinations.

4.2 Spatial Instrument: Zonation and Visitor Quotas in Nusa Penida

A second and more spatially targeted instrument has emerged for the Nusa Penida archipelago (comprising Nusa Penida, Nusa Lembongan, and Nusa Ceningan), an area whose rapid rise as a world-class diving and photography destination has placed acute pressure on its coral reef ecosystems, home to 296 recorded coral species and 576 reef-fish species, including manta rays and the giant sunfish (*mola-mola*). The conservation area has been formally divided into a core conservation zone (covering 468.85 hectares in Pejukutan, Toyapakeh, and Sakti villages), a sustainable-fisheries zone combining traditional fishing (16,915.71 hectares), specialized marine tourism (905.24 hectares), and seaweed cultivation (464.25 hectares), a utilization zone, and a sacred zone reserved for customary and religious use. This zonation, grounded in a scientific carrying-capacity study prior to its designation, restricts diving and snorkeling activity in the core zone, where fish spawning and nursery habitats are concentrated, and channels visitor pressure toward designated utilization areas.

Building on this zonation, the Bali Provincial Government has moved to formalize a retribution (entrance-fee) and e-ticketing system for Nusa Penida, intended both to generate dedicated conservation revenue and to reduce the "leakage" of unregistered visitors that has historically

undermined monitoring efforts. The Nusa Penida Development Masterplan 2025-2035, jointly prepared by the Bali Regional Research and Innovation Agency and Udayana University's Institute for Research and Community Service, explicitly frames uncontrolled visitor growth as a threat to the archipelago's environmental carrying and support capacity (*daya dukung dan daya tampung lingkungan*) and proposes the establishment of daily visitor caps (*kuota wisatawan harian*) at priority sites, alongside integrated village-based waste management and renewable-energy targets. This represents the clearest articulation, at the destination level, of the environmental-carrying-capacity concept defined in Ministerial Regulation Number 17 of 2009 being operationalized into a concrete tourism-management instrument.

Implementation, however, remains at an early and only partially enforced stage. Passenger traffic through Sanur Harbor, the main gateway to Nusa Penida, has been reported at roughly 7,000 people per day during peak holiday periods, well above the 3,000 per day typical of ordinary weekdays, underscoring the scale of visitor pressure the zonation and quota system is intended to manage. Provincial officials overseeing the conservation area have acknowledged that socialization of the e-ticketing system was delayed by the pandemic and remains an ongoing process rather than a fully operational control mechanism, meaning that, at present, zonation functions more as a spatial-planning designation than as a strictly enforced visitor cap.

4.3 Comparative Case: The Quota Dilemma in Komodo National Park

A useful comparative case for Nusa Penida's emerging quota system is Komodo National Park in West Manggarai Regency, which has pursued a more advanced, though contested, visitor-quota policy. With foreign arrivals to the Labuan Bajo gateway rising from roughly 60,770 in 2022 to 239,149 in 2023, and total visits reaching about 500,000 in 2025, peak-season demand at the park's three flagship islands has been estimated at 1,250 to 1,500 visits per day. Regional officials have calculated that capping visits at roughly 1,000 per day, turning away an estimated 500 visitors during peak periods, could forgo as much as IDR 250 million in entrance-ticket revenue per day, or approximately IDR 30 billion over a four-month peak season, illustrating a direct and quantifiable trade-off between conservation-driven capacity limits and short-term tourism revenue.

Local tourism-industry stakeholders in Labuan Bajo have further criticized the use of static, fixed-number quotas as insufficiently responsive to dynamic ecological conditions, visitor patterns, and local economic interests. Instead, they have advocated zoning-based management supported by continuous monitoring and periodic policy adjustment. This perspective reflects the growing recognition that tourism carrying capacity should be understood as an adaptive governance process rather than a fixed numerical threshold, requiring integration of ecological conditions, visitor experience, infrastructure capacity, and stakeholder interests ([González et al., 2018](#); [Koens et al., 2018](#); [Peeters et al., 2018](#)). Effective visitor management increasingly depends on data-based monitoring systems, flexible zoning mechanisms, and adaptive policy responses that allow destinations to adjust management strategies according to changing tourism pressures ([Seraphin et al., 2018](#); [Hall, 2019](#)). For Nusa Penida, which remains at an earlier stage of quota implementation compared with Komodo National Park, the Komodo experience provides an important lesson that visitor-cap policies require not only scientifically grounded limits but also institutional arrangements capable of addressing economic dependency, stakeholder acceptance, and governance challenges associated with restricting tourism growth ([Butler & Dodds, 2022](#); [Bang & Jang, 2025](#)).

4.4 Normative Instrument: Behavioral Regulation of Foreign Tourists

The third instrument in Bali's emerging carrying-capacity policy mix addresses socio-cultural capacity directly through behavioral regulation. On 24 March 2025, Governor Wayan Koster issued Circular Letter Number 7 of 2025, titled "New Guidelines for Foreign Tourists during Their Stay in Bali," updating and reinforcing an earlier 2023 circular. The circular responds to a recurring pattern of incidents in which foreign visitors were reported to have disrespected sacred sites, violated traffic laws while riding motorbikes without proper licenses or helmets, or engaged in unauthorized informal work. As a circular rather than a regional regulation (Perda) or statute, this instrument carries persuasive and administrative weight, for example through immigration coordination and

accommodation-sector compliance, but lacks the direct legal sanctioning power of a formally enacted regulation, positioning it as what [Peeters et al. \(2018\)](#) classify as a demarketing or behavioral instrument rather than a binding regulatory one.

4.5 Spatial Concentration and Uneven Distribution of Tourism Capacity

A structural feature of Bali's tourism economy complicates all three instruments described above: the heavy geographic concentration of accommodation supply in the southern regency of Badung. Spatial concentration of tourism infrastructure is a common challenge in mature destinations, where investment and visitor demand accumulate in specific areas, creating uneven development patterns and increasing pressure on local resources ([Koens et al., 2018](#); [Milano et al., 2019](#)). As of 2024, 70 percent of Bali's star-rated hotels were located in Badung, which encompasses Kuta, Nusa Dua, and Canggu, while 32 percent of the province's 3,582 non-star accommodations were also concentrated there, far exceeding any other regency ([BPS Bali, 2025](#)). Because accommodation spending represents an estimated 39 percent of the average visitor's total expenditure of approximately USD 1,639 per trip, this concentration means that a disproportionate share of tourism revenue, and of the associated infrastructural and environmental burden, remains locked into an already saturated corridor. Tourism governance studies highlight that uniform carrying-capacity policies applied at the provincial level may have limited effectiveness when tourism intensity varies significantly between locations ([Peeters et al., 2018](#); [Butler & Dodds, 2022](#)). Therefore, achieving a genuine island-wide carrying-capacity strategy requires spatial dispersal policies, destination diversification, and stronger regional planning mechanisms to reduce pressure on saturated tourism areas while expanding opportunities in less-developed regions ([Hall, 2019](#)).

4.6 Discussion

Read through the lens of [Butler \(1980\)](#) Tourism Area Life Cycle, Bali's southern tourism corridor exhibits several classic symptoms associated with the stagnation stage: chronic traffic congestion, environmental stress on water and waste systems, and rising friction between hosts and visitors, even though aggregate arrival statistics continue to suggest a destination still in growth. This apparent contradiction is consistent with [Butler \(1980\)](#) own observation that different sub-areas of a single destination can occupy different life-cycle stages simultaneously; while South Bali shows stagnation symptoms, Nusa Penida remains closer to a development or early-consolidation stage, and North Badung remains largely in an exploration stage. This heterogeneity implies that a single, island-wide policy instrument is structurally mismatched to the problem: what South Bali requires is capacity-based demarketing and product diversification consistent with a rejuvenation strategy, whereas Nusa Penida requires the kind of proactive, science-based capacity ceiling that its zonation scheme is only beginning to operationalize, and North Badung requires demand-generation and infrastructure investment rather than restriction.

Assessed against the four-part carrying-capacity typology of [Mathieson and Wall \(1982\)](#), Bali's current instrument mix is unevenly developed. The PWA levy operates primarily on the economic-capacity dimension, and, as the DPR RI legislative analysis suggests, its current flat, low rate is unlikely to function as an effective volume-moderation tool, though it does generate dedicated revenue for environmental and cultural programs, provided disbursement remains transparent and reaches the destinations bearing the greatest tourism burden. The Nusa Penida zonation and proposed quota system speaks most directly to environmental and physical capacity, reflecting the underlying Ministerial Regulation Number 17 of 2009 framework, but its practical enforcement still lags its regulatory design, as illustrated by continuing socialization delays and the absence, at the time of writing, of a fully operational daily quota. The behavioral circular addresses socio-cultural capacity, the dimension most closely tied to host-community tolerance emphasized by [Milano, Novelli, and Cheer \(2019\)](#), but as a non-statutory instrument it depends heavily on cooperative enforcement by immigration authorities, accommodation providers, and tour operators rather than on independent legal sanction.

The Komodo National Park comparison illustrates a structural challenge that Bali's own quota ambitions for Nusa Penida will likely confront: a genuinely binding visitor cap generates a direct and

politically visible revenue trade-off for local government and tourism businesses, which creates strong incentives to under-enforce nominal quotas once a headline policy has been announced. This suggests that Bali's carrying-capacity policy would benefit from building fiscal transition mechanisms, such as phased quota tightening paired with premium pricing for high-demand periods, rather than relying on a fixed numeric cap alone, echoing the call from Labuan Bajo stakeholders for dynamic, data-driven zoning over static quotas.

A further institutional complication is the fragmentation of authority across provincial, regency, and customary governance layers. The PWA levy is a provincial instrument; Nusa Penida's spatial plan draws legal authority from both provincial and Klungkung regency regulations, in addition to a national-level marine-conservation zonation decree; and much of the day-to-day management of tourism attractions, as the Tukad Bindu case documented by [Prajanata, Dewi, and Widnyani \(2024\)](#), demonstrates, occurs through *desa adat* institutions and community tourism-awareness groups operating largely outside the formal instruments examined in Section 4. This fragmentation is not unique to Bali, but it does mean that an integrated, province-wide carrying-capacity index of the kind implied by the national environmental-carrying-capacity regulation does not yet appear to exist in practice; each instrument currently generates and reports its own, largely disconnected, data (levy revenue figures, harbor passenger counts, hotel-distribution statistics), rather than feeding into a single monitoring framework capable of triggering coordinated policy adjustment across fiscal, spatial, and normative instruments simultaneously.

Finally, the concentration of accommodation capacity in Badung Regency raises a distributive equity question that pure carrying-capacity analysis can understate if applied only at the island-wide aggregate level. Tourism impacts are often unevenly distributed across destinations, with some areas experiencing excessive environmental and infrastructural pressure while others remain economically underutilized ([Koens, Postma, & Papp, 2018](#); [Lin, Wang, & Yeh, 2019](#)). Because tourism revenue and the associated environmental and infrastructural burden are both disproportionately concentrated in the south, uniform province-wide instruments such as the flat PWA levy do not, on their own, correct this imbalance. Recent studies on tourism carrying capacity emphasize that effective destination management requires spatially differentiated approaches that consider variations in resource availability, visitor intensity, and local socio-economic conditions rather than relying solely on aggregate thresholds ([Bian, Li, & Xu, 2021](#); [Leka, Lagarias, Panagiotopoulou, & Stratigea, 2021](#)). The North Badung agrotourism case examined in the local MAP UNR literature suggests that under-tourism-developed regencies possess latent capacity that could relieve pressure on the southern corridor if paired with deliberate promotional and infrastructural investment, positioning spatial dispersal as a complementary, rather than alternative, strategy to the direct carrying-capacity instruments discussed above. Tourism redistribution strategies have increasingly been recognized as an important policy response to overtourism by encouraging visitor flows toward secondary destinations and expanding the geographic distribution of tourism benefits ([Koens et al., 2018](#); [Peeters, Gössling, Klijs, Milano, Novelli, Dijkmans, Eijgelaar, Hartman, Heslinga, Isaac, Mitas, Moretti, Nawijn, Papp, & Postma, 2018](#)).

4.6.1 Toward a Coherent Carrying-Capacity Policy Architecture

Taken together, the three instruments examined in this article can be understood not as a deliberately designed policy architecture but as a set of sequential, largely reactive responses to specific crises: the levy emerged from a general concern about under-funded conservation and cultural preservation; the Nusa Penida zonation emerged from documented reef degradation associated with unregulated diving and snorkeling; and the behavioral circular emerged from repeated, publicized incidents of tourist misconduct. This reactive sequencing reflects a common pattern in destinations transitioning from rapid tourism expansion toward more mature and capacity-constrained development stages, where governance responses often emerge after environmental, social, or infrastructural pressures become increasingly visible ([Milano et al., 2019](#); [Peeters et al., 2018](#)). Such policy evolution should not necessarily be interpreted as evidence of governance failure, as tourism destinations frequently adapt their management approaches incrementally in response to changing visitor pressures, stakeholder concerns, and sustainability challenges ([Koens et al., 2018](#); [Javed & Tučková, 2020](#)). Rather, it

indicates a transition toward more adaptive forms of destination governance, where policy instruments are progressively adjusted to address emerging carrying-capacity constraints and long-term sustainability objectives ([Hall, 2019](#)).

However, the absence of a single, overarching provincial carrying-capacity strategy document that formally links the levy's fiscal targets, Nusa Penida's spatial quotas, and the province-wide behavioral circular into one accountability framework means that policymakers currently lack a mechanism to identify, in real time, which dimension of carrying capacity (physical, environmental, socio-cultural, or economic) is becoming binding in which sub-destination, and therefore which instrument should be tightened first. A coherent architecture would formally nest all three instruments under a single carrying-capacity monitoring authority, ideally attached to the Bali Tourism Office in coordination with the Regional Research and Innovation Agency (BRIDA), tasked with publishing an annual carrying-capacity status report disaggregated by sub-destination.

The customary village system deserves particular emphasis in this proposed architecture, because it already performs, informally, many of the monitoring and enforcement functions that a formal carrying-capacity authority would otherwise need to build from scratch. Community-based tourism initiatives demonstrate that local participation and community institutions can contribute to sustainable destination management by strengthening environmental stewardship and improving visitor experiences ([Ernawati et al., 2017](#)). Balinese customary villages hold recognized authority over local land use, ceremonial calendars, and increasingly, tourism-related conduct within their territory, and the Tukad Bindu case discussed in Section 2.4 demonstrates that community-based groups operating under or alongside desa adat structures can sustain environmental quality and visitor satisfaction without heavy reliance on provincial enforcement capacity. Formally recognizing desa adat institutions as co-regulators, rather than passive implementers, of provincial carrying-capacity policy would likely improve both the legitimacy and the on-the-ground enforceability of instruments such as the behavioral circular, which currently depends on cooperation from actors, including immigration officers and accommodation businesses, who are physically distant from the point of tourist-host interaction.

4.6.2 Balancing Conservation Objectives with Local Economic Dependence

A recurring tension across all the instruments reviewed in this article is the balance between conservation-driven capacity limits and the immediate economic interests of tourism-dependent local businesses and, indirectly, provincial and regency revenue targets. The Komodo case makes this tension unusually explicit through its quantified revenue-forgone estimate, but the same underlying dynamic is present, if less visibly quantified, in Bali's own instruments: a genuinely enforced PWA levy compliance regime would likely generate revenue substantially above the reported first-half 2025 realization, yet doing so would require enforcement investments and potentially face resistance from segments of the travel trade accustomed to lower effective compliance; a genuinely binding Nusa Penida quota would likely reduce the volume of day-trip boat and dive operators currently active in the archipelago, again generating short-term local economic resistance even if it protects the longer-term ecological asset on which that same economy depends. Policymakers should therefore treat the political economy of enforcement, not merely its technical or legal design, as a first-order variable in carrying-capacity policy, since even a well-designed instrument that is administratively simple to circumvent, as the PWA levy currently appears to be for roughly two-thirds of eligible visitors, will underperform its stated objectives regardless of how carefully its underlying rate or zonation boundaries were calculated.

5. Conclusions

5.1 Conclusion

This study concludes that Bali has undergone a significant transformation in tourism governance by shifting from a growth-oriented approach toward a carrying-capacity-based management framework following the post-pandemic surge in international arrivals. The provincial government has implemented three main policy instruments: the Foreign Tourist Levy (*Pungutan Wisatawan Asing/PWA*) as a fiscal mechanism, the Nusa Penida zonation and visitor-quota scheme as a spatial management approach, and gubernatorial circulars regulating foreign tourist behavior as a normative

instrument. These policies demonstrate an increasing awareness of the need to balance tourism growth with environmental, social, and cultural sustainability. However, their effectiveness remains constrained by fragmented implementation, limited enforcement capacity, uneven tourism distribution, and the absence of an integrated, data-driven carrying-capacity monitoring system. Therefore, Bali requires a more coordinated and adaptive governance approach that combines comprehensive monitoring mechanisms, destination-specific management strategies, stronger regulatory implementation, and greater involvement of local communities in ensuring sustainable tourism development.

5.2 Research Limitations

This study has several limitations. First, the research relies primarily on policy documents, official reports, and secondary literature, which limits the ability to directly measure actual environmental conditions, community responses, tourist behavior, and the effectiveness of policy implementation at the destination level. Second, this study focuses on three major carrying-capacity instruments, namely the Foreign Tourist Levy, Nusa Penida zonation and quota system, and foreign tourist behavioral regulations, while other supporting policies related to transportation, waste management, infrastructure capacity, and resource management are not extensively examined. These limitations indicate the need for further empirical studies using primary data and broader analytical perspectives.

5.3 Suggestions and Directions for Future Research

Future research should develop an integrated carrying-capacity measurement framework that combines environmental, social, infrastructure, and visitor-management indicators at the destination level. Further studies should evaluate the long-term effectiveness of the Foreign Tourist Levy, including compliance patterns, revenue allocation, and its influence on tourist behavior. Research comparing Bali with other tourism destinations facing similar challenges would also provide valuable insights into balancing conservation objectives and economic interests. In addition, future studies should further explore the role of local communities, including customary institutions and tourism-awareness groups, in supporting participatory tourism governance. Such research can contribute to the development of more inclusive, adaptive, and sustainable tourism management strategies in Bali and other destinations.

Acknowledgement

The authors would like to express their sincere gratitude to Universitas Ngurah Rai, Denpasar, Indonesia, for providing academic support and research facilities throughout the completion of this study. The authors also acknowledge the contributions of colleagues and researchers who provided valuable insights, discussions, and constructive feedback during the research process. Appreciation is extended to all parties who supported the collection and analysis of relevant policy documents and secondary data used in this study. The authors are fully responsible for the content, findings, and conclusions presented in this article.

Author Contributions

PKBS contributed to the conceptualization, research design, methodology, data analysis, and drafting of the initial manuscript. NDU contributed to the supervision, validation of research findings, critical review, and refinement of the manuscript. Both authors have read and approved the final version of the manuscript.

References

- Bang, D., & Jang, S. (2025). Reframing carrying capacity: A visitor-oriented approach. *Annals of Tourism Research*, 115, 104022. <https://doi.org/10.1016/j.annals.2025.104022>
- Bian, J., Li, W., & Xu, H. (2021). Tourism carrying capacity reconceptualization: Modelling and management of destinations. *Journal of Destination Marketing & Management*, 21, 100638. <https://doi.org/10.1016/j.jdmm.2021.100638>
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40. <https://doi.org/10.3316/QRJ0902027>
- BPS-Statistics of Bali Province. (2025). *Bali Province Tourism Statistics 2025*.

- Butler, R. W. (1980). The concept of a tourist area cycle of evolution: Implications for management of resources. *The Canadian Geographer*, 24(1), 5-12. <https://doi.org/10.1111/j.1541-0064.1980.tb00970.x>
- Butler, R., & Dodds, R. (2022). Overcoming overtourism: A review of policy responses and destination management strategies. *Tourism Review*, 77(3), 832-844.
- Denzin, N. K. (2012). Triangulation 2.0. *Journal of Mixed Methods Research*, 6(2), 80-88. <https://doi.org/10.1177/1558689812437186>
- Dewi, N. D. U. (2020). Perumusan, implementasi serta evaluasi kebijakan Perusahaan Listrik Negara (PLN) pemadaman listrik terhadap industri pariwisata di Bali [Formulation, implementation, and evaluation of the State Electricity Company's blackout policy toward the tourism industry in Bali]. *Widya Publika: Jurnal Ilmiah Multidisiplin Kebijakan dan Hubungan Publik*.
- Dewi, N. L. Y., Supriyono, B., Wijaya, A. F., & Rochmah, S. (2023). Local wisdom-based sustainable tourism village development collaboration in Badung regency. *International Journal of Science and Society*, 5(3), 134-143. <https://doi.org/10.54783/ijssoc.v5i3.724>
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- Ernawati, N. M., Sanders, D., & Dowling, R. (2017). Host–guest orientations of community-based tourism products: A case study in Bali, Indonesia. *International Journal of Tourism Research*, 19(3), 367-382. <https://doi.org/10.1002/jtr.2119>
- González, A., Coromina, L., & Galí, N. (2018). Overtourism: Residents' perceptions of tourism impact as an indicator of resident social carrying capacity. *Tourism Review*, 73(3), 277-296. <https://doi.org/10.1108/TR-08-2017-0138>
- Hall, C. M. (2019). Constructing sustainable tourism development: The 2030 agenda and the managerial ecology of sustainable tourism. *Journal of Sustainable Tourism*, 27(7), 1044-1060. <https://doi.org/10.1080/09669582.2018.1560456>
- Haribudiman, I., Berliandaldo, M., & Fasa, A. W. H. (2023). Implications of the role of tourism carrying capacity in the development of sustainable tourism destinations. <https://doi.org/10.47608/jki.v17i22023.272-292>
- Javed, M., & Tučková, Z. (2020). The role of government in tourism competitiveness and tourism area life cycle model. *Asia Pacific Journal of Tourism Research*, 25(9), 997-1011. <https://doi.org/10.1080/10941665.2020.1819836>
- Kementerian Lingkungan Hidup. (2009). *Peraturan menteri lingkungan hidup nomor 17 tahun 2009 tentang pedoman penentuan daya dukung dan daya tampung lingkungan hidup dalam pemanfaatan sumber daya alam [Ministerial Regulation on guidelines for determining environmental carrying and support capacity]*.
- Koens, K., Postma, A., & Papp, B. (2018). Is overtourism overused? Understanding the impact of tourism in a city context. *Sustainability*, 10(12), 4384. <https://doi.org/10.3390/su10124384>
- Leka, A., Lagarias, A., Panagiotopoulou, M., & Stratigea, A. (2021). Development of a tourism carrying capacity index (TCCI) for sustainable management of coastal areas in Mediterranean islands. *Ocean & Coastal Management*, 212, 105978. <https://doi.org/10.1016/j.ocecoaman.2021.105978>
- Lin, C. H., Wang, W. C., & Yeh, Y. I. (2019). Spatial distributive differences in residents' perceptions of tourism impacts in support for sustainable tourism development.
- Mathieson, A., & Wall, G. (1982). Tourism: Economic, physical and social impacts. In U. Flick, E. von Kardorff, & I. Steinke (Eds.), *Longman. Mayring, P. (2004). Qualitative content analysis. In U. Flick, E. von Kardorff, & I. Steinke (Eds.), A.*
- Milano, C., Novelli, M., & Cheer, J. M. (2019). Overtourism and tourismphobia: A journey through four decades of tourism development, planning and local concerns. *Tourism Planning & Development*, 16(4), 353-357.

- Milano, C., Cheer, J. M., & Novelli, M. (2019). *Overtourism: Excesses, discontents and measures in travel and tourism*.
- Owen, G. T. (2014). Qualitative methods in higher education policy analysis: Using interviews and document analysis. *The Qualitative Report*, 19(26), 1-19. <https://doi.org/10.46743/2160-3715/2014.1211>
- Peeters, P., Gössling, S., Klijs, J., Milano, C., Novelli, M., Dijkmans, C., Eijgelaar, E., Hartman, S., Heslinga, J., Isaac, R., Mitas, O., Moretti, S., Nawijn, J., Papp, B., & Postma, A. (2018). Research for TRAN Committee: Overtourism - impact and possible policy responses. *European Parliament, Policy Department for Structural and Cohesion Policies*.
- Prajanata, I. N. O., Dewi, N. D. U., & Widnyani, I. A. P. S. (2024). Partisipasi masyarakat dalam pengelolaan daya tarik wisata Tukad Bindu di Kota Denpasar [Community participation in managing the Tukad Bindu tourist attraction in Denpasar City]. *Publika: Jurnal Ilmu Administrasi Publik*, 10(1), 57-66. <https://doi.org/10.25299/jiap.2024.16234>
- Rogers, P. J. (2014). Theory of change Methodological Briefs: Impact Evaluation No. 2. *UNICEF Office of Research*.
- Seraphin, H., Sheeran, P., & Pilato, M. (2018). Over-tourism and the fall of Venice as a destination.
- Setyawan, I. P. G., & Dewi, N. D. U. (2023). Pengembangan pariwisata di Badung Utara (Study kasus Kecamatan Petang Kabupaten Badung). *Strukturasi: Jurnal Ilmiah Magister Administrasi Publik*, 6(1), 1-10. <https://doi.org/10.31289/strukturasi.v6i1.2727>
- Sutama, I. K. G., Dewi, N. D. U., & Rahayu, L. R. (2024). Community based tourism sebagai salah satu konsep pengembangan pariwisata. *Jurnal Studi Perhotelan dan Pariwisata*, 2(1), 47-.
- Ximenes, R., Dewi, N. D. U., & Widnyani, I. A. P. S. (2024). Strategic tourism development by the municipal government of Baucau, Timor-Leste. *Jurnal Studi Pemerintahan dan Akuntabilitas*, 4(1), 29-41. <https://doi.org/10.35912/jastaka.v4i1.2358>
- Ziming, L. (2026). Beyond managerialism: A critical review of overtourism governance and the chinese challenge. *Cadernos de Geografia*, 53, 247-263. <https://doi.org/10.14195/0871-16235311>