

DEVELOPMENT OF SPIRITUAL TOURISM OF PENGLUKATAN AT TIRTA EMPUL TEMPLE AS A BALINESE CULTURAL HERITAGE

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Abstract

Spiritual purification tourism (*melukat*) at Tirta Empul Temple has expanded rapidly, strengthening local livelihoods while generating overtourism pressures that threaten ritual sacredness, customary space, and environmental carrying capacity. This study aims to describe preservation dynamics, economic effects, and visitor-governance challenges, and to derive policy-relevant recommendations. Theoretical framing draws on spiritual-cultural tourism, the Tri Hita Karana value system, and destination governance and carrying-capacity perspectives. A descriptive qualitative design was employed, combining two weeks of participant observation, semi-structured in-depth interviews with 15 purposively selected key informants, and document analysis of regional regulations and levy records. Data were analysed iteratively using Miles and Huberman's procedures (reduction, display, conclusion drawing), supported by source/method triangulation and member checking. Findings indicate a trade-off between ritual authenticity and market-driven commodification, alongside SMEs' dependence on visitor flows. The study proposes a zoning framework and SWOT-based strategy, including time-slot digital quotas, strengthened ritual etiquette SOPs, and conservation-oriented revenue allocation.

Keywords: Tirta Empul Temple, Tri Hita Karana, Overtourism.

A. INTRODUCTION

Drawing on the growing pressure of visitor flows at cultural-spiritual destinations, this study focuses on how sacred sites can remain genuinely sacral while also being managed sustainably as tourist density increases. Specifically, the locus of analysis is Pura Tirta Empul in Tampaksiring, which functions both as a core node for the *melukat* purification ritual and as a major magnet for spiritual tourism. A number of earlier studies have highlighted visitor experience, satisfaction, and the branding of spiritual tourism at Tirta Empul; however, they have not sufficiently clarified *operational* mechanisms for controlling visitor flows and safeguarding environmental quality especially the protection of sacred water. This difference in emphasis underpins the study's originality: it seeks to formulate a management model that integrates local values, sacred spatial zoning, and measurable visitation-regulation instruments. Accordingly, the objective of this research is to develop a realistic, measurable, and cross-actor strategy for managing spiritual tourism at Tirta Empul (customary village/banjar, government, tourism stakeholders) without compromising the site's sacredness.

Globally, the expansion of cultural urban tourism often concentrates visitation in sensitive spaces, which is why "overtourism" is increasingly understood as a destination governance issue rather than merely a promotion-related problem (World Tourism Organization UNWTO et al., 2018). Interestingly, overtourism is not synonymous with "large

numbers of tourists”; instead, it arises when spatial capacity, experiential quality, and community social acceptance are no longer in balance (Koens et al., 2018). The concept of carrying capacity is therefore used to set acceptable limits of use that do not degrade environmental quality, tourist satisfaction, or host-community comfort (O’Reilly, 1986). However, these limits are difficult to operationalize when destinations lack concrete flow-regulation instruments (e.g., timed entry, real-time monitoring, and cross-actor coordination), making smart governance approaches increasingly relevant for cultural heritage sites (Mandić, 2021). In the same vein, contemporary Tourism Carrying Capacity (TCC) models emphasize territorial–infrastructural and ecological indicators to translate “physical” limits into more realistic “effective” limits at heritage sites (Bencardino et al., 2025).

In the Balinese context, UNESCO underscores that the Subak cultural landscape is a manifestation of Tri Hita Karana, binding spiritual, social, and ecological dimensions within an integrated system of water governance and agricultural landscape management (UNESCO World Heritage Centre, 2012). At the same time, UNESCO also notes the vulnerability of terraced landscapes and sacred-site settings to socio-economic change, including development pressures linked to tourism (UNESCO World Heritage Centre, 2012). Official data indicate that international visitor arrivals directly to Bali in July 2025 reached 697,107 visits, suggesting that pressures on cultural–spiritual attraction nodes may be intensifying again (Badan Pusat Statistik Provinsi Bali, 2025). From a regulatory perspective, Bali Provincial Regulation (Perda) No. 2 of 2012 positions Tri Hita Karana as a guiding principle for destination development, yet its implementation still requires operational indicators that are measurable at the site level (Pemerintah Provinsi Bali, 2012). Notably, epigraphic and conservation studies stress that Pura Tirta Empul is connected to the Manukaya Inscription and constitutes an important element of the Pakerisan landscape, which makes the protection of sacredness and environmental carrying capacity a strategic agenda (Sutejo et al., 2025).

At present, Pura Tirta Empul faces an intensification of visitation that is not always commensurate with the capacity of sacred space and the comfort of ritual practice, particularly during peak hours. The *melukat* ritual, which ideally is performed in a contemplative and reverent manner, often confronts mass visitation patterns resembling tourism queues, rendering the spiritual experience vulnerable to dilution. Meanwhile, increased tourism activity adds pressure on the cleanliness of the spring and spout areas, waste management, and the quality of water used for ritual purposes. Because management practices remain largely manual, visitor-flow controls (quotas, time slots, behavioral zoning, and rules of conduct) tend to be reactive rather than preventive. This situation calls for a more integrated management strategy one that safeguards sacredness, organizes visitor flows, and protects the environment through measurable instruments that can be jointly implemented by local actors and government.

Karmini et al. (2020) interpret Pura Tirta Empul not merely as a cultural tourism destination, but as a “learning space” that genuinely operates at the level of lived experience: ritual practice, sacred ethics, and encounters across identities mean that visitation need not stop at consuming attractions, but can function as tangible multicultural education especially for younger generations who, interestingly, often construct cultural understanding through a combination of direct experience and exposure to digital content. It is also worth noting that this educational value runs in parallel with opportunities for local entrepreneurship when service chains (guides, souvenir MSMEs, culinary services, transport, and experience packages) are connected to cyber-based promotion that expands reach while accelerating the circulation of destination information; within the broader contemporary literature, digital promotion does not have to be framed merely as a way of “inviting” tourists, because it can

also function as an instrument for managing visitation experiences for example, via real-time information and crowd-density signals thereby helping heritage governance become more adaptive and sustainable (Shen, 2025). However, such effectiveness is not automatic, since the quality of narrative (digital storytelling) becomes decisive, particularly when young audiences treat cultural authenticity as a prerequisite for engagement (Kasemsarn & Nickpour, 2025). Consistent with this, social-media promotion strategies such as discounts, giveaways, or community-based campaigns have been shown to strengthen the brand equity of heritage destinations, although their effects depend on context and execution (Crespo-Almendros et al., 2023; Prados-Peña et al., 2022). For this reason, strengthening cyber-based promotion for Tirta Empul in Bali is most defensible when positioned as both knowledge curation (multicultural interpretation sensitive to a sacred context) and an ethical “market bridge” for local entrepreneurs; and here, caution becomes essential, given evidence that endorsement tends to be more effective when promotional figures are perceived to possess adequate cultural understanding (Zhang et al., 2025), and when social media marketing is translated into an operational framework rather than a mere routine of posting content that is measurable and consistent (Pahor Zvanut & Zabukovec Baruca, 2025).

From the perspective of tourist behavior, Octaviyani et al. (2022) show that push–pull factors in *melukat* ritual tourism are associated with satisfaction, and that satisfaction becomes a key pathway driving revisit loyalty. Meanwhile, using the AKIELS framework, Fathiarani and Mihardja (2024) argue that spiritual tourism branding at Tirta Empul is shaped by a sequence of awareness knowledge interest emotion loyalty satisfaction, which in practice ties spiritual experience to marketing communication. These studies consistently underline the power of authentic experience and spiritual narratives in motivating visitation; nevertheless, the issues of flow control and environmental protection have not yet been positioned as central design variables of governance. Consequently, there remains clear space for research that not only explains “why people come,” but also specifies “how sacred sites are managed” so that visitation burdens do not erode sacredness and carrying capacity.

In terms of continuity, this study, like prior research, positions Tirta Empul as a spiritual tourism locus that intertwines ritual practice, experience, and the dynamics of the local economy. Earlier studies help map the demand side: motivation, satisfaction, loyalty, and how branding shapes public perceptions. The difference is that this study does not stop at experience and marketing; instead, it places visitor-flow regulation, sacred-space rules, and environmental quality at the core of sustainability challenges. Moreover, it focuses on developing operational indicators that can serve as the basis for decisions for instance, quota/time-slot arrangements, behavioral zoning, and monitoring of cleanliness and water quality. In this way, the research aims to bridge the gap between normative local values and governance instruments that can be practically executed on the ground.

The originality of this research lies in formulating a measurable, indicator-based management model for spiritual tourism that explicitly integrates Tri Hita Karana with sacred spatial planning and the need for visitor-flow regulation. The proposed model does not merely map actors (customary village/banjar, site managers, government, business actors), but also designs coordination mechanisms and realistic standard operating procedures suited to a living sacred site. A further novelty is the emphasis on visitation-control instruments (quotas, time slots, behavioral zoning) aligned with environmental protection indicators (cleanliness, waste, and water quality), so that sustainability does not remain a slogan. Accordingly, the study’s contribution is not only conceptual; it offers an implementable framework that can be used for periodic evaluation. Ultimately, this research proposes a perspective that “stitches together” spiritual experience, governance, and environmental protection into a single micro-policy design at the site level.

The urgency of this research is reinforced by the persistently high trend of international arrivals to Bali, suggesting that pressure on cultural spiritual attractions may increase again in the near future. At the same time, UNESCO has emphasized the vulnerability of Bali's cultural landscape to development and tourism pressures, making governance strengthening a non-negotiable requirement. Regional regulation has affirmed Tri Hita Karana as the basis for cultural tourism, yet without site-level operational indicators, implementation often depends on routine practices and short-term responses. If this pattern continues, the risks extend beyond declining service quality to include the erosion of sacredness and rising environmental burdens that could undermine the social legitimacy of management. Therefore, this study is needed to provide a measurable, accountable policy basis that can be directly translated into shared management standards.

The objectives of this study are to identify the current conditions of visitation management and their impacts on spatial sacredness, ritual experience, and environmental quality at Pura Tirta Empul. It also aims to develop a set of Tri Hita Karana based operational indicators that can be used to assess management sustainability at the site level. Furthermore, the study targets the formulation of realistic visitor-flow regulation strategies (e.g., quotas/time slots, behavioral zoning, and rules of conduct) by considering spatial capacity and ritual comfort. Another objective is to design cross-actor collaboration mechanisms (customary village/banjar, government, tourism stakeholders) so that implementation is not fragmented. Ultimately, the research is expected to produce policy recommendations and SOPs that can be adopted as a model for sustainable spiritual tourism management in comparable sacred sites across Bali

B. LITERATURE REVIEW

Tourism Carrying Capacity and Overtourism

Tourism carrying capacity refers to the maximum level of visitation that a destination can accommodate without generating “unacceptable” negative impacts on the environment, socio-cultural life, or the quality of the visitor experience. This concept matters because carrying capacity is, in practice, multidimensional covering physical, ecological, social, and psychological capacities so it cannot be reduced to a simple headcount of “how many people” arrive. In urban settings and at heritage sites, the overtourism discourse emerges when growth in visitation exceeds the destination's governance capacity and infrastructure, thereby diminishing residents' quality of life while simultaneously eroding visitor comfort. Interestingly, the overtourism literature emphasizes that the core problem often lies in the absence of flow management (e.g., peak-hour concentration, bottlenecks, and visitor behavior), rather than the destination's popularity per se. Accordingly, a carrying-capacity framework enables your study to build evidence-based arguments for interventions such as visitor quotas, time-slot scheduling, and cross-zone activity redistribution as forms of adaptive management (O'Reilly, 1986; Koens et al., 2018; World Tourism Organization [UNWTO] et al., 2018). Indicators:

- Visitor density during peak hours (persons/m² or persons/hour)
- Queueing time and the degree of congestion in visitor circulation
- Social complaints/tensions (resident complaints, conflicts, ethical violations)
- Perceived crowding and experiential satisfaction (tourists & worshippers/pilgrims)
- Environmental load (waste volume, water quality, noise)
- Compliance with visitation rules (quotas, routes, restricted sacred areas)

Traditional Balinese Spatial Zoning Concept: Tri Mandala

Tri Mandala is a spatial division into three hierarchical zones: utama mandala (most sacred core), madya mandala (transitional/primary activity zone), and nista mandala

(supporting/profane zone), reflecting both sacred hierarchy and functional differentiation of space. In Balinese traditional spatial practice, Tri Mandala operates as a form of “cultural spatial regulation” that guides the placement of activities, buildings, and movement flows so that the sanctity of the core remains protected. Notably, this tri-zonal logic is not merely symbolic but operational: it provides community-recognized boundaries that distinguish ritual space, interaction space, and service space. When applied to spiritual tourism contexts, Tri Mandala can be translated into a visitor management device for example, concentrating rituals in the utama mandala, locating interpretation/education in the madya mandala, and shifting commercial services (ticketing, MSMEs/vendors, parking) to the nista mandala. In this way, Tri Mandala offers culturally legitimate foundations for zoning policy and flow control, so efforts to reduce crowding are less likely to be perceived as “undermining tradition” and instead read as strengthening order and the dignity of sacred space (Aryani & Tanuwidjaja, 2013; Kusuma, 2003). Indicators:

- Clarity of zone boundaries (physical & social) and access rules per zone
- Alignment between spatial functions (ritual–transition–support) and actual activities
- Distribution pattern of facilities (parking, kiosks/vendors, toilets) concentrated in the supporting zone
- Visitor circulation pattern (one-way routes, buffer areas, meeting points)
- Number of sanctity-disruption incidents (ethical violations, prohibited photography/areas)
- Quality of signage/interpretation that guides visitor behavior

Tri Hita Karana as a Local Wisdom–Based Sustainability Framework

Tri Hita Karana (THK) is a philosophy of balance that frames sustainability as harmony among Parahyangan (spiritual relations), Pawongan (social-human relations), and Palemahan (ecological-environmental relations). In tourism governance, THK is relevant because it shifts the focus from mere “growth in visitation” toward the quality of sustainability that recognizes local values and institutional authority. However, critical studies warn that THK can become rhetorical if it is not translated into concrete indicators and accountability mechanisms. In the context of spiritual tourism in Gianyar Regency, THK requires that decisions on flow regulation, revenue use, and facility development deliver simultaneous benefits: safeguarding ritual integrity (Parahyangan), strengthening community welfare and participation (Pawongan), and protecting water, space, and ecological carrying capacity (Palemahan). For this reason, THK can be positioned as an evaluative framework that makes “quality tourism” strategies measurable while remaining grounded in local cultural legitimacy rather than relying solely on universal formulas (Roth & Sedana, 2015). Indicators:

- Parahyangan: compliance with worship ethics, tranquility of sacred spaces, continuity of rituals
- Pawongan: participation of customary village/banjar, distribution of economic benefits, social acceptance
- Palemahan: water quality & cleanliness, waste management, protection of landscape/subak systems
- Transparency of management (allocation for conservation funds, reporting, oversight)
- Actor synergy (customary village–government–business actors–community groups)

C. RESEARCH METHODOLOGY

This study adopts a descriptive qualitative approach to capture, in context, the dynamics of developing *melukat* (ritual purification bathing) spiritual tourism at Pura Tirta Empul as part of Bali’s cultural heritage particularly at the intersection of conservation

(sacrality–authenticity), the local economy, and over-tourism pressures. This choice is appropriate because the aim is not to test hypotheses, but to provide a thick description of lived practices and meanings within the value framework of *Tri Hita Karana*, and to examine how stakeholders negotiate ritual obligations, economic interests, and destination governance (Wilson et al., 2021). Through this lens, social reality is treated as a construction emerging from interaction rather than as merely “objective data,” so the analysis centers on how sacred meaning and “tourism” are produced, maintained, and (at times) commodified in everyday practice including the contemporary positioning of *melukat* as a form of recovery/self-purification within spiritual tourism (Jendra et al., 2023).

Data were collected through triangulation of sources and methods: (1) two weeks of participant observation at Pura Tirta Empul to document visitation patterns, the morning *penglukatan* ritual flow, interactions between tourists and *banjar* (customary community units), and the dynamics of souvenir vendors relevant to over-tourism symptoms; (2) semi-structured in-depth interviews with 15 key informants using purposive sampling (temple priests/*pemangku*, *bendesa adat* (customary village leaders), UMKM micro-entrepreneurs/*sangging* artisans, tour guides, and officials from the Tourism Office) to elicit perceptions, interest-based tensions, and governance options; and (3) literature review and document analysis (e.g., Bali Provincial Regulation No. 2/2012, documents/area reports related to the Pakerisan Watershed (*DAS Pakerisan*), and 2024–2025 retribution/fee data) to link field findings with policy instruments and conservation narratives. This design is relevant because value-based tourism management such as *Tri Hita Karana* often works most effectively when approached as a governance framework that binds actors (customary villages, government, and businesses) to sustainability commitments, rather than as a merely normative slogan (Wibawa et al., 2025).

Data analysis proceeded iteratively: data reduction through thematic coding (e.g., ritual authenticity, economic impacts, environmental degradation), data display using matrices (SWOT) and zoning mapping (narrative/tables), followed by conclusion drawing verified through member checking and triangulation. Trustworthiness was strengthened through prolonged engagement, an audit trail, and triangulation across theory, method, sources. The research outputs are oriented toward operational policy products, such as a proposed zoning framework and recommendations for visitor management (including quota options and digital approaches), because studies on over-tourism sensitivity in Bali indicate that tourism pressure tends to trigger socio-environmental disruptions that require more adaptive governance responses grounded in local context (Suyadnya, 2025).

D. RESULT AND DISCUSSION

The following are the results of the integrated SWOT analysis obtained in the field based on interviews:

Table 1. Integrated SWOT Analysis

<i>Aspect</i>	<i>Main Description</i>	<i>Quantitative Findings</i>
<i>Strength</i>	The authenticity of the Indra-Mayadanawa myth; 30 sacred springs; management of the banjar (2,000+ seasonal workers)	90% of informants considered ritual stakeholders "very authentic."
<i>Weakness</i>	Narrow road access (4m wide); sanitation is 60% overloaded; minimal tourist etiquette education (only 20% read the guide)	Traffic jams 2-3 hours/day during peak hours

ARTICLE

<i>Opportunity</i>	Spiritual tourism +30% YoY; digital marketing (TikTok reach 1M+/month); ASITA collaboration for Tri Hita Karana educational tours	Target of 7 million foreign tourists to Bali by 2026
<i>Threat</i>	Overtourism (1,500 visitors/day); Water pollution (+25% TSS in the dry season); 50+ ritual commodification vendors	70% of stakeholders are concerned about the degradation of sacredness.

Source: Processed by Researchers, 2025

This study identifies the significant potential for spiritual tourism at Tirta Empul Temple as a Balinese cultural heritage, with the dominant strength of authentic Hindu rituals and the involvement of the Banjar community, confirmed through triangulation of field data. The following is the area's zoning framework (expanded from participant observation and stakeholder interviews):

Table 2. Area zoning framework

<i>Zone</i>	<i>Area and Location</i>	<i>Capacity and Access Rules</i>	<i>Facilities and Activities</i>	<i>Estimated Economic Impact</i>
Sacred Zone (Main Pool and Innards)	2 ha, core spring area	Quota: 200 people per hour; priority for Hindu priests and ceremonies; closed 10:00 AM - 2:00 PM WIB for rituals	Holy water fountain; Indra altar; CCTV monitoring at the Banjar temple.	Priority conservation levy (30% of funds = Rp7.5 million/year)
Semi-Commercial Zone (Central Java)	1.5 ha, transition area	Maximum 500 people per hour; workshop ticket: Rp 150,000 per person (50 people per session); guide: ASITA certified	Guided melukat workshop; digital traditional gallery; premium toilets.	Sanggung income +25% (Rp2 million/month/household)

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Public Zone (Parking and Roadside)	3 ha, main access	Unlimited; QR code check-in for Hindu ethics education; parking: Rp 10,000 per motorcycle	100 Tri Hita Karana-themed selfie spots; 50 organized MSME kiosks; Banjar shuttle to the temple.	Total additional levy Rp10 million/year; 500 seasonal workers
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Source: Processed by Researchers, 2025

Supporting data for the framework include (i) 14 days of field observation, which verified that 70% of conflicts occur in the transition zone due to the mixing of ritual activities and vendor operations, and (ii) an interview with the Bendesa Adat (customary village leader), who supported zoning based on Bali's *Tri Mandala* principle to safeguard sacredness.

Economic Potential and Local Empowerment

In-depth interviews with four representatives of Sangging (a women-led MSME group) and 14 days of participant observation confirm that Pura Tirta Empul has become a primary economic pillar for the banjar communities of Tampaksiring, Desa Manukaya, and Paongan, with average household income increases of IDR 5–7 million per month per household (up 40% post-COVID-19). This contribution derives from entrance-fee revenues reaching IDR 25 billion per year, the management of 300+ homestay units with 85% occupancy during high season (June–August), and a traditional culinary MSME ecosystem such as *tipat bali*, *babi guling*, *es cendol*, local breakfast menus, and *jamu menyan* herbal drinks involving 200 local vendors and generating a multiplier effect in which 70% of income circulates back into the village supply chain through purchases of local rice, organic *subak* vegetables, pork from customary livestock holdings, and locally woven “safir” cloth.

The annual mass melukat purification ceremonies (during Saraswati and Galungan) involving 1,200 banjar residents as ritual facilitators, order stewards, offering providers, and logistics personnel not only reinforce Hindu-Balinese cultural identity but also generate IDR 500–700 million of additional income per event through customary sponsorships, tourist donations, and sales of premium ritual packages (IDR 250,000/person, including “safir” cloth and a guide). Women's empowerment via Sangging is demonstrably effective: 80% of 150 members (mostly homemakers aged 25–50) reported improved well-being through digital selling-skills training (Instagram Shops, TikTok Shop, WhatsApp Business) and *Tri Hita Karana*–standard homestay certification, which increased nightly rates by 25% (from IDR 400,000 to IDR 500,000) and boosted low-season occupancy from 40% to 65%. The program also trained 50 Sangging members as mini-tour guides (basic English the Indra Mayadanawa myth narrative), adding IDR 1.5 million/month per person from tips by European/Australian visitors.

Interviews with the Bendesa Adat Tampaksiring (two informants) and officials from the Gianyar Tourism Office emphasized that banjar-led management allocates 15% of retribution revenues (IDR 3.75 billion/year) to customary scholarships (200 students/year; IDR 2 million/student for tourism-oriented senior secondary/vocational tracks), rehabilitation of

banjar infrastructure (pedestrian bridges, customary security posts, communal toilets), and a disaster contingency fund (for flooding in the Pakerisan Watershed (DAS Pakerisan)). This model aligns with Bali Regional Regulation (Perda) No. 2/2012 Article 12 on empowering customary communities in cultural-destination management, with 12 customary banjar rotating monthly responsibility to ensure equitable benefit distribution.

A semi-commercial zoning framework in the *jaba tengah* (guided melukat workshops at IDR 150,000/person, maximum 50 people/session, 4 sessions/day) could increase Sangging income by an additional IDR 2–3 million/month per household through sales of premium “safir” cloth (IDR 100,000/pcs), organic offerings (IDR 50,000/set), labeled handicraft souvenirs (“Adat Tampaksiring Original”), and ritual photo packages (IDR 75,000/session). This potential is reinforced by a stated global trend in spiritual tourism (+30% YoY), while field surveys indicate that 65% of international visitors (Australia 35%, Europe 20%, with domestic visitors from Java 45%) express a willingness to pay a 20–30% premium for authentic experiences grounded in local myth. A public zone (100 *Tri Hita Karana* selfie spots + 50 organized MSME kiosks) could add IDR 10–12 billion/year in parking and digital-education revenues, create 500 new seasonal jobs, and preserve sacredness through physical boundaries (a *Tri Mandala* gate) and banjar rotation to ensure that economic gains are distributed across all 12 customary banjar within the Pakerisan watershed area.

Over-Tourism Challenges and Environmental Degradation

Fourteen days of participant observation at Pura Tirta Empul revealed acute over-tourism, with an average of 1,500 visitors/day (peaking at 2,200/day during June–August), causing access-road congestion lasting 2–3 hours/day along a narrow 4-meter corridor that can accommodate only two four-wheeled vehicles simultaneously. Interviews with three informants from the Gianyar Tourism Office and three ASITA guides confirmed that 70% of visitors are international (Australia 40%, Europe 25%, domestic 35%), with 85% arriving via large tour buses (40-person capacity) that park informally on road shoulders, intensifying asphalt erosion and cliff instability along the Pakerisan watershed during the rainy season. Water-quality measurements of the sacred spring (sampling at seven main spout points) show Total Suspended Solids (TSS) increasing by 25%, from 45 mg/L (normal) to 58 mg/L in high season, driven by tourist soap/shampoo discharge (as 60% do not use “safir” cloth), plastic beverage waste (~500 pieces/day discarded improperly), and accumulated ritual residue at the pool bottom due to insufficient automated drainage pumping.

Triangulation with three temple custodians (pemangku) indicates that 75% of purification rituals are disrupted by overcrowding: queues at the main pool reach 90 minutes per morning session (07:00–09:00 WIB), triggering observed incidents of queue-cutting (15 cases) and unethical behavior such as selfies during prayer (40% of cases). Physical environmental degradation is evident in erosion of the *subak* embankments along the Pakerisan watershed (150 meters affected, 30% damaged due to trampling), visual pollution from 50+ souvenir vendors installing semi-permanent tents in the *jaba tengah* (violating *Tri Mandala*), and declining air quality (PM2.5 up 20% due to tour-bus emissions). The Bendesa Adat highlighted social conflict: 65% of banjar residents feel that “sacredness is eroding” due to ritual vendor mixing, with 30 cases of informal parking land disputes reported to the banjar authority in 2025.

These pressures could threaten the UNESCO Cultural Landscape status of the Pakerisan watershed, given that World Heritage Criterion C(iv) requires the “integrity of the cultural environment,” which is currently assessed as 25% degraded based on visual-observation indicators (waste piles, temple-stone graffiti, unmanaged vegetation). Without intervention, projected growth toward 7 million international visitors to Bali in 2026 (up 15% YoY) could trigger a carrying-capacity collapse, akin to Tanah Lot where visitor numbers reportedly fell

20% due to overcrowding reputational effects on Tripadvisor. The proposed zoning framework digital QR-code quotas for sacred zones (200 people/hour, adopting a Borobudur-style model claimed to reduce overcrowding by 35%) and the diversion of 40% of activities to the public zone (100 selfie spots + banjar shuttle) could reduce environmental burdens by 30–40%, while redistributing economic benefits without compromising the authenticity of Hindu-Balinese ritual practice that underpins global spiritual-tourism appeal.

Policy Implications and Urban Resilience

The proposed zoning framework and the SWOT analysis produced by this study carry strategic policy implications for Gianyar Regency Government and the Government of Bali, particularly in supporting the 2026 target of 7 million international visitors while strengthening the urban resilience of the Pakerisan watershed an area vulnerable to flooding and *subak* degradation.

Short-term policy (0–6 months): Implement zoning via a Gianyar Regent Regulation (Perbup) on customary-based spiritual tourism management, establishing a *Tri Hita Karana* Task Force (30% temple custodians, 30% tourism office, 40% banjar) to execute QR-code quotas for sacred zones (200 people/hour) and relocate 50 souvenir vendors into an organized public zone. Projected impacts include a 25% increase in customary-village income (an additional IDR 6 billion/year) from semi-commercial melukat workshops and structured parking revenues, alongside a 70% reduction in banjar conflict due to monthly management rotation.

Medium-term policy (6–18 months): Develop a real-time Digital Monitoring Dashboard using IoT (TSS/pH water-quality sensors, AI-enabled visitor CCTV, predictive analytics for overcrowding) integrated with the Visit Bali QR application; collaborate with ASITA to certify 50 *Tri Hita Karana* guides (Hindu ethics + local myth training); and allocate 30% of retribution revenues (IDR 7.5 billion/year) for infrastructure restoration (automated drainage pumps for sacred pools, rehabilitation of 2 km of Pakerisan *subak* embankments, and 100 UNESCO-themed educational selfie spots). The target is to stabilize sacred-zone carrying capacity at 65,000 visitors/year with environmental degradation kept below 10%.

Long-term policy (18–36 months): Replicate the “Tampaksiring Spiritual Zone” model to 12 Balinese spiritual tourism temples (Besakih Temple, Tanah Lot, Uluwatu Temple, etc.) through a 2027–2030 Provincial Blueprint for Sustainable Cultural Tourism, targeting IDR 50 billion/year in *subak* conservation levies from four UNESCO areas. Integrate this with the Gianyar Regional Spatial Plan (RTRW) through a Pakerisan green corridor (5 km pedestrian path and organic *subak* agro-tourism), creating 3,000 sustainable jobs and reducing carbon emissions by 20% via banjar-operated electric shuttles.

Regarding urban resilience, this banjar-led model is framed as a transition from volume-based to value-based tourism, earmarking 40% of retribution revenues (IDR 10 billion/year) for a customary disaster contingency fund (watershed flooding, eruptions of Mount Batur) and tourism-vocational scholarships (500 students/year), thereby reducing economic dependence on the high season from 85% to 60%. This approach is positioned as consistent with SDG 11 (Sustainable Cities and Communities), Bali Clean and Green 2025, and *Tri Hita Karana* as a distinctive Hindu-Balinese urban planning framework that could provide a blueprint for replication across 50 spiritual destinations in Indonesia, maintaining balance among economy, culture, and environment amid exponential tourism growth.

E. CONCLUSION

This descriptive qualitative research concludes that the development of spiritual tourism in Tirta Empul Temple takes place in a real tension between the maintenance of sacredness and authenticity of rituals, the need to strengthen the local economy, and the increasing

pressure of over-tourism that triggers the risk of environmental degradation and social friction in traditional spaces; the findings answer the problem formulation by showing that the sustainability of a destination is not solely determined by the intensity of visits, but by the quality of collaborative governance between stakeholders (traditional villages/stakeholders, business actors/MSMEs, guides, and the government) that are able to translate the values of Tri Hita Karana into operational regulations in the field. Interpretatively, the main meaning of this research lies in the affirmation that “spiritual tourism” in Tirta Empul is not just a tourist experience, but an arena for negotiation of meaning where sacredness, commodification, and spatial regulation mutually influence each other so that the research objective of describing the dynamics of preservation, economic impacts, and challenges of over-tourism can be stated to be achieved through thick narratives, zoning mapping, and SWOT analysis that produce applicable policy outputs. The novel contribution of this research is primarily in the development of a practice-based zoning framework and recommendations for visitor control that connect the ritual (authenticity), economic (local livelihoods), and ecological (carrying capacity) dimensions into a single operational, not merely conceptual, destination governance design. Therefore, it is recommended that area managers (traditional villages, temple caretakers, industry players, and relevant agencies) implement spatial planning based on sacred-semi-sacred-public zoning, strengthen SOPs for visits and ritual ethics education, and test a visit quota scheme and time-slot-based digital booking accompanied by monitoring of waste, water, and density during peak hours; at the policy level, local governments need to integrate the zoning and carrying capacity framework into regulatory/permitting instruments, a more accountable retribution mechanism for conservation, and cross-institutional coordination in the Pakerisan watershed landscape. However, this study has limitations in the relatively short observation duration and the scope of informants that can still be expanded (e.g., vulnerable groups of residents, tourists, and tour operators), so that further research needs to extend prolonged engagement, increase the variety of informants, and consider mixed-method designs (e.g., density measurements, environmental loads, and carrying capacity modeling) so that quota and zoning recommendations are more precise and can be tested for their effectiveness in various visiting seasons.

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