



TRADITION & MODERNITY: LAND USE CHANGE AND LAND TENURE PATTERN IN CANGGU VILLAGE, BALI, INDONESIA

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Abstract

Tourism development has become a major driving force behind land use change in Canggu Village, Bali, particularly through the rapid conversion of agricultural land into tourism-oriented spaces. This study examines how these changes have reshaped land use patterns and land ownership structures, while also exploring their environmental, economic, and socio-cultural implications for the local community. Special attention is given to the role of traditional village institutions (*desa adat*) in regulating land use amid increasing pressure from private and foreign investors. This research adopts a mixed-methods approach, combining qualitative and quantitative techniques. Primary data were collected through in-depth interviews with key stakeholders, questionnaire surveys involving 108 respondents in Canggu Village, and direct field observations. Secondary data were obtained from land use maps, satellite imagery, and regional spatial planning documents. The findings reveal a significant decline in agricultural land, accompanied by traffic congestion and the reduction of green open spaces. Although tourism development has generated new employment and business opportunities, the economic benefits received by local residents remain disproportionately lower than those gained by foreign investors. Beyond economic impacts, tourism-driven land conversion has also influenced the socio-cultural landscape of Canggu Village. The study identifies a gradual decline in community participation in traditional and ritual activities, alongside the potential erosion of local cultural values. These findings suggest that the current tourism development model has yet to deliver equitable and sustainable outcomes for the indigenous community. The study therefore emphasizes the need for concrete policy measures, including strengthening the authority of *desa adat* in spatial and land use planning, implementing fair and transparent land ownership regulations, and enhancing community empowerment within tourism management practices.

Keywords: Tourism, Land Use Change, Indigenous Village

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INTRODUCTION

Since the 1960s, tourism development in Bali, Indonesia, has experienced a notable spatial shift. Initially concentrated in planned southern enclaves such as Sanur and Nusa Dua (Mantra & Kutaneegara, 1990), tourism expansion has gradually moved northward, positioning Canggu Village as the island's most dynamic growth center (Suamba & Dwijendra, 2016). Once predominantly agrarian, Canggu has undergone an exceptionally rapid transformation, marked by a sharp decline in agricultural land from 281 hectares in 2010 to 211.5 hectares in 2022 (Wahyundaria & Sunarta, 2021; BPS Badung, 2022). This accelerated change is closely linked to the rise of digital nomadism and the formation of distinct international enclaves, including the so-called "New Moscow," shaped by global geopolitical dynamics and increasing digital connectivity (Hamel & Murti, 2023; Tanjungsari, 2018).

Previous studies have widely examined tourism-driven land-use change across Bali's tourism destinations (Dipayana & Sunarta, 2015; Ediasitini, 2018; Sumantra et al., 2020). Canggu Village is selected as a critical case because it represents the most aggressive frontier of organic tourism expansion, where land-use change progresses faster than formal spatial planning mechanisms. This condition turns Canggu into a "living laboratory" for observing the direct encounter between market-oriented development and the traditional anthropocosmic principles upheld by the *Desa Adat* (Windia & Vidyanthi, 2020). While earlier research has largely emphasized physical or socio-economic impacts (Kristabela, 2023), the role of customary regulations (*awig-awig and pararem*) in managing complex land tenure arrangements under intense global pressure remains insufficiently explored. Accordingly, this study seeks to examine these dynamics by analyzing how customary institutions negotiate their continuity amid the most intensive tourism-driven land conversion in Bali.

LITERATURE REVIEW

The Impact of Tourism on Land Use Change

Land use change is commonly understood as a dynamic process shaped by human intervention in response to socio-economic needs (Arsyad, 1989). In tourism-oriented regions, this process often accelerates as land is increasingly reallocated to support accommodation, infrastructure, and leisure facilities. In Bali, tourism has been consistently identified as a major driver of land conversion, particularly through the expansion of built-up areas at the expense of agricultural landscapes.

Empirical studies have already documented a substantial transformation of land use patterns across the island. As-Syakur (2011) and Rimba (2020) demonstrate a steady increase in constructed areas accompanied by the rapid conversion of productive paddy fields into tourism-related land uses. This trend is particularly evident in emerging tourism zones, where spatial development tends to occur faster than formal planning controls. In Canggu

Village, for instance, the proliferation of villas, homestays, hotels, and entertainment facilities illustrates how tourism demand directly reshapes rural land use (Kartika et al., 2020).

Economic considerations play a central role in this transformation. Tourism offers higher and more immediate financial returns compared to agriculture, motivating local landowners to lease or repurpose their land for tourism activities (Dipayana & Sunarta, 2015). While this shift provides short-term income opportunities and contributes to local livelihoods, it also alters long-established land-use practices and weakens the agrarian foundation of rural communities.

However, the literature also highlights growing concerns regarding the sustainability of such land conversions. The loss of agricultural land not only threatens local food systems but also increases environmental vulnerability through reduced green open spaces and ecosystem services. These findings underline the importance of balancing tourism-driven development with environmental protection and long-term land-use sustainability. Without effective planning and governance, tourism expansion risks undermining the ecological, social and cultural foundations that originally make destinations like Bali attractive.

TOURISM IMPACT ON LOCAL COMMUNITIES RELATED TO LAND USE CHANGE AND LAND TENURE PATTERN

A review of literature on the impact of tourism on local communities, specifically concerning land use change and land tenure patterns, was drawn from various previous studies and is presented in the following table.

Table 1: State of the Art about Tourism Impact on Local Communities

Aspect	State of the Art	Source
Environment	Agricultural land is often converted into tourism areas, which can reduce the land available for food production and disrupt local ecosystems.	Kunto, 2018
	Land conversion is often not accompanied by proper spatial planning, leading to environmental problems such as flooding and damage to local ecosystems	Sari et al (2016)
	Uncontrolled land-use activities for development create impermeable surfaces that disrupt hydrological balance and increase runoff.	Ata et al. (2023)
	Human exploitation of land for socioeconomic gain is a continuous process that often leads to a loss of biological diversity.	Latip et al. (2022)
	Tourism can be an effective tool for regional development, increasing income and creating local jobs	Mitchell, J. & Ashley, C. (2010)

Aspect	State of the Art	Source
Economy	Land conversion in Bali leads to changes in the local socio-economic structure, from farmers to workers in the tourism sector, which can sometimes be detrimental to their long-term <u>welfare</u>	Nurhadi (2010)
	Land conversion in developing countries often benefits large investors but disadvantages small farmers and local communities	Bakker, M. & Messerli, P. (2017)
	Large companies and travel agencies often reap greater benefits than the local population	Scheyvens, (2011).
Social and Culture	Land use for tourism in rural areas brought about complex socio-economic changes, including changes in land ownership and community structure	Torre, A. & Scarborough, H. (2017)
	Tourism development can result in the displacement of local communities and changes in settlement patterns, affecting social cohesion.	Hall, C. M. (2009)
	The conversion of land for tourism often leads to significant changes in land ownership structures and livelihoods, with many locals transitioning from agriculture to tourism jobs, which in turn impacts their cultural identity and traditions.	Movono, Dahles, & Becken (2017)
	Rapid spatial transformation and road expansion can surround and obstruct the facades of sacred/heritage buildings.	Agustina et al. (2023)

Source: Various Source

RESEARCH METHODOLOGY

This study adopts a mixed-methods approach that integrates quantitative data from structured survey questionnaires with qualitative insights obtained through in-depth interviews, Focus Group Discussions (FGDs), and direct field observations. Canggu Village, Bali, Indonesia, is selected as the study area due to its position as a critical case of rapid and ongoing land-use transformation driven by tourism development.

Primary data were collected using a structured questionnaire administered to 108 respondents residing in Canggu Village. The sample size was calculated using the Slovin formula based on a total population of 7,027 residents, applying a 10% margin of error, which indicated a minimum requirement of 99 respondents. All 108 valid responses (100%) were included in the analysis and form the basis of the findings presented in this paper. To support the validity of the analysis, the socio-demographic characteristics of the respondents are summarized in the following table.

Table 2: Residency Status of the respondents

Residency Status	Frequency	Percentage
Indigenous residents of Canggu Village	46	42,6%
Balinese Hindu residents	36	33,3%
Balinese (non-Hindu) residents	10	9,3%
Non Balinese and non Hindu residents	2	1,9%
Foreign nationals	14	12,9%
Total	108	100%

Table 3: Main occupation of the respondents

Main Occupation	Frequency	Percentage
Business owner/entrepreneur	44	40,7%
Managerial/administrative staff	35	32,4%
Others	29	26,9%
Total	108	100%

To strengthen the qualitative analysis of land tenure policies, in-depth interviews were conducted with 18 key stakeholders who possess direct experience and decision-making authority in the governance of Canggu Village. The selection of these respondents was based on their institutional roles, knowledge of local land governance, and involvement in tourism-related development processes. A summary of the interviewees' profiles and institutional affiliations is presented in Table 4.

Table 4: List of Interviewed Stakeholders (Qualitative Data)

Stakeholder Category	Position / Expertise
Local Government	<i>Perbekel</i> (Village Head) and Secretary of Canggu
Traditional Authority	<i>Bandesa Adat</i> (Head of Customary Village)
Traditional Authority	<i>Kelian Adat</i> (Hamlet Chiefs) from 7 Banjars
Security Authority	<i>Ketua Pecalang</i> (Head of Customary Security)
Agriculture Authority	<i>Pekaseh</i> (Head of Subak Umalas)
Planning Authority	<i>Bappeda</i> Badung Staff (Regional Infrastructure)
Private Sector	Property Managers and Agents in North Kuta

In addition to individual interviews, a Focus Group Discussion (FGD) was conducted with 30 participants to further triangulate findings related to land conversion and its socio-cultural impacts. The FGD involved representatives from BUPDA (Customary Village-Owned Enterprise), Pakis (Women's Customary Group), and local community leaders, ensuring that multiple perspectives within Canggu Village were adequately represented.

Secondary data were compiled from time-series land-use maps covering the period 2000–2022, historical satellite imagery obtained from Google Earth, and official regional and local development planning documents. To support clarity for international readers, the Indonesian planning instruments referenced in this study are briefly defined in the following section.

- RPJPD: Rencana Pembangunan Jangka Panjang Daerah (Long-Term Regional Development Plan).
- RPJMD: Rencana Pembangunan Jangka Menengah Daerah (Medium-Term Regional Development Plan).
- RTRW: Rencana Tata Ruang Wilayah (Regional Spatial Plan/Zoning Law).
- RDTR: Rencana Detail Tata Ruang (Detailed Spatial Plan).
- RIPPDA: Rencana Induk Pembangunan Kepariwisata Daerah (Regional Tourism Development Master Plan).
- RPJMDes: Rencana Pembangunan Jangka Menengah Desa (Village-level Medium-Term Development Plan).

The analysis employed three main methods. Firstly, descriptive-qualitative analysis was used to interpret the survey results and interview transcripts. Secondly, land-use change analysis was performed through map overlay techniques using satellite imagery to identify spatial shifts. Lastly, content analysis was applied to the customary regulations (*awig-awig* and *pararem*) to evaluate how traditional rules respond to modern land tenure pressures.

ANALYSIS AND DISCUSSION

Land Use Change in Canggu Village

Canggu Village is located in the North Kuta District, Badung Regency, Bali, Indonesia (Figure 1).

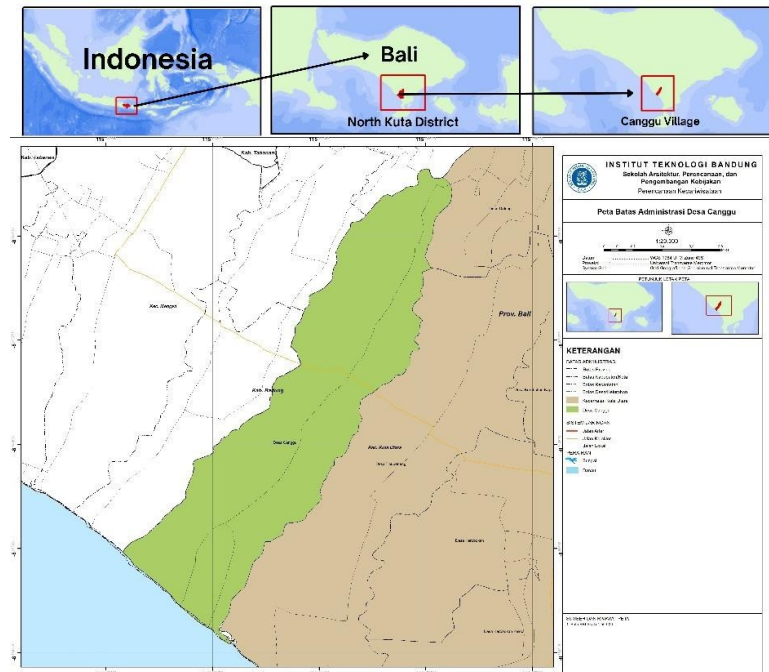


Figure 1: Map of Canggu Village
Source: Rupa Bumi Indonesia

The total area of Canggu Village is 524 hectares, with 211.5 hectares allocated for rice fields, 312.38 hectares for dry land, and 0.13 hectares for public facilities. Canggu Village is known as an agrarian area. However, over time, agricultural land in Canggu Village has been converted into built-up areas. Data on the reduction of agricultural land in Canggu Village is shown in the following figure.

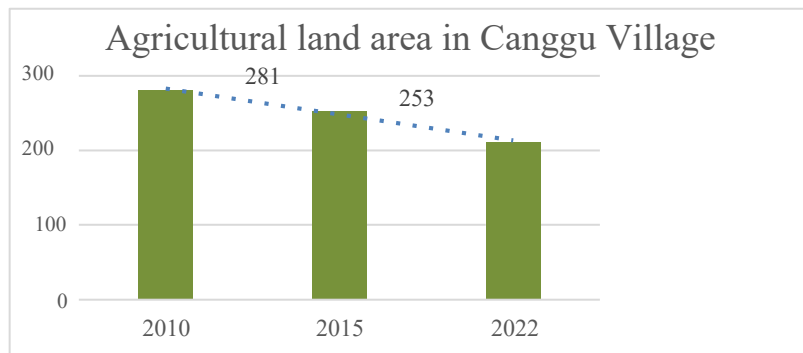


Figure 2: Agricultural land area in Canggu Village
Source: BPS-Statistics Indonesia, 2024

Google Earth satellite imagery shows a clear transformation of agricultural land in Canggu Village from 2012 to 2022. In 2012, Canggu Village was still largely dominated by agricultural land, with rice fields forming the main landscape and only limited residential development. Starting around 2015, residential expansion along Jalan Subak Canggu began to reduce agricultural areas, a trend that intensified between 2018 and 2019 with the emergence of tourism-related developments such as hotels, restaurants, coffee shops and villas. By 2020 and 2021, agricultural land had become increasingly constrained as residential and tourism uses expanded further. By 2022, most agricultural land had been converted, resulting in a dense concentration of residential settlements and tourism facilities across the village.

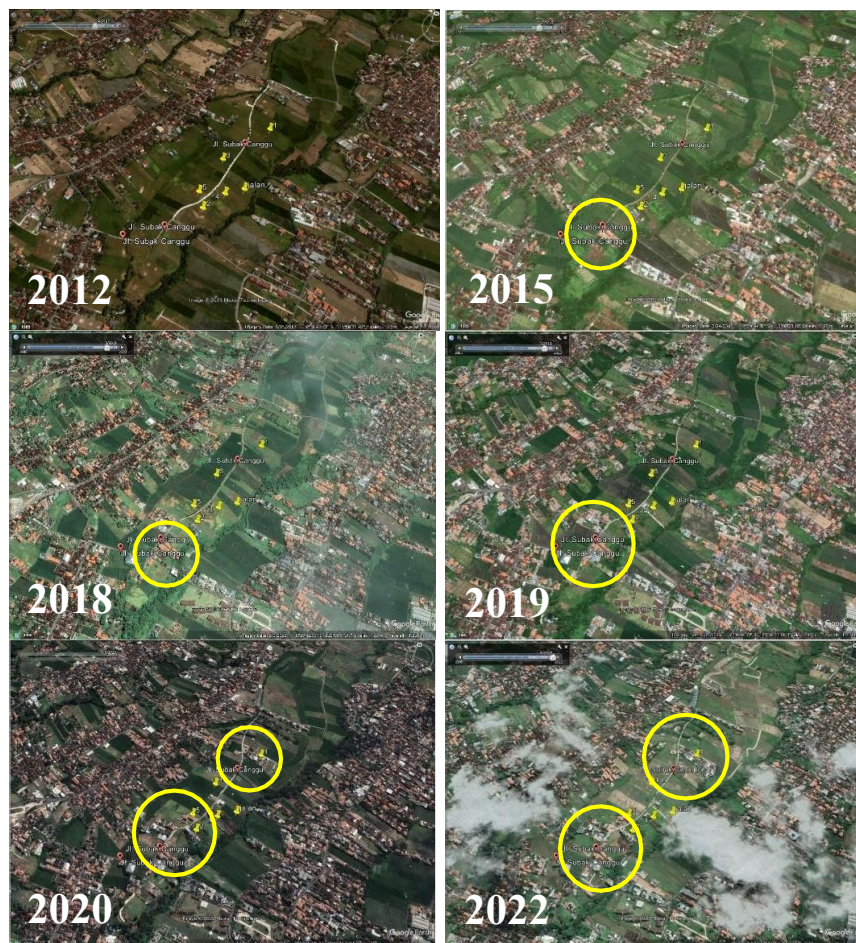


Figure 3: Land use change in Canggu (2012-2022)
Source: Google Eart

Land and Building Ownership Patterns

The survey of 108 business operators—ranging from large-scale villa developers to small traditional shopkeepers—shows that land ownership in Canggu Village largely remains with local residents, while operational control has increasingly shifted to investors. Both domestic and foreign investors are widely involved in developing villas and guesthouses on rented land, primarily through long-term lease arrangements of 25–30 years. Under this arrangement, an anthropocentric market logic dominates: local landowners benefit from immediate rental income but relinquish functional control over their ancestral land for extended periods.

Awareness of Customary Land Laws and the Knowledge Gap

The findings also reveal a notable knowledge gap regarding customary land governance. Nearly half of the respondents (48.8%) were unaware or uncertain about customary regulations (*Awig-Awig* and *Pararem*) related to building construction, while 50% expressed uncertainty regarding rules governing land buying or renting. Cross-tabulation analysis indicates that this lack of awareness is strongly associated with recent demographic changes, as non-indigenous actors—comprising non-local Balinese residents and foreign nationals—account for 57.4% of the respondents in this group. In contrast, indigenous residents generally demonstrate a stronger understanding of customary spatial principles, whereas non-indigenous stakeholders tend to approach land primarily as an economic asset, often overlooking traditional spatial orientations and sacred temple zones.

Networking Tourism Demand and Multidimensional Impacts

The transformation of Canggu Village is shaped by a complex network of causal relationships in which global tourism demand increasingly exerts pressure on local ecological and social systems, as summarized in Figure 2.

A) Environmental Impact: Challenges to *Palemahan*

Within the Balinese cosmological framework, *Palemahan* represents the principle of harmony between humans and the natural environment. In Canggu Village, however, the rapid shift toward an anthropocentric tourism economy has generated a form of spatial pressure that disrupts this balance. As illustrated in Figure 4, global tourism demand triggers a chain of development needs—such as luxury villas, lifestyle facilities, and improved accessibility—that directly compete with agricultural land.

This systemic pressure is strongly reflected in local perceptions, as 65.7% (71 out of 108) of business operators reported a significant reduction in green open spaces due to tourism expansion. A clear example of this interconnected demand is the construction of the “Canggu Shortcut,” which was

developed as an emergency response to increasing traffic congestion caused by tourist mobility. Paradoxically, this infrastructure project required the conversion of productive rice fields, reinforcing a vicious cycle in which tourism-supporting infrastructure further accelerates environmental degradation.

The cumulative effect of this process is the fragmentation of the Subak irrigation system. As commercial developments interrupt traditional water channels, the remaining 211.5 hectares of agricultural land—down from 281 hectares in 2010—become increasingly isolated and difficult to sustain. Consequently, environmental challenges in Canggu extend beyond the mere loss of land area, reflecting the gradual dismantling of the socio-ecological system that underpins the Tri Hita Karana philosophy.

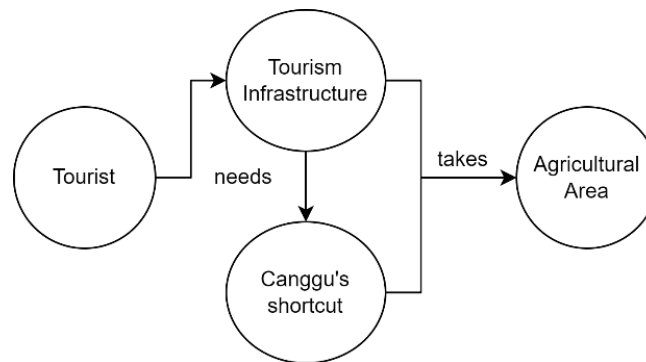


Figure 4: Networking tourism demand and needs of agricultural area

Source: Author's analysis (2024)



Figure 5: Canggu Shortcut at Subak Umadesa

Source: Author's documentation (2023)

B) Economic Impact: Structural Shifts in Pawongan

Pawongan focuses on harmony among humans, including economic relations. The networking of tourism demand has shifted the local labor structure. Out of the total 108 respondents, 88 stated that tourism has led community members to work in the tourism area of Canggu Village, and 72 respondents indicated that

local communities have started businesses or are selling goods around that area. The community's jobs have shifted from farming and fishing to working in the tourism sector; they have opened guest houses, food stalls, shops, spas, and motorbike rentals. This situation has improved their local economy.

However, on a larger scale, investors gain much more profit than the local community. Investors lease land from residents and construct buildings on it; they also manage the business and employ local labor. So, although the community also receives economic benefits from tourism, they actually get only a small portion of those benefits. If this continues in the long term, foreign investors will dominate the land in Canggu Village and further limit opportunities for the community to advance their local economy.

C) Social and Cultural Impact: Erosion of Tradition and *Parahyangan*

Within the *Tri Hita Karana* framework, *Parahyangan* governs the relationship between humans and the divine, including ritual practices and sacred spatial orders such as *Sanga Mandala* and Radius of Pura Holiness (*Jarak Kesucian Pura*). The findings indicate that Canggu's rapid tourism-driven transformation has increasingly disrupted this spiritual balance. The transition from agriculture to tourism-based livelihoods has reduced active gotong royong, as residents tend to substitute physical participation in rituals with monetary contributions, weakening communal bonds (*Pawongan*). At the same time, rapid land conversion has encouraged the desacralization of customary arts, with sacred performances such as *Barong* Dance and *Kecak* Dance frequently detached from their ritual context and repurposed for commercial entertainment. This erosion is further intensified by the dominance of non-local stakeholders (57.4%), whose limited awareness of customary spatial principles has contributed to modern developments encroaching upon sacred zones. Without effective intervention, Canggu risks losing not only its environmental character but also the sacred atmosphere that forms the core of its cultural identity.

Comparative experiences from other Balinese tourism destinations demonstrate that such impacts are not inevitable. In Ubud, several customary villages (*desa adat*) have enforced stricter customary regulations to establish customary green belts (*jalur hijau adat*), which are respected by both local communities and investors to preserve the area's "back-to-nature" identity (Sutantri & Wijaya, 2021). A more robust example is found in Desa Adat Panglipuran, where a strict customary zoning system based on the *Tri Mandala* concept grants the customary villages full authority over land use, successfully preventing commercial intrusion into sacred and conservation areas, including protected bamboo forests (Ariani et al., 2022; Sudarmi et al., 2023). These cases highlight the role of strong and unified customary leadership as an effective gatekeeper against the negative externalities of global tourism.

In contrast, Canggu's current development trajectory is marked by fragmented and organic growth, lacking a comparable gatekeeping mechanism. Moving forward, Canggu must shift beyond passive land leasing toward a negotiated development model, similar to Jatiluwih, where tourism activities remain secondary to Subak preservation through profit-sharing arrangements that incentivize farmers to retain their land (Pickel-Chevalier, 2021). Recent spatial studies further emphasize that safeguarding Canggu's anthropocosmic identity requires the formal integration of customary spatial regulations into the government's RDTR (Detailed Spatial Plan) through digital mapping, ensuring that global influences—such as the “New Moscow” phenomenon—are effectively aligned with local spiritual and ecological principles (Pradana et al., 2023; Suryawan et al., 2022).

CONCLUSION

This study demonstrates that tourism-driven land conversion in Canggu Village has generated multidimensional impacts on the local community, encompassing environmental, economic, and socio-cultural dimensions. The reduction of agricultural land, increasing traffic congestion, and the loss of green open spaces reflect the environmental pressures accompanying rapid tourism growth. At the same time, tourism development has created new employment and business opportunities, offering alternative livelihood options for indigenous residents.

Despite these benefits, the economic gains experienced by the local community remain considerably lower than those captured by investors. This imbalance indicates that the prevailing tourism development model in Canggu has yet to deliver equitable and sustainable outcomes. Beyond economic concerns, the study also identifies significant socio-cultural shifts, including declining community participation in traditional practices and ceremonies, which pose a long-term threat to the preservation of local values and cultural identity.

To address these challenges, several policy directions are essential. First, the role of Desa Adat must be strengthened by granting greater authority in spatial planning and land-use regulation, enabling a more balanced negotiation between tourism development, environmental protection, and cultural preservation. Second, land ownership and land-use regulations should more affirmatively and more transparently safeguard indigenous rights and limit the excessive dominance of foreign investors. Third, community empowerment programs need to be expanded to encourage more active local involvement in tourism management, particularly in areas such as business operations, marketing, and cultural conservation. Finally, tourism development in Canggu Village should be redirected toward a sustainable tourism framework that minimizes environmental and cultural degradation while ensuring more equitable benefit distribution.

Through the implementation of these measures, tourism development in Canggu Village can be better aligned with local cultural values and environmental sustainability, allowing tourism to function not only as an economic driver but also as a mechanism for long-term community well-being.

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REFERENCES

- Agustina, I. H., Ekasari, A. M., Rochman, G. P., Fardani, I., & Aji, R. R. (2023). Study of spatial change in Astana Village heritage area, Cirebon, Indonesia. *Planning Malaysia: Journal of the Malaysian Institute of Planners*, 21(6), 17–28. <https://doi.org/10.21837/pm.v21i29.1350>
- Ariani, N. M., et al. (2022). The role of customary law (awig-awig) in maintaining the sustainability of tourism in Panglipuran Village, Bali. *Journal of International Tourism and Social Science*, 1(1), 45–56.
- As-Syakur, A. R. (2011). Perubahan penggunaan lahan di Provinsi Bali. *Ecotrophic*, 6(1), 1–7.
- Ata, F. M., Toriman, M. E., Desa, S. M., San, L. Y., & Kamarudin, M. K. A. (2023). Impact of land use activities on the hydrological regime in the Junjung River Basin, Penang Island, Malaysia. *Planning Malaysia: Journal of the Malaysian Institute of Planners*, 21(6), 42–56. <https://doi.org/10.21837/pm.v21i29.1352>
- Bakker, M., & Messerli, H. R. (2017). Inclusive growth versus pro-poor growth: Implications for tourism development. *Tourism and Hospitality Research*, 17(4), 384–391.
- BPS Badung. (2022). *Kecamatan Kuta Utara dalam angka 2022*. Badan Pusat Statistik Kabupaten Badung.
- Dipayana, A., & Sunarta, I. N. (2015). Dampak pariwisata terhadap alih fungsi lahan di Desa Tibubeneng Kecamatan Kuta Utara Kabupaten Badung. *Jurnal Destinasi Pariwisata*, 3(2), 58–66.
- Ediastini, S. A. T. (2018). *Tipologi perubahan penggunaan lahan pada subak di Kelurahan Ubud*. Institut Teknologi Nasional Malang.
- Hall, C. M., & Lew, A. A. (2009). *Understanding and managing tourism impacts: An integrated approach*. Routledge.

- Hamel, J., & Murti, D. C. W. (2023). Nomadic tourism and the spatial politics of Canggu. *Journal of Bali Studies*, 13(2), 201–218.
- Harrison, D. (2007). Towards developing a framework for analysing tourism phenomena: A discussion. *Current Issues in Tourism*, 10(1), 61–86.
- Kristabela, M. (2023). Socio-economic impacts of global tourism on local communities in North Kuta. *International Journal of Social Science*, 5(2), 145–158.
- Kunto, Y. (2018). Pariwisata Bali dan tantangan keberlanjutan. *Jurnal Pariwisata*, 7(2), 120–135.
- Latip, N. A., Steven, S. R., Rashid, R., Karim, R., Umar, M. U., Hussin, R., Yusoh, M. P., Stephen, J., Andin, C., & Kanyo, N. I. (2022). Change of forest land use based on conservation policy and practice: A case study in Danum Valley, Malaysia. *Planning Malaysia: Journal of the Malaysian Institute of Planners*, 20(4), 47–57. <https://doi.org/10.21837/pm.v20i23.1158>
- Mantra, I. B., & Kutanegara, P. M. (1990). Dampak industri pariwisata terhadap kehidupan sosial budaya di Ubud Bali. *Populasi*, 2(1), 73–90.
- Mitchell, J., & Ashley, C. (2010). *Tourism and poverty reduction: Pathways to prosperity*. Earthscan.
- Moleong, J. L. (2008). *Metodologi penelitian kualitatif*. PT. Remaja Rosdakarya.
- Movono, A., Dahles, H., & Becken, S. (2018). Fijian culture and the environment: A focus on the ecological and social interconnectedness of tourism development. *Journal of Sustainable Tourism*, 26(3), 451–469.
- Nurhadi, M. (2010). Dampak alih fungsi lahan terhadap struktur sosial-ekonomi masyarakat Bali. *Jurnal Sosial dan Pembangunan*, 12(3), 210–225.
- Paramati, S. R., & Pratiwi, A. (2023). Village autonomy and customary land resilience: A comparative study of Balinese adat villages. *Journal of Rural and Community Development*, 18(2), 112–130.
- Pickel-Chevalier, S. (2021). Tourism and agriculture in Bali: A necessary but difficult marriage. *Journal of Tourism and Cultural Change*, 19(4), 450–472.
- Pradana, G. Y. K., et al. (2023). Digital nomadism and its impact on land use in coastal Bali. *International Journal of Sustainable Development and Planning*, 18(4), 1125–1134.
- Rimba, A. B., et al. (2020). Identifying land use and land cover (LULC) change from 2000 to 2025 driven by tourism growth: A study case in Bali. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLIII-B3-2020.
- Sari, D. P., Suwarno, & Purnama, H. (2016). Dampak alih fungsi lahan pertanian menjadi kawasan pariwisata di Daerah Bantul. *Jurnal Tata Ruang*, 12(1), 67–75.
- Suamba, I. B., & Dwijendra, N. K. (2016). *Spatial shift and transformation of tourism areas in Bali*. Udayana University Press.
- Suardana, I. W. (2022). Implementation of Tri Hita Karana philosophy on sustainable tourism management in Bali. *Journal of Tourism and Hospitality Management*, 10(1), 1–13.
- Sudarmi, N. W., et al. (2023). Customary land management and community-based tourism: Lessons from Penglipuran Village. *International Journal of Sustainable Development and Planning*, 18(6), 1789–1800.
- Sugiyono. (2009). *Metode penelitian kuantitatif, kualitatif dan R&D*. CV. Alfabeta.

- Sumantra, I. K., et al. (2020). Perubahan fungsi lahan pertanian di kawasan wisata, faktor penyebab dan strategi penanggulangannya. *EnviroScienteeae*, 16(1), 62–71.
- Suryawan, I. B., et al. (2022). Spatial transformation and the loss of subak identity in Badung Regency. *Planning Malaysia Journal*, 20(3), 35–46.
- Sutantri, N. M., & Wijaya, I. M. (2021). Pengaruh perkembangan pariwisata terhadap perubahan penggunaan lahan pertanian di Kecamatan Ubud. *Planning for Urban Region and Environment*, 10(1), 113–124.
- Tanjung Sari, H. (2018). The rise of digital nomads: A new trend of tourism in Bali. *Journal of Tourism and Economic*, 1(1), 1–10.
- Torre, A., & Scarborough, H. (2017). Reconsidering the estimation of the economic impact of cultural tourism. *Tourism Management*, 59, 621–629.
- Wahyundaria, N. L., & Sunarta, I. N. (2021). Analisis alih fungsi lahan pertanian menjadi lahan non pertanian di Desa Canggu. *Jurnal Destinasi Pariwisata*, 9(1), 120–128.
- Windia, W., & Vidyanthi, A. A. I. A. (2020). Tri Hita Karana as the philosophical basis for sustainable development in Bali. *Udayana Journal of Social Sciences and Humanities*, 4(1), 1–6.
- Wulansari, T. R., & Suhirman. (2017). Perbandingan kesepadanan aturan tata ruang tradisional dengan ketentuan dalam peraturan zonasi: Studi kasus Desa Adat Penglipuran. *Jurnal Perencanaan Wilayah dan Kota SAPPK ITB*.

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