

Distribution Patterns and Spatial Relationships in the Perspective of Tourism Destination Typology

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Abstract

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As one of Bali's leading tourist regions, Gianyar Regency continues to develop tourism destinations in support of the regional tourism development plan and vision of "Realizing High-Quality, Competitive, Sustainable, and Prosperous Cultural Tourism." The development of Gianyar Regency's tourism potential requires understanding the spatial relationships based on the typology and distribution patterns of tourism destinations. This research aimed to reveal the typology of tourism destinations in Gianyar Regency, determine the distribution patterns of tourism destinations in Gianyar Regency, and assess spatial relationships in Gianyar Regency based on the typology and distribution patterns of tourism destinations. The research methods employed in this study are qualitative descriptive, Near Neighbour Analysis (NNA), and Linkage system analysis. The typology of tourism destinations in Gianyar Regency includes cultural tourism, marine tourism, and natural reserve tourism. The distribution pattern of cultural and marine tourism destinations is clustered, while natural reserve tourism exhibits a random distribution pattern. Overall, tourism destinations in Gianyar Regency have a clustered distribution pattern. Based on the typology and distribution patterns of tourism destinations, spatial relationships in Gianyar Regency are visually characterized by linear elements such as roads, corridor elements like buildings and trees, and side elements consisting of variations in tourism typology. The collective spatial relationships found in Gianyar Regency fall into an open-ended group form. The policy implications of this research suggest the need for improvements in tourism infrastructure and the development of spatial relationships to enhance the tourist experience, supporting sustainable tourism development in Gianyar Regency.

1. Introduction

Tourism has become one of the largest economic sectors worldwide, serving as the primary source of foreign income in various countries. With its thousands of islands, Indonesia possesses diverse potential and attractions in each region (Supriyatama & Wesnawa, 2019). Each province in Indonesia has distinct regional characteristics with its resources and potential (Yuendini et al. 2019). Bali, as one of the islands in Indonesia, boasts unique charm with its natural beauty and rich cultural heritage. (Suartana, 2018). As a tourism magnet in Indonesia, several areas in Bali have been developed as tourist zones.

Tourism development can enhance economic progress and bring about change, such as changes that may affect the quality of life of the local population and the environment (Dendo, 2021). In the management of tourist attractions in Bali, the concept of Tri Hita Karana can help maintain a balance between humans, nature, and culture while building sustainable and environmentally friendly tourism destinations (Gorda, A. N. E. S., & Wardani, K. D. K. A., 2020). The local wisdom of the Balinese community shapes their social order, as it emphasizes harmonious relationships with the Almighty, interpersonal relationships, and environmental interactions, all of which are directly related to the Tri Hita Karana concept, influencing spatial patterns that provide significant benefits to villages and communities (Widyastuty, 2018). The Regional Spatial Plan for Gianyar Regency 2012-2032 has 32 tourist destinations consisting of 11 natural attractions and 21 man-made attractions. These tourist destinations are spread across all districts in Gianyar Regency and are managed by the government, private sector, and local communities. The distribution of these tourist destinations forms a pattern and typology that has not been studied. The development of tourist destinations will serve as a crucial foundation for managing tourism resources in the Gianyar Regency (Sumitapradja, A. M., & Anom, I. P., 2020). Research on tourism destination typology can help enhance the attractiveness of a region by identifying the position of tourist destinations in their life cycle and developing them according to the conditions of the destination. Moreover, it can aid in determining the characteristics of tourists who visit a tourist destination and understanding their perceptions of that destination (Keylavanda, E. F., 2022).

This research aims to support the Gianyar regional government program in realizing systematic, planned, integrated, and sustainable Gianyar tourism that is integrated with nature/environment, religious, cultural, and human values through spatial studies and road network infrastructure with the help of system network analysis geographic information.

2. Methods

The typology of tourist destinations in Gianyar Regency was determined using a qualitative descriptive analysis method. Qualitative descriptive research is a type of study that focuses on gaining an in-depth understanding of the quality of relationships, activities, situations, or various materials by prioritizing a holistic descriptive approach, providing detailed explanations of ongoing activities or situations, rather than comparing the effects of specific treatments (Adlini, M. N., 2022). Descriptive analysis was used to describe the typology of tourist destinations in Gianyar Regency based on the main attractions, which include natural attractions, marine tourism, and cultural tourism.

The theory employed to explain the distribution pattern, in general, is the nearest neighbor analysis theory, first formulated by J. Clark and F.C. Evans (Sitompul, L. A., 2022). Comparative neighbor analysis is a method used to explain the distribution pattern of

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several object points by considering the distance, the number of location points, and area size (Permana & Widyastuty, 2021). The final result of this analysis is an index (T). The nearest neighbor spread index is calculated using formulas equations 1, 2, 3, and 4 (Pelambi in Dian Permana et al., 2021).

1) Calculating J_u

$$J_u = \frac{\sum I}{\sum N} \dots\dots\dots(1)$$

J_u : The average distance calculated between a point and its nearest neighbor.

$\sum I$: The sum of distances between a central point and the others.

$\sum N$: The total number of central points in each region

2) Calculating point Density P

$$P = \frac{N}{A} \dots\dots\dots(2)$$

P : Point density

N : The number of central points in each region

A : The area size

3) Calculating J_h

$$J_h = \frac{1}{\sqrt{2P}} \dots\dots\dots(3)$$

4) Calculating Nearest Neighbour Index (T)

$$T = \frac{J_u}{J_h} \dots\dots\dots(4)$$

T = Nearest neighbor spread index

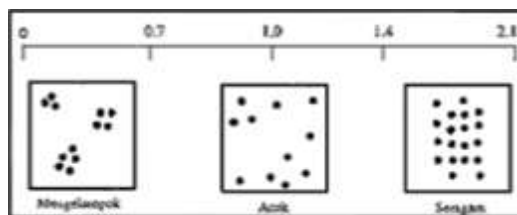


Figure 1. Nearest Neighbour Analysis

If the value of T is in the range of 0 to -0.7, then the pattern of the tourist objects is clustered. If the value of T falls within the range of 0.71 to 1.4, the pattern of the tourist objects is considered random. Meanwhile, if the value of T falls within the range of 1.41 to 2.15, the pattern of the tourist objects is considered uniform. In the analysis of the distribution pattern of tourist destinations using ArcMap 10.2 software, the following steps were taken: inputting the data of the location points of each tourist destination and the study area's geographical extent using the ArcToolbox menu - Spatial Statistic Tools - Analyzing Pattern - Nearest Neighbour Analysis. This process allowed for identifying the distribution patterns of tourist destinations in Gianyar Regency, whether clustered, random, or uniform.

The spatial interrelationships between tourist destinations are analyzed using the linkage system, which provides a comprehensive macro-level examination of a tourist object as a system. This system is represented in a diagram that illustrates the elements within the system, including inputs and outputs, as well as interactions among the system's components (Wicaksono & Sugiarto, 2001). Through this analysis, various issues and shortcomings within the system connecting these tourist objects can be identified, enabling

the determination of directions for improvement. This study has two approaches to linkage: (1) Visual Linkage and (2) Collective Form Linkage.

1) Visual Linkage

In visual linkage, two or more urban areas are combined into a unit with graphic capabilities to integrate the urban area on various scales.

2) Collective Form Linkage

Linkage theory observes the structural relationships between various urban parts. In linkage theory, the focus is on the connections of movements that play a crucial role. Linkage observes and emphasizes relationships and changes in urban spatial structures (urban fabric)

3. Results

Local wisdom is an order of social life and spatial planning that is trusted by the Balinese people, which is comfortable because all existing activities and arrangements always pay attention to the pattern of good relationships with God Almighty, between people, and also with the environment in the Tri Hita Karana concept (Widyastuty, 2018).

The form of local wisdom that exists in the people of Gianyar district has similarities with other districts in Bali province, including local wisdom in the form of *Kaja-Kelod*, which contains the orientation of houses or settlements, zoning (division of activity areas) and spatial layout at neighborhood and city scales (Darmawan et al., 2022). *Kaja-Kelod* is a concept of orientation based on the cardinal directions and the earth's axis, namely the North-South and *Segara-Giri / Segara-Gunung* directions, which are believed to be related to things of the realm of the Gods and realm of the *Bhuta*. *Kaja* (North) is the direction to the mountain (Agung Mountain), which is believed to be the realm of the Gods, the direction of holiness, cleanliness, sacredness, and light. *Kaja* (North) has *Utama* value in that there are *wana* (forest), *giri* (mountain), and Danu (lake), whose sustainability orographically and climatologically needs to be maintained and cared for. Meanwhile, *Kelod* (South) is the direction towards *Segara* (sea), which is believed to be the *Bhuta* realm, which has profane, dark, and *leteh* (dirty) connotations. Balinese people believe it to have *Nista* value, an area that functions as a melting pot (*pelebur*).

Regarding zoning, the concept of space division in local *Kaja-Kelod* wisdom forms a spatial value system called *Tri Mandala*, namely three spaces consisting of sacred, communal, and commercial spaces. It is implemented in all cultural tourism destinations in the Gianyar district. The following is a typology of tourist attractions grouped according to their characteristics by local *Kaja-Kelod* wisdom.

Typology of Tourist Characteristics in Gianyar Regency

In its development, tourism in Gianyar Regency is internalizing all the traditions, norms, arts, and culture rooted in Hinduism, earning it the nickname "Gumi Seni" or "Bumi Seni," which translates to the "Land of Arts." This title results from Gianyar Regency's ongoing efforts to preserve the uniqueness of its art and culture, which has been its hallmark since ancient times (Yasintha, P. N., 2022). According to Putri (2022), the culture and lifestyle of the community based on Tri Hita Karana serve as a magnet for international tourists visiting Gianyar Regency. Natural beauty, historical heritage, and historical tourist attractions are also supporting factors. Moreover, the availability of adequate tourism facilities plays a crucial role in attracting tourists. The following is the typology of characteristics of tourist attractions in Gianyar Regency.

1. Cultural Tourism

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- a. Tirta Empul offers attractions such as archaeological relics, sacred springs, traditional purification ceremonies, and a place of worship. Various amenities, including shops, places of worship, security posts, electricity networks, clean water supplies, drainage systems, waste management, and accessibility through roads and parking areas, are available. The Gianyar Regency government and the traditional village manage the destination.
- b. Goa Gajah features attractions, including archaeological relics, sacred springs, and traditional purification ceremonies. Amenities at this site include shops, places of worship, security posts, electricity networks, clean water supply, drainage systems, waste management, road access and parking areas. The Gianyar Regency government and the traditional village manage the destination.
- c. Gunung Kawi Sebatu offers attractions such as sacred springs, traditional purification ceremonies, and a place of worship. Amenities at this site include accommodations, shops, places of worship, security posts, electricity networks, clean water supplies, drainage systems, and waste management. Road access and parking areas are also available. The Gianyar Regency government and the traditional village manage the destination.
- d. Yeh Pulu presents attractions like archaeological relics, sacred springs, and traditional purification ceremonies. Amenities include accommodations, shops, places of worship, security posts, electricity networks, clean water supply, drainage systems, and waste management. The only available access is through public roads. The Gianyar Regency government and the traditional village manage the destination.
- e. Candi Tebing Tegallinggah offers attractions in the form of archaeological relics. Facilities at this location include accommodations and places of worship. Accessibility is provided through public roads. The Gianyar Regency government and the traditional village manage the destination.
- f. Mengening offers attractions such as archaeological relics, sacred springs, traditional purification ceremonies, and a worship complex. The available facilities include accommodations, shops, places of worship, security posts, electricity networks, clean water supply, drainage systems, and waste management. Accessibility is provided through public roads. The Gianyar Regency government and the traditional village manage the destination.
- g. Goa Garba features attractions in the form of archaeological relics. Amenities include accommodations, places of worship, security posts, electricity networks, clean water supply, drainage systems, and waste management. Road access and parking areas are available. The Gianyar Regency government and the traditional village manage the destination.
- h. Taman Nusa offers attractions related to Indonesian art and culture. The available facilities encompass shops, places of worship, security posts, electricity networks, clean water supply, drainage systems, and waste management. Good road accessibility and parking areas facilitate visitor access to this location. A private entity manages Taman Nusa.
- i. Museum Rudana is an art museum featuring painting exhibits. Facilities include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Good road accessibility and parking areas are available for visitor convenience. A private entity operates Museum Rudana.

- j. Museum Neka is an art museum offering exhibits of paintings and sculptures. Available facilities include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Good road accessibility and parking areas are provided. A private entity manages Museum Neka.
- k. Museum Arma is an art museum featuring exhibits of paintings and sculptures. Facilities available include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Accessibility is provided through roads, and parking areas are available. A private entity manages this attraction.
- l. Museum Puri Lukisan is an art museum offering painting attractions. Available facilities include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Good road accessibility and parking areas are also provided. A private entity operates Museum Puri Lukisan.
- m. Museum Antonio Blanco is an art museum featuring painting exhibits. Facilities available include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Good road accessibility and parking areas are available for visitors. A private entity manages Museum Antonio Blanco.
- n. Museum Arkeologi Gedong Arca is a museum that primarily showcases archaeological relics as its main attraction. Facilities provided include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Good road accessibility and parking areas are also available. The Office of Cultural Heritage Preservation manages this museum.

2. Maritime Tourism

Maritime tourism in Gianyar Regency has two tourist destinations: Mason Rafting Adventure and Rafting Sobek. The main attraction at Mason Rafting Adventure and Rafting Sobek is whitewater rafting. Both have comprehensive facilities, including accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Accessibility to Mason Rafting Adventure and Rafting Sobek can be reached by land transportation, and both have parking areas and tourist transport. Private entities manage Mason Rafting Adventure and Rafting Sobek.

3. Natural Reserve Museum

- a. Bali Bird Park offers an attractive collection of birds as its main attraction. Facilities available include accommodations, shops, places of worship, security posts, electricity networks, clean water supply, drainage systems, and waste management. Road accessibility, parking areas, and tourist transport are available. A private entity operates Bali Bird Park.
- b. Bali Zoo showcases a variety of fauna and allows interaction with animals. Available facilities include accommodations, shops, places of worship, security posts, electricity networks, clean water supply, drainage systems, and waste management. Road accessibility, parking areas, and tourist transport are also provided. A private entity operates Bali Zoo.

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- c. Elephant Safari Park offers interactions with elephants. Facilities provided include accommodations, shops, places of worship, security posts, electricity networks, clean water supply, drainage systems, and waste management. Good road accessibility, parking areas, and tourist transport are also available. A private entity manages this destination.
- d. Bali Safari And Marine Park showcases a variety of fauna and allows interaction with animals. Facilities provided include accommodations, shops, places of worship, security posts, electricity networks, clean water supply, drainage systems, and waste management. Road accessibility, parking areas, and tourist transport are available. A private entity manages this destination.
- e. Tegenungan Waterfall offers the attraction of a beautiful waterfall. Facilities available include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Road accessibility and parking areas are provided. The traditional village manages Tegenungan Waterfall.
- f. Blangsinga Waterfall offers the attraction of a beautiful waterfall. Facilities available include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Road accessibility and parking areas are provided. The traditional village manages Blangsinga Waterfall.
- g. Monkey Forest Ubud features attractions involving interactions with monkeys. Facilities provided include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Road accessibility, parking areas, and tourist transport are available. The traditional village manages this destination.
- h. Hidden Canyon Guwang offers the attractions of canyons and artistic cliffs. Facilities available include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Road accessibility and parking areas are provided. The traditional village manages this destination.
- i. Ceking Rice Terrace offers the attraction of beautiful terraced rice fields. Facilities provided include accommodations, shops, places of worship, medical facilities, security posts, electricity networks, clean water supply, drainage systems, and waste management. Good road accessibility and parking areas are available. The traditional village manages this destination.

Cultural Tourism

Cultural tourism has a broader nature than merely consuming cultural products from the past, such as visiting historical sites or museums, but also encompasses experiencing the "way of life" of a community or region being visited (Luh et al., 2021). The heritage of skills, lifestyles, and customs handed down while adhering to social and religious norms represents the community's local wisdom (Widyastuty & Widiana, 2022). The analysis of the characteristics of tourism indicates that the attractions offered at cultural tourist destinations in Gianyar Regency include archaeological remains, religious complexes, sacred springs, the tradition of "Melukat," and art museums.

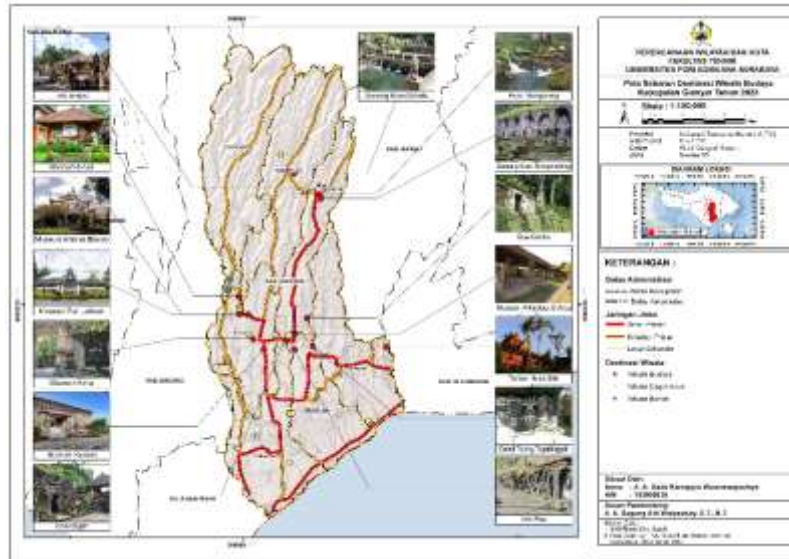


Figure 2. Map of the Distribution of Cultural Tourist Destinations in Gianyar Regency

Grounded in the Tri Hita Karana philosophy, destinations featuring traditional attractions and archaeological sites are managed by traditional villages. As explained by Adi, I. N. R., & Mulyadi, M. (2019), traditional villages play a crucial role in managing tourist attractions, preserving culture and traditions, conserving the environment, and generating income for the community's welfare.

Maritime/Nautical Tourism

Maritime/nautical tourism in Gianyar Regency consists of two tourist destinations: Mason Rafting Adventure and Rafting Sobek. Marine tourist destinations are exclusively located in the Ubud District. The attractions offered by Mason Rafting Adventure and Rafting Sobek are water rafting sports. Both destinations are fully equipped and accessible by land transportation, featuring parking areas and tourist transport facilities.

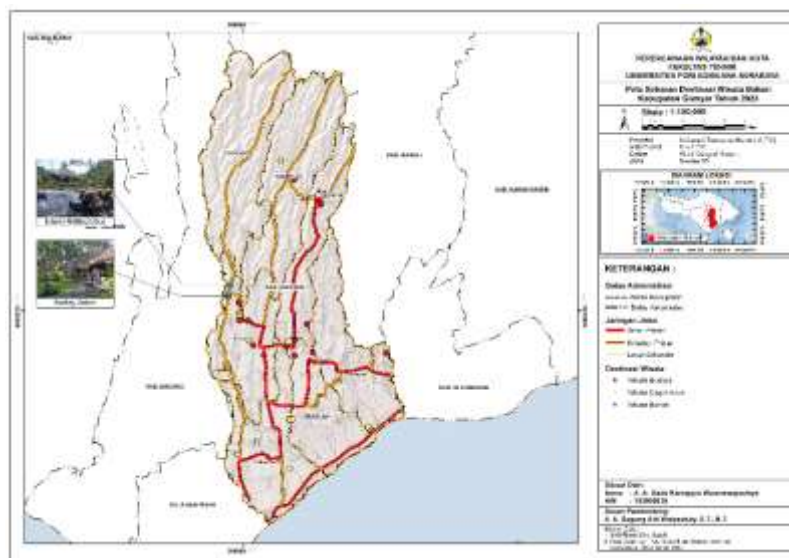


Figure 3. Map of the Distribution of Maritime Tourist Destinations in Gianyar Regency

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These two destinations use the potential of the Ayung River, known as the longest river in Bali. This exceptional characteristic is a magnet for tourists, making it a priority tourist attraction with many visitors (Soehardjoepri, S., 2022). Due to their proximity and similar tourism products, they share common characteristics.

Natural Reserve Tourism

There are nine natural reserve tourist destinations in Gianyar Regency, namely Bali Bird Park, Bali Zoo, Elephant Safari Park and Lodge, Bali Safari And Marine Park, Tegenungan Waterfall, Blangsinga Waterfall, Monkey Forest Ubud, Hidden Canyon Guwang, and Ceking Rice Terrace.

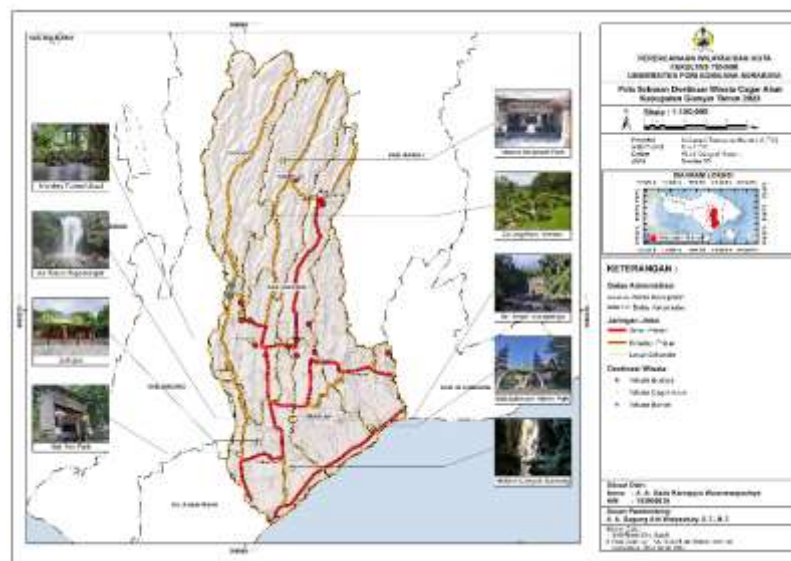


Figure 4. Map of the Distribution of Natural Reserve Tourist Destinations in Gianyar Regency

Modern tourist destinations tend to be privately managed, while traditional villages manage traditional tourism. This distinction arises because modern tourism places a greater emphasis on providing comfortable experiences and well-facilitated accommodations. In contrast, traditional tourism focuses more on providing experiences closer to local culture, the environment, and daily life. As explained by Nuurlaily, S. (2020), rural communities maintain their unique traditions and customary norms.

Distribution Patterns of Tourist Destinations in Gianyar Regency

1. Distribution Pattern of Gianyar Regency's Tourist Destination

The tourist destinations in Gianyar Regency, comprising 26 sites, are distributed across all the districts within the regency. The closest distance between tourist destinations in Gianyar Regency is between Tegenungan Waterfall and Blangsinga Waterfall, which is a distance of 0.27 kilometers. In contrast, the farthest distance between destinations is observed between Hidden Canyon and Mason Elephant Park and Lodge, spanning 24.20 kilometers.

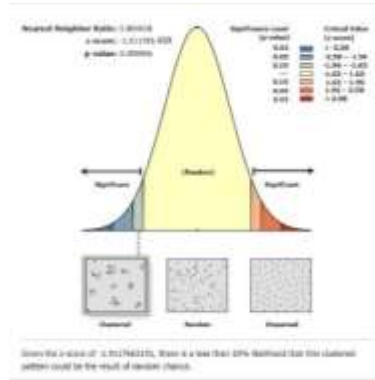


Figure 5. Distribution Pattern of Tourist Destinations in Gianyar Regency

Based on the Nearest Neighbour Analysis, the distribution pattern of tourist destinations in Gianyar Regency exhibits a clustered pattern with a nearest-neighbor ratio of 0.80. Cultural destinations tend to cluster around areas with historical significance and archaeological sites, while maritime destinations cluster along riversides and coastlines. Furthermore, the involvement of stakeholders and tourism managers who strive to develop sustainable tourist destinations that respect the local environment and culture contributes to forming the clustered distribution pattern of tourist destinations in Gianyar Regency (Wijaya, N. S., 2019).

2. Distribution Pattern of Cultural Tourist Destinations in Gianyar Regency.

Of the 26 tourist destinations in Gianyar Regency, 15 fall under the typology of cultural tourist destinations. The average distance between cultural tourist destinations is approximately 6.61 kilometers. The nearest location between cultural tourist destinations can be observed between Gunung Kawi Tampaksiring and Pura Mengening, separated by a distance of 0.33 kilometers. On the other hand, the farthest distance between cultural tourist destinations is found between Gunung Kawi Sebatu and Taman Nusa Bali, which span 15.39 kilometres. The analysis of the distribution pattern of cultural tourist destinations in Gianyar Regency is depicted in Figure 6.

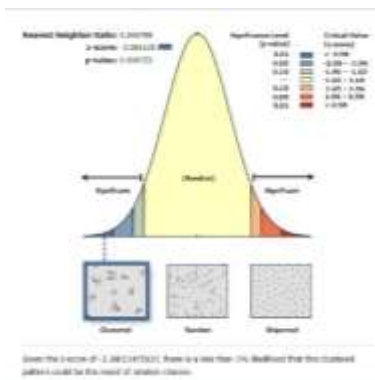


Figure 6. Distribution Pattern of Cultural Tourist Destinations in Gianyar Regency

The distribution pattern of cultural tourist destinations in Gianyar Regency exhibits a clustered pattern with a nearest-neighbor ratio of 0.54. Cultural tourism sites in Gianyar Regency tend to cluster in the Ubud District and the Pakerisan Watershed Area. The Ubud District is renowned as the epicenter of arts and culture in Bali. Communities of artists and cultural practitioners have cultivated traditions of painting, dance, music, and handicrafts in this region (Widiari, N.K., 2022). Meanwhile, the Pakerisan Watershed boasts numerous

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sacred places and historically significant sites that hold great importance in Balinese religion and culture (Luxiana, I.W., 2022). The holy temples, statues, and other places of worship in this area serve as attractions for both domestic and international tourists.

3. Distribution Pattern of Maritime Tourist Destinations in Gianyar Regency

Gianyar Regency has two maritime tourist destinations: Mason Rafting Ubud and Rafting Sobek. The distance between these marine tourist destinations is 1.11 kilometers. The analysis of the distribution pattern of maritime tourist destinations in Gianyar Regency can be observed in Figure 7.

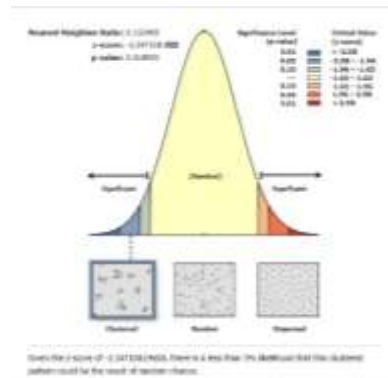


Figure 7. Distribution Pattern of Maritime Tourist Destinations in Gianyar Regency

The distribution pattern of maritime tourist destinations in Gianyar Regency presents a clustered distribution pattern. It is due to the fact that maritime tourist destinations in Gianyar Regency are exclusively situated along the Ayung River in the Ubud District. The Ayung River is strategically located and attracts a considerable number of domestic and international tourists, making it an appealing prospect for entrepreneurs to develop whitewater rafting tourism activities on the Ayung River (Brahmana, I. B. I., & Anom, I. G. N., 2023).

4. Distribution Pattern of Nature Reserve Tourist Destinations in Gianyar Regency

Gianyar Regency is home to 9 tourist destinations under the nature reserve tourism category. The average distance between these nature reserve tourist destinations is approximately 10.90 kilometers. The closest locations are between Tegenungan Waterfall and Blangsinga Waterfall, separated by a mere 0.27 kilometers. At the same time, the farthest destinations are Mason Elephant Park and Lodge and Hidden Canyon Guwang, which are 24.20 kilometers apart. The analysis of the distribution pattern of nature reserve tourist destinations in Gianyar Regency is depicted in Figure 8.

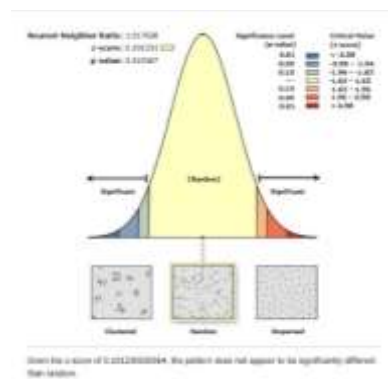


Figure 8. Distribution Pattern of Nature Reserve Tourist Destinations in Gianyar Regency

The distribution pattern of nature reserve tourist destinations in Gianyar Regency exhibits a random distribution pattern. Gianyar Regency possesses significant geographical and topographical variations, including variations in soil types, vegetation, and relief. Widyastuty (2021) indicates that the Balinese ideology of Tri Hita Karana influences spatial patterns by promoting balance and harmony among three main elements, one of which involves the relationship between humans and the environment. The physical characteristics of the region and its adherence to local wisdom contribute to the random distribution pattern observed in nature reserve tourist destinations.

Interconnectivity of space among tourist destination

The analysis of the linkage system is employed to comprehend the interconnectivity of spatial elements. The concept of linkage, in this context, emphasizes the connections and movements between various regions within a city, such as the relationships between different locations within the town (Trancik, as cited in Nusyawal, M. F., 2020). The discussion of spatial interconnectivity in Gianyar Regency is divided into two categories: visual linkage and collective linkage.

1. Visual Linkage

Based on the findings of our identification, the visual linkage connecting various tourist destinations comprises line elements in the form of roads, corridor elements in the shape of buildings and trees, and side elements embodying the typological variability of tourism sites.

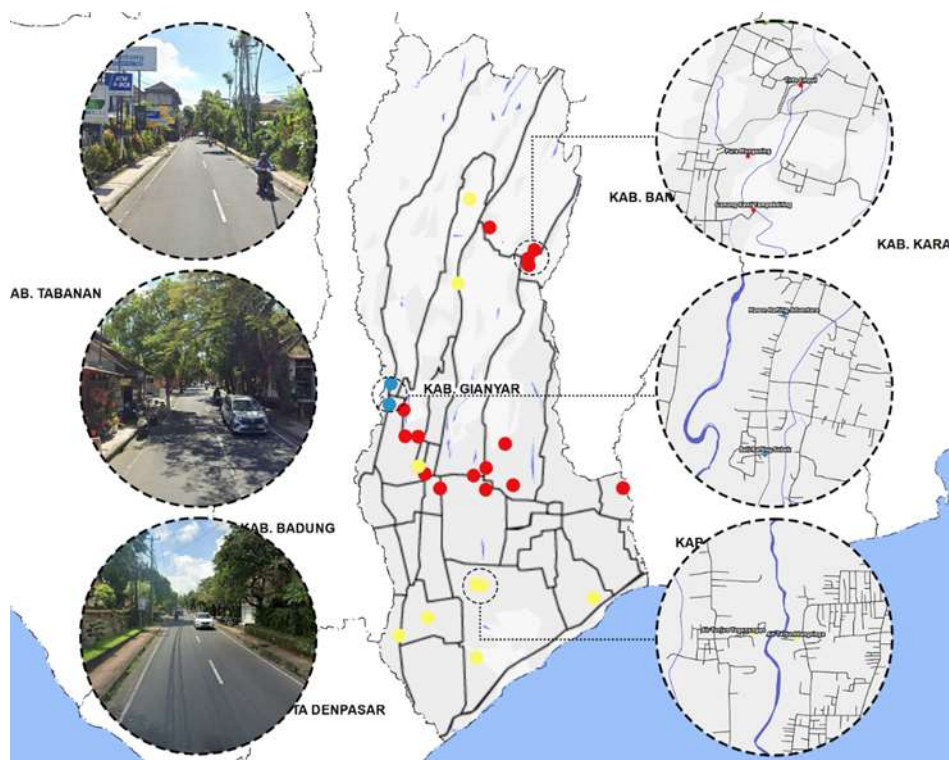


Figure 9. Visual Linkages Among Tourist Destinations in Gianyar Regency

The line element consists of the road network in Gianyar Regency, serving as a connector between distant tourist destinations, whether cultural, maritime, or natural.

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Meanwhile, the corridor element is formed by two sets of masses, encompassing buildings or trees, creating a spatial interrelation.

2. Collective Linkage

The collective linkage present in Gianyar Regency can be classified as a group form connecting structures such as linear sequences or a grid. This interconnectivity is open-ended, implying the potential for further development (Nurhikmah S, N., 2023). The group's structures are linked to a linear framework or straight line, forming natural interconnections. The linkages formed among tourist destinations in Gianyar Regency include connecting various tourist destination points with different typologies facilitating connectivity between these points. It consists of the Pakerisan River and Petanu River, which connect cultural and natural tourism. The Ayung River links maritime and cultural tourism, and the road network connects maritime, cultural, and natural tourism.

3. Conclusion

Gianyar Regency boasts 26 tourist destinations, comprising cultural, maritime, and natural tourism. In Gianyar Regency, there are 16 cultural tourist destinations (58%), two maritime tourist destinations (8%), and eight natural tourist destinations (34%).

Cultural tourist destinations offer diverse attractions, including archaeological remains, religious complexes, sacred springs, purificatory traditions, painting, sculpture, carving, and traditional irrigation systems. Destination facilities are categorized into two groups: complete facilities and incomplete facilities. Among these destinations, 10 have complete facilities (67%), while 5 have inadequate facilities (33%). Accessibility to tourist destinations, in general, can be reached by land transportation, with parking areas available at 11 destinations (73%), although four destinations do not yet have adequate parking facilities (27%). Eight tourist destinations are jointly managed by Gianyar Regency and traditional villages (53%). In comparison, six tourist destinations are governed by the private sector (40%), and one is overseen by the Bali Cultural Heritage Preservation Center (7%).

Maritime tourism in Gianyar Regency consists of two destinations. The private sector manages both destinations and offers whitewater rafting attractions. Comprehensive tourist support facilities are easily accessible via land transportation, and parking areas and tourist transport are available. In Gianyar Regency, natural tourism destinations with scenic attractions are presented in 4 destinations (44%), while five destinations offer interactions with various fauna and conservation efforts (56%). All destinations offer complete facilities (100%), are accessible via land transportation (100%), and provide parking areas (100%), with tourist transport available at five destinations (56%). In comparison, the remaining four are not served by tourist transport (44%). The institutional management of natural tourism destinations varies, with five destinations managed by the private sector (56%) and four destinations managed by traditional villages (44%).

The results of the Nearest Neighbour Analysis indicate that cultural and maritime tourism destinations in the Gianyar Regency exhibit a clustered distribution pattern, while natural tourism destinations in the Gianyar Regency show a random distribution pattern. Overall, tourist destinations in Gianyar Regency demonstrate a clustered distribution pattern with the nearest neighbour ratio of 0.80.

Based on the identification results, the visual linkage connecting tourist destinations consists of line elements, such as road networks, corridor elements composed of buildings

and trees, and side elements embodying typological variability. The collective linkage found in Gianyar Regency is classified as a group form linking structures in linear sequences or a grid. This linkage has the potential to develop further. The results of the linkage analysis fulfill the criteria for tourism package development. Tourism package development in Gianyar Regency considers the previous studies, including the typology of tourist destinations, distribution patterns of tourist destinations, and spatial interconnectivity.

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