

Spatial Study of Pengging Tourism Area as A Regional Flagship Tourism Development

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Abstract

In the highly competitive tourism industry, management is prepared to tackle competition through continuous infrastructure development and the addition of supporting facilities. They have also readied skilled human resources. Marketing strategies such as billboard placement, brochure distribution, and banners have been implemented to attract more tourists to Pengging. Facilities are added to enhance visitor comfort, making this research well-suited for qualitative methods. Developing tourist destinations using a spatial approach should consider regional characteristics in policy formulation. Limited research exists on this topic in Indonesia, making this study potentially valuable for government tourism planning. It aims to assess Pengging's potential, attractiveness, and development plan, using SWOT analysis based on geographical, demographic, socio-cultural, economic, and infrastructure indicators. The conclusions suggest managing visitor centers, enhancing tourism products, environmental management, visitor capacity, marketing, human resources, institution development, and spatial planning for Pengging tourist attraction area. This study provides spatial analysis-based recommendations for the development of Pengging tourism as a regional flagship destination. The study is unique in its integration of spatial approaches and local potential analysis, which have rarely been applied before. The findings are valuable for supporting sustainable tourism management strategies, enhancing tourism appeal, boosting the local economy, and promoting environmental conservation.

Introduction

Pengging is a village in Boyolali Regency that has a recreation area that has the potential to become a special interest tourist attraction. Not only special interest tourism attractions but the potential of cultural attractions in Pengging needs to be explored to support tourism in the Boyolali Regency area. The Pengging area is an area that has potential for the development of the Boyolali Regency tourism area, many cultures and rituals have potential in the area (Sujiyono, 2012)(Kusumo, 2022). Currently, the growth of tourist villages has increased sharply (Febrianto et al., 2022)(Buhari et al., 2022). Boyolali Regency has a variety of tourism objects, with elements of natural beauty and unique and interesting culture. Boyolali Regency has cultural relics that are used as tourism attractions that can bring in tourism. Boyolali Regency holds the charm of natural tourism, namely Tlatar tourist attraction, Merbabu Merapi Arga, and Selo tourist attraction, while cultural tourism is Pengging Tourism area, Gunung Tugel Tomb, and Pantaran Tomb, and artificial tourism is Cengklik Reservoir, Bade Reservoir and Telawa Wana Wisata. One of the natural and cultural tourism objects is the Pengging tourism area in Boyolali Regency. Boyolali Regency is included in the sub tourist destination areas (sub DTW) in Central Java. Boyolali has fresh air because it is located between Mount Merapi and Mount Merbabu, which are in Boyolali Regency. Boyolali city is 25 km from the city of Surakarta (Solo), and is part of the SSB (Solo - Selo - Borobudur) tourist area. Boyolali is known as the city of "Susu" and has the motto Boyolal Tersenyum (orderly, beautiful, neat, healthy, comfortable, for the people). The view of the eyes cannot be separated from the statue of "Dairy Cow", because Boyolali Regency is a center for the production of fresh milk drinks, so it is known as the city of milk (Sujiyono, 2012).

The tourist attractions in Boyolali Regency that are ecotourism are Pengging tourist objects. Pengging is a village in Boyolali Regency that has a recreation area that has the potential to become a special interest tourist attraction. Not only special interest tourist attractions but the potential of cultural attractions found in Pengging needs to be explored to support tourism in the Boyolali Regency area. Dacrah Pengging is a dacrah that has the potential to develop the tourism area of Boyolali Regency, many cultures and rituals have the potential in the

Pengging dachra (Sujiyono, 2012). Umbul Pengging bath is said to be a complex of baths built by the King of Surakarta Sunanate, Sri Paduka Pakubuwono X. It was originally a relaxing place for the king and his family and was not open to the public. At first this place was a place for the king and his family to relax and was not open to the public. The nuances of the palace can be felt when visiting Umbul Ngabean. The management of this historical site during the colonial period was carried out by the Surakarta Sunanate and now the responsibility is in the hands of the Boyolali Regency Government (jatengdaily.com, 2019). There are three water bulb locations in Pengging that have become bathing attractions including Umbul Temanten, Umbul Ngabean and Umbul Dudo. Actually, Umbul Pengging is not just a venue for padusan or bathing attractions. However, the Pengging complex is indeed an area full of high history, especially related to the establishment of the Surakarta Kasunanan Palace (jatengdaily.com, 2019).

Traces of past history still exist today, including the tomb of Dyah Ayu Retno Kedhaton, daughter of Prabu Brawijaya. Then there is the tomb of Kebo Kenanga or Ki Ageng Pengging. In addition, there is also an important person named Handyaningrat, a person who was once in the Mataram Kingdom. Another historical heritage in this area that is still well-preserved is the Cipto Mulyo Mosque located in Bendan village. Cipto Mulyo Mosque was established by PB X in 1909 AD. Its construction is estimated to be almost simultaneous with the establishment of Sanggrahan Ngeksipurna, one of the resting places for the nobles of the Surakarta Palace. Cipto Mulyo Mosque is directly adjacent to the grave of the poet RNg Yasadipura. This mosque is the center of the spread of Islam in the area to this day (jatengdaily.com, 2019). In ancient times, the selection of the palace's location was inseparable from the potential for abundant water sources. The surrounding community lived and grew through the agricultural sector. This is because the soil layer around the pengging area contains high aquifers. Aquifers are underground layers that contain and can drain water. This layer contains rock formations that are able to release water in large quantities to form a spring. The abundant amount of springs makes the land in the Pengging area fertile (Kuswara, 2022).

The tourism sector is a vital part of the service industry that spurs economic growth in every nation. Tourism contributes to economic growth through various means: first, as a source of foreign exchange earnings; second, by stimulating investments in infrastructure; third, by promoting development in other economic sectors through direct, indirect, and induced effects; fourth, by generating employment opportunities and income; and fifth, by fostering positive economies of scale (Yakup & Haryanto, 2021). Tourist attractions play a central role in destination planning (Dredge, 1999). In fact, regional and local governments have heavily invested in tourist attractions, such as sports facilities, theme parks, or museums, over the past three decades, often with limited success (Rosentraub, M. S., & Joo, 2009). Developing attraction-based policies raises questions about spatial organization within a destination. First, the location of new amenities should consider existing attractions to minimize spatial competition and create positive spatial spillovers. Second, the jurisdiction responsible for managing or funding an attraction should be based on its size, costs, and the extent to which it benefits the destination in terms of arrivals, employment, and services. Therefore, effective destination planning and attraction-based policy design require an understanding of how attractions drive tourism development, their interactions, and their impact on tourist services within a destination. Extensive literature exists on tourist attractions, including definitions and characterizations of different types (Wall, 1997). Based on the 2020-2024 RPJMN Boyolali Regency, the performance of tourism and the creative economy in Indonesia continues to increase, the contribution of tourism in creating foreign exchange has increased from USD 11.2 billion in 2014 to USD 19.3 billion in 2019 (Bappenas, 2020). Based on research (Ayu, Kurnia Margareta, 2022) states that at the provincial level the tourism sector in Central Java has an effect on economic growth during the 2015-2019 period, the number of tourists and hotels has a significant effect on economic growth, while tourist attractions have no significant effect on economic growth, this is because the development of tourist attractions in some areas is quite slow and some tourist attractions are not well managed by the government. At the regional level, the tourism sector in Boyolali Regency, Central Java Province, experienced a very significant increase during the 2018-2022 period both in terms of tourist attractions, number of tourist destinations, tourist villages, labor, number of tourists and income. In 2022 the total income of the Boyolali Regency tourism sector was IDR 818,219,500 with 58 tourist attractions, with details of 19 nature tourism, 12 cultural tourism, 26 artificial tourism and 1 special interest tourism while based on the number of tourists visiting tourist attractions as many as 269,871 tourists with details of 269,729 domestic tourists and 142 foreign tourists with a total workforce of 35 people, greater than in previous years. the number of tourist attractions, labor, tourist villages (Disporapar Prov Jateng, 2022). Several leading tourist attractions in Boyolali Regency have many visitors every day (BPS Kabupaten Boyolali, 2021). The following is the number of visitors to several leading tourist attractions, including Pengging tourism with a total number of visitors of 59,192, Tlatar tourism of 144,951, Telawa tourism of 5,895, Yosodipuro Pengging Cemetery tourism of 46,588, Cengklik Reservoir of 4,053, Arga Merapi Merau tourism of 34,903. With a total of 348,637 tourists. The advancement of technology has prompted the Ministry of Social Affairs and its counterparts in various regions to consistently monitor the spatial dynamics of social assistance programs. Utilizing technology based on geographic information systems (GIS) can serve as an effective decision-making alternative to enhance the efficiency of the Sembako Program's distribution of social

assistance. This includes the ability to swiftly address distribution challenges encountered in the field. It's worth noting that GIS for mapping social issues is more extensively developed at the national level, covering larger areas, compared to its application at the regional level, which typically encompasses smaller geographic areas. Furthermore, while socio-economic information is of great importance, its incorporation into such systems remains limited in Indonesia (Sari et al., 2023).

Remote sensing enables faster and cheaper data acquisition for hydrological studies. Image data and aerial photos can be processed into new information that is useful for finding out spatial-based conditions in an area. Remote sensing is very helpful in terms of time and cost efficiency. Geographic Information System (GIS) has the ability to generate new information quickly and easily. In addition, GIS is a system that contains data with spatial references, which can be analyzed and converted into information for certain purposes. The main ability of a GIS is data analysis used to generate new information (Dewi Novita Sari, 2023). Remote sensing data processing using machine learning could be of immense value as a food crop prediction method (Khoirurrizqi, 2023). GIS applications are widely used for purposes ranging from natural resource inventories to regional spatial planning, among others. The use of remote sensing techniques combined with GIS is expected to provide data and analyze data spatially, to produce information that can be used to make integrative decisions (Febrianto et al., 2022). The spatial approach of tourism destinations is needed to support sustainable tourism, it is very important as a guide for tourism destination managers in determining future destination development. Several previous studies have been conducted with the theme of tourism destination sustainability and its relation to the spatial approach, including the pattern of tourist trips in the destination, the distribution of concentrated tourist activities, the spatial model of tourism destinations and the spatial structure of tourism destinations. The development of tourism destinations through a spatial approach plays a role in determining directions for destination managers in determining tourism policies, such as areas that have characteristics of geological, biological and cultural diversity directed as geotourism or geopark destinations, characteristics of urban areas are very suitable to be developed as urban tourism destinations and coastal areas directed as resort areas.

The development of destinations using a spatial approach should consider regional characteristics when formulating tourism development policies. However, there is a significant research gap in examining destination development from a spatial perspective, particularly in Indonesia. This research has the potential to contribute to government tourism planning by addressing this gap (Wulung, 2021). Sustainable tourism development must take into account environmental factors. One crucial aspect of using natural resources for tourism is assessing resource suitability and the area's carrying capacity to support tourism activities. It's essential to study the area's suitability to maintain ecosystem sustainability (Kurniawansyah et al., 2023). This study aims to assess the potential and challenges in developing Pengging tourist area, analyze its attractiveness, and create a development plan considering its strengths, weaknesses, opportunities, and threats. The primary goal is to elevate Pengging tourist destination's status as a prominent regional attraction in Boyolali Regency while enhancing the author's knowledge and providing valuable information to readers.

Research Method

The research method carried out in this study is divided into several stages, namely, the sampling stage, data collection, data processing and data analysis. The following are some of the stages in the research process carried out. The qualitative method in scientific research is directed towards comprehending a phenomenon within its natural social context. It places significant emphasis on fostering in-depth communication and interaction between the researcher and the subject of study. The primary goal is to uncover comprehensive information, with the quality of the research improving as the depth of obtained data increases.

Sample Collection Method

The sample collection took place in Boyolali Regency, situated within the coordinates of 110° 22' - 110° 50' East longitude and 7° 7' - 7° 36' North-South latitude. This region spans an elevation range of 75 to 1500 meters above sea level and covers an area of 1,015.10 km². Boyolali Regency is administratively divided into 22 sub-districts, comprising 261 villages and 6 sub-districts. The development project for the Umbul Pengging Tourism Object is focused on the Planning Area in Dukuh Village, Banyudono District, Boyolali Regency. Geographically, Banyudono District falls within the coordinates of 110° 39' 58" - 110° 43' 34" East longitude and 7° 30' 23" - 7° 33' 56" South latitude, with elevations ranging from 75 to 400 meters above sea level. The planning location is approximately 9.2 km away from the capital of Boyolali Regency (BPS Kabupaten Boyolali., 2023). The research location map is shown in Figure 1.

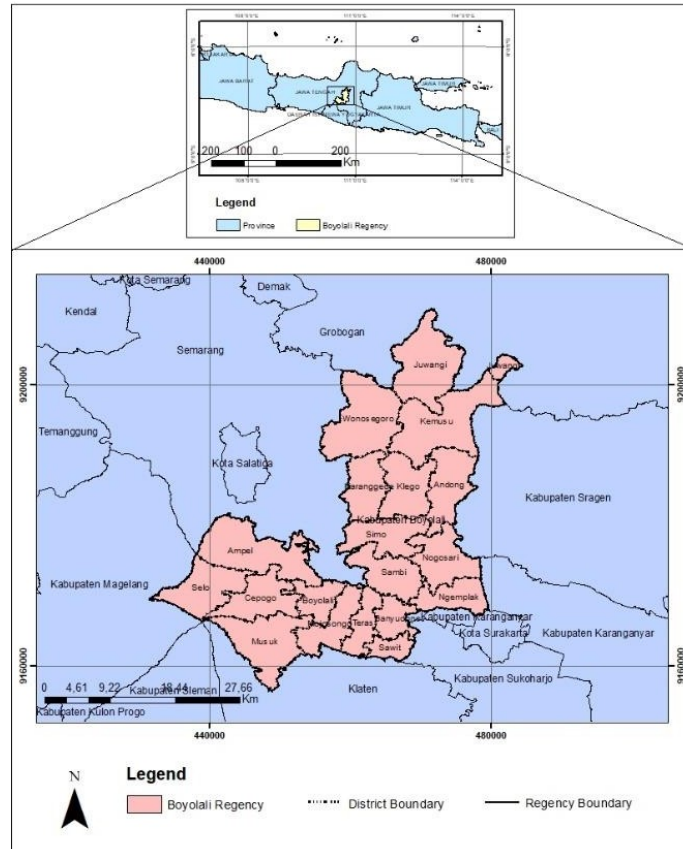


Figure 1. Map of Research Location

The sampling method used in this study is using the Purposive Sampling method, one of the non-random sampling techniques where the researcher determines the sampling by setting specific characteristics that are in accordance with the research objectives so that it is expected to answer research problems. When researchers find an integrated tourist attraction, a survey will be conducted in that place to find out the potential that can be developed from the tourist attraction.

Data Collection Methods

Data collection involved the utilization of both primary and secondary data sources. Primary data was obtained through direct observation and aerial photography using drones to inventory tourist attractions. On the other hand, secondary data encompassed information gathered from literature studies and assessments of regulations in various sectors such as the economy, culture, environment, and transportation. Additional secondary data, sourced from online platforms like the Google Earth application, provided information on the distribution of Pengging tourist attractions. Population and Digital Administration data were acquired from BP3D Boyolali Regency, while Geographical Aspects and Economic Conditions data were procured from the Office of Community and Village Empowerment (Dispertanbunhut Kabupaten Boyolali, 2016). Demographic aspects were retrieved from the Population and Civil Registration Office (BPS Kabupaten Boyolali, 2020), socio-cultural conditions from DISBUDSOS, regional potential from DISPERTANBUNHUT (Dispertanbunhut Kabupaten Boyolali, 2016) and the status of village facilities and infrastructure from the Department of Public Works and Spatial Planning (Departemen Pekerjaan Umum Direktorat Jenderal Penataan Ruang, 2007). Additionally, data concerning the state of tourism in the vicinity was sourced from (BPS Kabupaten Boyolali, n.d.), and information regarding location sites and tourism attractions was obtained from the Boyolali Regency Youth, Sports, and Tourism Office (Disporapar Prov Jateng, 2022). And Other Sources from books, internet, articles, research results, etc. These data sets were subsequently processed using the ArcGIS application. Instruments and materials used in this study as follows:

Table 3. Research Instruments and Materials

Primary Data Source	Data Type
Observation	a. Data on the Distribution of Pengging Tourism Area 1. Physical condition of Pengging tourism area: physical location of tourism, facilities 2. Coordinate point of Pengging tourism location
Informant/Key person	Traders, Visitors
Research Instruments and Materials	Camera, Drone, ArcGIS, QGIS, Stationery, GPS

Data Analysis Method

The stage of data processing and analysis used in this research is by processing secondary data and primary data with SWOT analysis which will be explored based on the needs of strengths, weaknesses, opportunities and threats on indicators of geography, demography, socio-cultural conditions, economic conditions and conditions of facilities and infrastructure in the Pengging area.

Descriptive statistical analysis is to provide an overview of the attractions owned by the Pengging tourism area and community attitudes about the development plan. The analysis stage aims to find potential and problems in planning, then can be used to find opportunities and anticipate challenges that will arise. Data analysis in this study was carried out using SWOT analysis Rangkuti (2014) said that SWOT analysis is a classic strategic planning instrument using the framework of strengths, weaknesses, opportunities, and threats. This instrument provides a simple way to estimate the best way to implement a strategy. SWOT can systematically assist in the preparation of a mature plan to achieve goals, both short-term and long-term goals. SWOT is a descriptive form of situation and condition analysis. The situation and condition analysis is an input which is then categorized according to its respective contribution. Strength (strength) is a condition that is the strength of an area, something that an area already has and has been running well. Weakness is a situation that does not support (not running well) or something that is needed but not yet or not owned by an area. Opportunity is a positive factor or condition that arises from the environment and provides an opportunity for the program to take advantage of and develop it. This can be a potential value or something that can be an added value compared to other regions. Threat is a threat factor that provides an obstacle to the development of a program.

Results and Discussion

Previous research conducted in the same location, namely Umbul Pengging, differs from the current study. In the earlier research titled "Potential of Pengging Area as a Special Interest Tourism Attraction of Boyolali Regency," (Sujiyono, 2012) the emphasis was on exploring the background and potential of Pengging as a special interest tourist attraction, as well as examining the community's role in its tourism management. In contrast, the present study is centered on evaluating the potential and devising strategies to transform Pengging into a prominent regional tourist destination. This is accomplished through the application of SWOT analysis to assess the area's strengths, weaknesses, challenges, and threats.

Potential and Problems Related to the Development of Regional Featured Tourism Pengging Tourism Area

The Pengging tourism area holds great potential for development, encompassing both natural attractions such as water sources used for activities like bathing and fishing, as well as cultural attractions like historical relics from the Surakarta Kasunan Palace and traditional Pengging community celebrations. However, there are several challenges hindering optimal tourism development, including inadequately maintained facilities like bathrooms, cleanliness issues around tourist locations, limited tourism promotion efforts leading to reduced visitor numbers, and insufficient accessibility to the Pengging tourist area. According to data from BPS Boyolali Regency, the total number of tourists visiting the area has increased to 269,871, comprising 269,729 domestic tourists and 142 foreign tourists. This surge can be attributed to effective management providing excellent services and continuous infrastructure development to stay competitive in the evolving tourism industry. The management has also prepared additional facilities and competent human resources to meet the demands of intensified tourism competition. Furthermore, they have taken measures to minimize potential challenges. Marketing plays a vital role in boosting tourist visits, with various strategies such as billboards, brochure distribution, and banners implemented to attract more tourists. However, the addition of facilities alone is insufficient without the support of capable and skilled human resources, which the management has diligently ensured.

Attractiveness of Pengging Tourism Area

The Pengging tourist area boasts natural beauty, surrounded by rice fields, springs, and small rivers, making it a promising destination in Boyolali Regency. Historically, it served as a bathing place for the Surakarta Sunanate royal family. Visitors can enjoy fresh spring baths, ancient royal structures, and a rural natural ambiance. Tourism activities in Pengging include bathing in three springs (Umbul Temanten, Umbul Ngabean, and Umbul Dudo) and win-win fishing. While some facilities are well-maintained, others are in disrepair. Surrounding amenities include restrooms, changing areas, waste bins, gazebos, seating, parking, food stalls, and prayer rooms. Pengging's key attraction is its water resources, serving as a sustainable water source for both tourism and nearby residents. To further develop Pengging, potential ventures include swimming pools, educational parks, and playgrounds. Located between Solo and Yogyakarta, Boyolali Regency holds untapped tourism potential in its springs, mountains, and other areas. Exploring options like constructing water parks and educational parks can enhance tourism in the region, particularly appealing to children.. A map of the Pengging Tourism Area is shown in Figure 2.

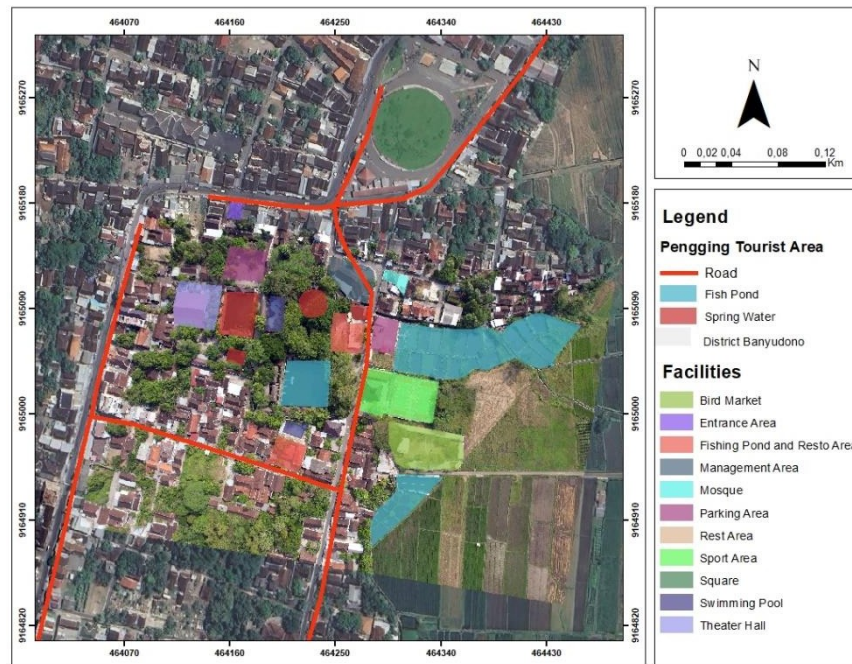


Figure 2. Map of Pengging Tourism Area

SWOT Analysis

Based on the results of the analysis and discussion of efforts to develop pengging tourist attraction as a leading regional tourism SWOT analysis method is useful to look at a topic of problems from four different sides. The results of the analysis are in the form of directions and recommendations to maintain strengths and ways to increase existing opportunities and reduce shortcomings and avoid threats. The SWOT analysis of the Pengging Tourism Area is illustrated in Table 4.

Table 5. Table SWOT Analysis of Pengging Tourism Area

Strength (S)	Weakness (W)
- An info center serves tourists at Umbul Pengging. - Digital marketing greatly impacts attraction promotion. - Guides have foreign language proficiency. - Worship facilities, particularly mosques, are available. - A strong internet network is accessible. - Security at Pengging umbul is assured. - Managers, vendors, and staff are visitor-friendly	- Stakeholders lack quality training for Pengging umbul. - Visitor outreach is minimal.

Opportunity (O)	Threat (T)
- Natural attractions like water sources (umbul) for bathing, fishing, and water tourism. - Cultural tourism, including historical relics and Pengging community traditions.	- Insufficient tourism promotion leading to reduced visitors. - Limited accessibility due to distance from transportation hubs.

Development Strategy for Pengging Tourism Area

Pengging Tourism is overseen by the Boyolali Regency Government, and to foster the growth of this historical and cultural attraction, the government should prioritize community education and guidance. This involves organizing events and exhibitions focused on historical tourism heritage and cultural traditions at Umbul Pengging baths (Mustikaningrum et al., 2023)(Widayani et al., 2023). It's also vital to promptly improve and maintain facilities for tourists' satisfaction. Enhancing the knowledge and skills of local residents in Pengging is crucial. While some have initiated businesses selling Pengging specialties and offering services as swimming and tennis coaches, there's untapped potential, particularly in the souvenir industry. The government plays a pivotal role in guiding the community and encouraging tourism awareness groups to actively contribute to the development of Umbul Pengging baths. The strategy for developing the Pengging Tourism Area encompasses both non-physical and physical aspects. This includes managing the visitor service center, enhancing tourism products, implementing environmental measures at tourist sites (such as managing carrying capacity and assessing attraction capacities), visitor management, addressing environmental impacts, and disaster preparedness. Additionally, it involves developing tourism markets, improving human resources, enhancing institutional capacity for attraction management, strengthening connections with the local and broader environment, and formulating development concepts and spatial arrangements for the Pengging umbul tourist attraction area. This involves detailing the function of activities and facilities to be accommodated and creating a site plan that includes spatial descriptions for each development location.

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