Determining Banjar Boundary and Tourism Planning using Participatory Mapping (Case Study in Pesinggahan Village, Klungkung Regency, Bali, Indonesia)

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Abstract. Banjar is a legal community unity that has territorial boundaries based on origin and customs in Bali. Banjar is the smallest administrative area in Bali Province, Indonesia. Pesinggahan village located in Dawan Sub-district of Klungkung Regency, Bali, Indonesia which consists of five banjar and each has the potential of different areas. Pesinggahan village also established into a ritual village and has tourist attractions such as Goa Lawah and unique landscape oh Subak’s ricefields. The tourism in Pesinggahan village has not yet develop due to lack of spatial planning that accommodate the tourism development. The purpose of this research is to determine the banjar boundary in Pesinggahan village and to analyse the tourism development plan using participatory mapping. The Pesinggahan Village is consists of five banjar consist of Banjar Kanginan, Banjar Sukahati, Banjar Suwitrayasa, Banjar Belatung, Banjar Pundukdawa. Tourism area in Pesinggahan Village is Goa Lawah in Banjar Kanginan and Agricultural Land in Subak Pesinggahan in Banjar Suwitrayasa. Boundary Analysis of Villages and Banjar with spatial plan regulation of Klungkung Regency results that the Pesinggahan village are divide into Food Crop Agriculture Zone, Dryland Plantation Zone, Green Open Space and Residential Zone. Participatory mapping process produce several locations of tourism development planning such as homestay area, restaurant, road development around Goa Lawah tourism object, and planning of jogging track, cycling track, farm road, fishing pond, and restaurant around Subak Pesinggahan. Tourism development are located in accordance with zoning allotment of Pesinggahan village that is consists of zone of settlement, agriculture and green open space.

Keywords: Banjar Boundary, Participatory Mapping, Tourism Planning

1. Introduction
Pesinggahan Village is one of the villages located in District of Dawan, Klungkung Regency, Bali, which is traversed by tourist route in Bali especially for East Bali tourist destination. Pesinggahan Village is a tourist destination that is not as famous as the other tourist areas in Klungkung regency, such as Nusa Penida. Pesinggahan Village better known by local and international community because in this village there is a temple that has become one of the religious destination and also become a tourist destination, namely Pura Goa Lawah. Goa Lawah Temple is one of the sacred temples on the island of
Bali, the cave temple known as Pura Goa Lawah is home to thousands of bats, local legend is to be believed, it also hides a river of healing waters and a titanice snake wearing a crown. The development of Goa Lawah Temple making Pesinggahan Village in February 2017 established as one of the Tourist Village in Klungkung Regency. Tourist village is a rural area that has some special characteristics to become a tourist destination. In this area, the inhabitants still have tradition and culture that is still original. Through Regent's Regulation no.2 Year 2017 on the determination of Pesinggahan Village area as a religious tourist village with an insightful agriculture, making the government, especially in the Pesinggahan Village government to focus more on developing Pesinggahan Village [2].

Pesinggahan Village is rich of potential that can be developed. Recently the Pesinggahan Village government also built a temple that has potential in the development of tourist village, namely Pura Penataran Agung Pasek. Pesinggahan Village also wellknown for its delicious local food named Sate Lilit. In addition, Pesinggahan Village has unique characteristics with topography of the area that located in a hilly and coastal areas that are formed naturally. The problems that occur is the potential of natural resources with human resources in each Banjar (Hamlet) is not optimized considering the Pesinggahan Village is still newly established as a tourist village so that the arrangement and management of existing potential to support the activities of tourist is still lacking.

2. Literature Review
2.1 Tourism Planning
Tourism planning was restricted primarily to the measurement of the economic impacts for destination areas, due to the ease with which economic impacts may be measured, compared to environmental and social impacts and the attempt of local governments to optimize economic benefits [2].

2.2 Participatory Mapping
Participatory mapping is the “bottom-up approach” that allows the masses to create maps for all, in contrast to the traditional “top-down approach”, relying on those with the power and resources to create maps that will benefit the masses either directly or indirectly. Mapping is useful for planners, policymakers, and residents for the collection of knowledge, establishment of boundaries, administration of municipality services, and empowerment of those involved with the land [3]. Participatory mapping is an investigative process and tool, utilizing visual and discursive techniques to better understand local (community) natural resources, together with their management, dynamics and related challenges, with potential solutions to those challenges [4].

3. Methodology
3.1 Area of Study
Area of study is located in Candikuning Village, Baturiti Sub-district, Tabanan Regency, Bali Province, Indonesia. Geographically, Candikuning Village located in UTM Zone 5o S, with easting 297258.12 m and northing 9084770.92 m. Candikuning Village bordering with Sukasada Village, Sawan Village and Kubutambahan Village of Buleleng Regency in the north, Belok Village of Badung Regency in the east, Batunya Village of Baturiti Sub-District in the south and Pancasari Village of Buleleng Regency in the west. The area of Pesinggahan Village is 365.6 Ha in which 44 Ha is for paddy field (12%), 171.95 Ha is for moor (16%), 126.62 Ha is for plantation (35%), 17.79 Ha is for yard (4.87%), and other land use for 5.24 Ha (1%). Pesinggahan Village divided into 5 (five) hamlet or Banjar Dinas, namely Banjar Dinas Kanginan, Banjar Dinas Suwitrayasa, Banjar Dinas Sukahati, Banjar Dinas Belatung, and Banjar Dinas Pundukdawa. Knowing the boundary of Banjar Dinas or hamlets in the Pesinggahan Village, will facilitate in planning the development to be implemented in the village.

3.2 Tools and Material
The material used in this research are spatial datas as follows:
- Administration Map Scale 1: 25,000
While the tool used are:

- Computer or laptop used to process the spatial data
- GPS (Global Positioning System) to determine the coordinate point of observation.
- Camera
- Stationary

3.3. Data collection

Data collection method used in this research is primary data and secondary data method.

- Primary data collection
  - Field survey. Field surveys were made using scoring table for tourism planning in the Pesinggahan Village.
  - Interview to explore more information related to the development planning of tourism village
  - Participatory Mapping is an advanced process of interviewing to gather stakeholders to explore more information and to mapping the development plan for the development Pesinggahan Village.
- Secondary data collection for tourism planning mainly base on literature review

2.4. Data Analysis

- Interview Result Analysis
- Survey Result Analysis
- Focus Group Discussion Analysis

4. Result and Discussion

4.1. Banjar Boundary Mapping

In accordance with the name of this village, 'Pesinggahan' is a place for a stop or a short break after a long journey. Pesinggahan Village divided into 5 (five) Hamlets or Banjar (Dusun), namely Banjar Kanginan, Banjar Suwitrayasa, Banjar Sukahati, Banjar Belatung, and Banjar Pundukdawa. Knowing the boundary of Banjar in Pesinggahan Village, will facilitating the planning and development to be implemented in the village and to make Pesinggahan Village not only become a stopover but also the main tourist destination.

Determination of Banjar boundary in the Pesinggahan Village implemented using participatory mapping, and at the same time, participatory planning was held to establish development planning in each hamlet to support Pesinggahan Village’s tourism. Participatory mapping is done in conjunction with all Banjar Leader and Head of Pesinggahan Village also with delegations from neighboring village in order to avoid overlapping boundaries between Banjar. Determination of Banjar boundaries then approved by all parties, both from the Banjar leaders and Head of Pesinggahan Village and also the neighboring villages. The establishment of Banjar boundary will make it easier for villagers to know the potentials that exist in each Banjar area. Figure 1 shows the participatory mapping process in Pesinggahan Village. Figure 2 shows the map of each Banjar.
4.2. Potential Development

Banjar Kanginan is categorized as the most developed area. This is because of the existence of Pura Goa Lawah. Pura Goa Lawah (Goa Lawah Temple) is one of the well-known tourist destination which highly contribute to the income of Pesinggahan Village and Banjar Kanginan. Pura Goa Lawah is located on Jalan Raya Goa Lawah, with an easy accessibility because it is located in arterial road. Pura Goa Lawah becomes a tour package of tourism and routinely visited by tourists who are dominated by foreign tourists. Tourism activities especially in Pura Goa Lawah has been arranged and handled by Pokdarwis (Tourism Community Group) of Pesinggahan Village, so the management can run well. Activities in this temple will be quite busy while being carried out rituals such as Piodalan and Ngusaba. The uniqueness of this temple is the presence of thousands of bats nesting in the cave. Tourists who visit Pura Goa Lawah will be amazed by the culture heritage in rituals also the uniqueness of the thousands bats. Tourists who visited Pura Goa Lawah will be accompanied by a tour guide that comes from Pesinggahan Village. Guide will accompany the tourists to the Temple, but tourists are required to obey the rules of the Temple, which one of them is to politely dress. Therefore, before entering the Temple, tourists will be rented cloth and scarves directly on site. Ticket rates to visit Pura Goa Lawah ranges from Rp 6.000, - for adults and Rp 4.000, - for children. In addition to traveling around the temple location, guide that leads tourists will also explain the history of Pura Goa Lawah.

Goa lawah Temple is located on the edge of Goa Lawah Beach. Goa Lawah Beach area also became one of the tourist destination of Banjar Kanginan in Pesinggahan Village, because this beach is used as a location for rituals or traditional ceremony which become a series of events in Pura Goa Lawah itself. Tourists will pack the beach area when the ceremony is in progress. Goa Lawah Beach is a black sandy beach and has beautiful sea views to Nusa Penida Island. Figure 3 shows the conditions of Pura Goa Lawah and Figure 4 shows the Goa Lawah Beach.
Figure 2. Maps of Banjar in Pesinggahan Village
Pura Goa Lawah is not the only famous Temple in Pesinggahan Village. Recently there’s a new Temple that is also a potential of tourism in Banjar Kanginan, Pesinggahan Village, namely Pura Penataran Agung Catur Parahyangan Ratu Pasek which located in Banjar Pundukdawa. Since this temple was built, Pesinggahan Village becomes more frequently visited by people who want to carry out worship at the Temple. This condition can become a potential income and tourism for Banjar Pundukdawa and Pesinggahan Village. Figure 5 shows the conditions of Pura Penataran Agung Catur Parahyangan Ratu Pasek.
Pesinggahan Village not only blessed with unique culture and beach panorama, it also has agricultural areas in the form of rice fields that beautifully lies between slopes, with views of the hills located in the Banjar Suwitrayasa. Banjar Suwitrayasa also has a potential as a tourist village with agricultural potential, with agriculture activities become one of supporting the development of Banjar Suwitrayasa. Agricultural commodities in this village are rice, maize, and flowers that are usually used for the means of praying for Hindus. Figure 6 shows the panorama of rice fields in Banjar Suwitrayasa.

![Figure 6. Ricefields in Banjar Suwitrayasa](image)

Agricultural community that also exist in Banjar Suwitrayasa is Simantri 127. Simantri 127 established in 2014 and aims to support the development of agricultural diversification in an integrated and agribusiness-oriented. Simantri 127 is also expected to increase farmers' income. Simultaneous activities of Simantri 127 are more focused for the breeding of Bali cattle. Cow manure also used as fertilizer and used in the cultivation of plants. In addition to saving the cost of fertilizer, farmers in Banjar Suwitrayasa have skills in processing livestock manure and can be utilized. Figure 7 shows the Bali Cattle farm of Simantri 127.

![Figure 7. Bali Cattle farm of Simantri 127](image)

Pesinggahan Village also famous for its special food, which is a sate seafood stalls and become one of famous culinary in Pesinggahan Village. Pesinggahan village became one of the main culinary destination by the people of Bali. Restaurant scattered along the arterial road to Goa Lawah Temple in Banjar Suwitrayasa and Banjar Kanginan, and some also located in the middle of the settlement. Residents who enjoy this satay culinary usually come at the time of the big religious feast day in Pura Goa Lawah, or just stopover in their travelling. Figure 8 shows the famous culinary in Pesinggahan Village.

![Figure 8. Famous culinary in Pesinggahan Village](image)
Figure 8. Satay Food Stall in Pesinggahan Village.

Pesinggahan Village not only potential for its nature beauty, religious and traditional culture but also agricultural potential and culinary. Banjar Kanginan and Banjar Suwitrayasa is two main Banjar in Pesinggahan Village has its own uniqueness that can make Pesinggahan Village not only as stop over for tourists but also become main tourist attractions in Bali. Table 1 shows the uniqueness of Pesinggahan Village.

| No | Banjar         | Uniqueness                                           |
|----|----------------|------------------------------------------------------|
| 1  | Kanginan       | Pura Goa Lawah, Goa lawah Beach, Culinary, makes it potential for religious tourism. |
| 2  | Suwitrayasa    | Ricefield view, agricultural products, Bali cattle, culinary, makes it potential for agrotourism |
| 3  | Pundukdawa     | Pura Penataran Agung Catur Parahyangan Ratu Pasek,  |
| 4  | Dusun Belatung | Culinary                                             |

4.3. Development Planning

The development of tourist village especially in Pesinggahan Village must pay attention to the level of acceptance of local community. It is useful to know the human resource condition of the Pesinggahan Village community that can be acted as subject in the development of the tourist village. The development of a good tourism industry will have an impact on the region's economy, such as opening up employment opportunities, increasing people's incomes and increasing local revenues also to equally distribute the opportunity to involve in tourism business for all Banjar in Pesinggahan Village.

Pesinggahan Village development plan can be done after we know the value of Pesinggahan Village. The value will be calculated using score based on the state of nature, physical environment, culture, infrastructure, village institutions, human resources, community life, accessibility, attraction, village tourism support facilities, and investment opportunities in Pesinggahan Village. Pesinggahan Village has a total score of 199, which means Pesinggahan Village is in the stage of developing tourist village. Appendix 1 shows the complete scoring result of Pesinggahan Village.

The strength of Pesinggahan Village is on the quality of its human resources. This is supported by the number of villagers with productive age, so that there are opportunities for young people to move to the tourism business. Then, lot of people of Pesinggahan Village have worked in the tourism sector especially tourist guide at Pura Goa Lawah. The weakness of Pesinggahan Village is the lack of support facilities for, such as homestays. These weaknesses will be a development opportunity to invest for the private sector and the government itself to improve the quality and quantity of tourist facilities in Pesinggahan Village.

The participatory mapping activities that has undertaken with all Banjar (Dusun) leader head of Pesinggahan Village produced a development plan for Pesinggahan Village. A proper development plan
has been established in accordance with the wishes of the village community based on the potential of each banjar.

Through the activities of participatory mapping, obtained the location points that want to be developed by each representatives of Banjar in Pesinggahan Village. More focused development is planned in Banjar Sukahati. The first is the development of Bukit Tengah area in Dusun Sukahati. Bukit Tengah is a hilly area in center of Banjar Sukahati where visitors can see the whole village with sea panorama in the south. The Head of the Pesinggahan Village with the leader of Banjar Sukahati wants the Bukit Tengah area to be developed as one of the attractions of Pesinggahan Village, by carrying the concept of a rest area with the view of the whole village with rice fields and the sea. There’s also a plan to make a sign of Bukit Tengah mounted on the side of the hill so it can be seen from a distance.

Another plan to be developed is facilities such as homestay. Currently there is only one homestay located in Dusun Pundukdawa, and the plan is to build more homestay in Banjar Pundukdawa because Banjar Pundukdawa is suitable for homestay construction site and planned for a centralized homestay. Banjar Pundukdawa itself is located close to the expanse of rice fields with hilly topography that adds to the uniqueness of homestay location for tourists. In addition to homestay, another facility to be built is a place of yoga meditation. The place of meditation is very suitable to be developed in the Pesinggahan Village, because in this village is known for its religious tourism. Tourists who come to visit can feel the spiritual experience through yoga meditation. The location of yoga meditation is planned to be built near the paddy fields in the Banjar Pundukdawa. Figure 9 shows the development map of Pesinggahan Village.

Figure 9. Village Development Plan

To support agrotourism there’s also plan to create ricefield jogging track and bicycle line in Banjar Pundukdawa, and Banjar Sukahati. These two Banjars beside Banjar Suwitrayasa will be planned as
agrotourism area with ricefield view and agricultural products. And finals to complete the accommodations for tourists in Pesinggahan Village, there’s also plan for rest area and parking place to accommodate the vehicles and also as a income from parking retributions. The culinary also established in each Banjar but with modern taste, different menus and modern management to add the facilities for tourists. Table 2 shows the development plan in Pesinggahan Village.

| No | Banjar     | Development Plan                                                                 |
|----|------------|-----------------------------------------------------------------------------------|
| 1  | Suwitrayasa| Agricultural products, Bali cattle,                                               |
| 2  | Kanginan   | Handicrafts, Pura Goa Lawah, Goa lawah Beach, Culinary                            |
| 3  | Belatung   | Culinary                                                                          |
| 4  | Sukahati   | Bukit Tengah area, culinary, ricefield jogging track and bicycle line             |
| 5  | Pundukdawa | Yoga area, ricefield jogging track and bicycle line, homestays, culinary, Pura Penataran Agung Catur Parahyangan Ratu Pasek |

5. Conclusions

Pesinggahan Village has lots of potential to become tourist village. Pesinggahan Village divided into 5 (five) Hamlets or Banjar (Dusun), namely Banjar Kanginan, Banjar Suwitrayasa, Banjar Sukahati, Banjar Belatung, and Banjar Pundukdawa Determining the Banjar boundary in the Pesinggahan Village implemented using participatory mapping, and at the same time, participatory planning was held to establish development planning in each hamlet to support Pesinggahan Village’s tourism.

Banjar Kanginan is categorized as the most developed area. This is because of the existence of Pura Goa Lawah (Goa Lawah Temple), and Goa Lawah Beach. There’s also ricefield view, agricultural products, Bali cattle and traditional culinary that makes Pesinggahan Village not only potential for its nature beauty, religious and traditional culture but also agricultural potential and culinary.

The strength of Pesinggahan Village is on the quality of its human resources, in which, lot of people in Pesinggahan Village have worked in the tourism sector especially tourist guide at Pura Goa Lawah. The weakness of Pesinggahan Village is the lack of support facilities such as homestay. These weaknesses will be a development opportunity to invest for the private sector and the government itself to improve the quality and quantity of tourist facilities in Pesinggahan Village.

Development plan for Pesinggahan Village involving development of new tourism attractions, products and facilities for tourists. New tourism attractions and products such as rest area in Bukit Tengah with Village view, ricefield view and sea view, yoga/meditation area, handicraft products, agricultural products, ricefield jogging track and bicycle line. Facilities plan such as homestays, parking lot, and traditional culinary.

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