

# Open Space Development Assistance at Rawa Kalibayem Tourism Area, Ngestiharjo Village, Kasihan, Bantul

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**Abstract.** Bantul city has many areas with potential tourist attractions. The purpose of this activity is to identify and optimize the tourism potential found in Rawa Kalibayem Tourism area. This activity uses the PASOLP (Product Analysis Sequence for Outdoor Leisure Procedure) method, a modern tourism area planning approach that includes between national/regional policies, the environment and economic sectors related to planning. The results show a lot of potential can be unearthed in Rawa Kalibayem tourism area, such as culinary tourism (traditional food), educational tourism (history of the region), family tourism, water tourism (fishing) and agrotourism. In addition also the utilization of Open Space and Play Room in the form of Child Friendly Room that can be processed to the maximum. The potential and utilization can be developed to the maximum for its management. Therefore, it is necessary to help the plan of open space development of Rawa Kalibayem tourism area gradually and systematically in accordance with the scale of priority. Assistance of development plan and implementation of open space area in the form of proposals and ideas that will be the basis of the implementation of the master plan of regional development.

## 1. Introduction

### 1.1 Background Issues

The implementation of community service is located in Ngestiharjo Village, Kasihan District, Bantul Regency. In this case, one of the potential natural resources in Ngestiharjo Village is Rawa Kalibayem. Rawa Kalibayem has a significant historical value, which in 1947-1948 the area became the site of Indonesia's first submarine test. In addition, Rawa Kalibayem, is also believed to be a source of water flowing into Pasanggrahan Ambarbinangun. Pasanggrahan Ambarbinangun is a pasanggrahan founded by Sri Sultan HB VII.

Rawa Kalibayem condition is currently poorly maintained and experiencing shallowness, although several times has been carried out dredging efforts to increase the depth of swamp water. In its current state, Rawa Kalibayem is used as a fishing spot for fish sought by the local community. Efforts to set up Rawa Kalibayem area have been started by several parties starting in 2018. Among others, from the district government bantul with road pavement improvement project using paving block and the construction of Semar Seto statue in the middle of the swamp, from the Architecture study program of Atma Jaya University gave the proposal of planning and designing semar seto ngestiharjo tourism village that was once submitted through a student practice work program, which was then followed up by the design of the village lake by the Yogyakarta Environment Agency.



**Figure 1** Existing Condition Rawa Kalibayem, 2020

Rawa Kalibayem area is planned by the local government to be a tourist area. There is an open space that has been used by the public to gather in the afternoon and holidays. Some merchants flock around the swamp with many visitors. This visitor activity can be utilized as a business opportunity for the community, but it can also have a negative impact on the environment if not managed properly such as the absence of a lot of garbage and fishing activities that have the potential to damage the swamp biota environment (stun).

Rawa Kalibayem actually has a planning picture in the form of a regional master plan. However, so far there has been no further action to respond to the development plan of the area from the local government, so the management of the swamp by the community is temporarily oriented on the maintenance and utilization of existing facilities. Management activities that have been carried out by the community include cleaning enceng mumps, the release of fish seedlings, planting of fruit crops, family medicinal plants (TOGA) and brewing trees.

### *1.2 Problem Identification*

From swot analysis conducted during location observation and initial interview, it can be concluded that there are problems structuring open space that need to be anticipated immediately in Rawa Kalibayem tourism area. The formulation of problems in community service in Rawa Kalibayem, Ngestiharjo Village is as follows :

1. There is a potential crowd of visitors that if not anticipated can lead to a decrease in the quality of the environment in Rawa Kalibayem area.
2. Lack of public awareness of environmental hygiene.
3. Lack of public awareness of environmental preservation in Rawa Kalibayem area.

### *1.3 Research Objectives*

The objectives of this research are as follows:

1. Direct assistance of the process of planning the open space of Rawa Kalibayem through a meeting with Pokdarwis (taking into account the current state of Covid 19 in Yogyakarta, the meeting was conducted only with pokdarwis management representatives, by enforcing physical distancing standards.
2. Assistance through the process of briefing the design of the arrangement of open space in the area of Rawa Kalibayem.

#### *1.4 Benefits of Research*

The benefits of this research are:

1. Assistance in the development of green open space areas (RTH) and public open spaces (RTP).
2. Assistance of the arrangement of supporting facilities / infrastructure facilities of tourist areas.
3. Image masterplan copyright Rawa Kalibayem.
4. The format of the board content is to maintain environmental hygiene, encourage the preservation of local fauna flora, call for covid-19 health protocol.

## **2. Library Review And Theoretical Foundations**

### *2.1 Tourism Definition*

Tourism is one of the containers used by the community to meet the needs of entertainment and recreation. Based on Law No. 9 of 2009, tourism is a variety of tourism activities supported by payanan facilities provided by the community, entrepreneurs, and the government. The meaning of tourism according to [1] is the temporary departure of people in the short term to destinations outside of residences and places of work. While according to [4] tourism is a dynamic activity that involves many people and brings to life various areas of business. From some opinions on the definition of tourism, it can be concluded that tourism is a trip made by a person or group of people from one place to another with the purpose of having fun. In principle, based on the restrictions of Cooper [2], Tourist Destinations (DTW) or often called tourism destinations must have several elements namely:

- a. Attraction, is a tourist attraction in the form of nature, culture and a combination of nature and culture and others, is absolutely necessary in order to become a tourist attraction.
- b. Accesibilities are the means and infrastructure needed to reach the tourist destination.
- c. Amenities is a tourist facility and tourism support, especially accommodation and restaurants.
- d. Ancillary Service is the availability of supporting facilities used by tourists such as banks, hospitals, posts, telecommunications and so on.
- e. Institutions related to the existence and role of each element in supporting the implementation of tourism activities including the community as hosts.

### *2.2 Open Space*

Open space is a planned space due to the need for meeting places and outdoor joint activities. Theoretically what is meant by open space is a space that serves as a container for human life either individually or in groups, as well as a container of other creatures to live and develop sustainably (Law No. 26 of 2007). Based on its function, green open space is divided into intrinsic functions and extrinsic functions [3]. Intrinsic functions consist of ecological functions (vegetation), while extrinsic functions include social, cultural, economic and aesthetic functions. Public green open space is rth owned and managed by the daaerah government which is used for the benefit of the public in general [3]. The types of Green Open Spaces included in the Public (RTH) are:

- a. RTH Parks and City Forests, such as: RT park, RW park, Village park, Subdistrict park, City park.
- b. RTH green path road, i.e. island road and median road, pedestrian path and space under the overpass.
- c. RTH with certain functions, namely RTH border railway, green line high voltage power grid, RTH river border, RTH beach border, RTH safety of raw water source or spring and RTH burial.

## **3. Research Methods**

### *3.1 Research Approach*

The approach methods used to support the realization of PKM activities include:

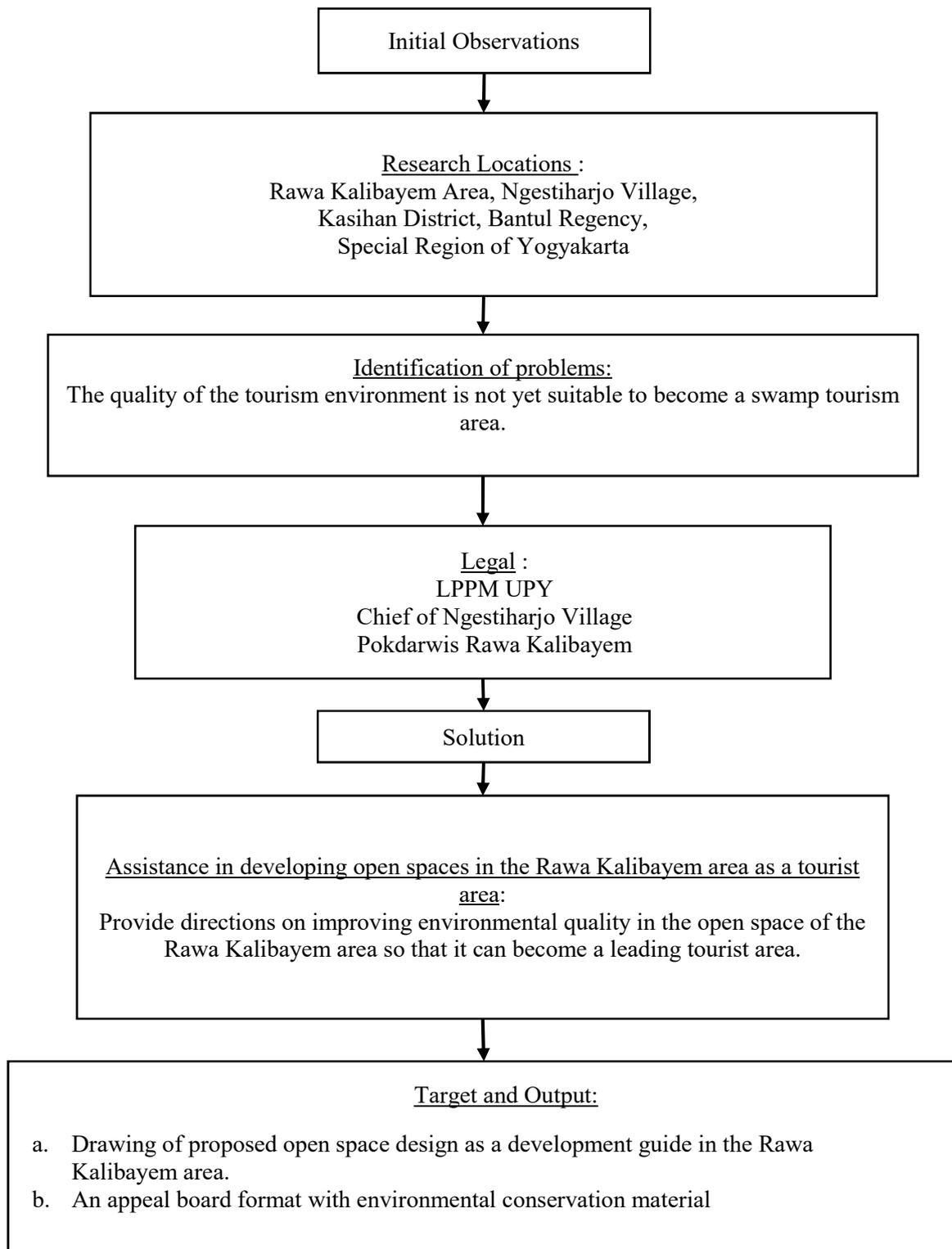
1. Approach with ngestiharjo village head, to establish cooperation in the implementation of community assistance in Ngestiharjo village area.
2. Approach to Tourism Aware Group (pokdarwis) kalibayem area to find information about the needs of the community and the right theme to be developed as a community mentoring activity in Rawa Kalibayem area.

3. Environmental observation and preliminary data collection to know the situation and condition of the location to be conducive to the implementation of community service in Rawa Kalibayem area.
4. To identify the problem by conducting a brief interview to find out the level of readiness of the people around Rawa Kalibayem towards the direction of the vision of Rawa Kalibayem area to become the leading tourist area in Yogyakarta.
5. The preparation of the direction of the design of open space of Rawa Kalibayem area as well as the preparation of material on the importance of maintaining cleanliness and preserving the flora-fauna environment that will be used as a model board to improve the quality of the environment in Rawa Kalibayem area.
6. The process of maturation of the agreed open space design direction image will be carried out using discussion and feedback methods.
7. The process of socializing the appeal material refers to the theme that has been agreed with pokdarwis to maintain and preserve the Rawa Kalibayem environment implemented by discussion and feedback methods.

### *3.2 Research Activities Plan*

The plan of community assistance activities implemented in Rawa Kalibayem figure 2, among others:

1. Mentoring the creation of open space design in Rawa Kalibayem area.
2. Proposed board format with the theme of environmental preservation of local flora and fauna and how to maintain order the implementation of covid-19 health protocols. Data collection techniques to be used in research using qualitative methods *with purposive sampling* and prioritizing *perspective emic*, which means to care about the respondent's view, which is how they view and interpret the world and from their point of view



**Figure 2** Research Framework Scheme

#### 4. Results And Discussions

This community service assistance is carried out by holding meetings with Pokdarwis representatives to discuss the development of the Kalibayem tourist area. The meeting schedule is described as follows :

##### 1. Community Service Activities are carried out on:

- a. Meeting Thursday, April 02, 2020 at the Ngestiharjo Village Hall

Implementation of mentoring began in April, where from the Ngestiharjo Village Government, Kasihan District, Bantul Regency and the Architecture Undergraduate Program, Faculty of Technology and Science, UPY held a meeting.

The Ngestihajo Village was represented by the Head of Ngestiharjo Village, Mr. Fathoni Aribowo and the Village Secretary, while the Architecture Prose was represented by Kaprosa, Mr. Aldrin Febriansyah, M.Sc. and one of the Architecture Prose lecturers, Mr. Rachmat Wahyu W., M.Eng. The point of the meeting was to discuss the assistance for the development of the Rawa Kalibayem area. Where is Rawa Kalibayem, is a swamp that is used by the community for fishing and recreation activities. However, the current condition is still very limited in terms of facilities and infrastructure.

- b. Meeting on Tuesday, 12 May 2020 at the Pokdarwis House

The meeting with the Ngestiharjo Village Government on April 2, 2020, was followed up by discussing the program with Dusun Sidorejo, Mrs. Yuli, representatives from Pokdarwis Raka Mulya, Mr. Nur Ari Purnomo, S.Pi. (Secretary of Pokdarwis) and UPY Architecture Prose.

Together with Ibu Dukuh and the Secretary of Pokdarwis, formulating a mentoring program that will be carried out. Some of the assistance program agreements that will be implemented in the Kalibayem Tourism Area are improving the quality of the environment in the Rawa Kalibayem Tourism Area, so that it can become a safe, comfortable tourist spot and its infrastructure is fulfilled in figure 3.



**Figure 3.** *Pertemuan pendampingan dengan Dukuh dan Pokdarwis*

Information obtained from the meeting, activities that have been carried out by residents in the Rawa Kalibayem environment, among others ;

1. Pokdarwis Rawa Kalibayem, with the name Raka Mulya, has just been formed
2. Residents work together to clean water hyacinth in Rawa Kalibayem
3. People sow fish seeds
4. The residents planted trees on the edge of Rawa Kalibayem and made toga gardens

Based on this information, in this mentoring process, there are several things that become the focus of assisting the development of Rawa Kalibayem tourism, namely;

1. Making a development master plan
2. Improvement of facilities and infrastructure
3. Outreach awareness of cleanliness and environmental care, among others; (1) dispose of garbage in its place, (2) not destroying plants and gardens, (3) not taking fish by shooting, poisoning and using bombs, and (4) awareness of the prevention of Covid 19.

- c. Meeting Friday, July 10, 2020, at Rawa Kalibayem

The assistance was continued by finalizing the concept of developing the Rawa Kalibayem Tourism Area. This meeting, the pokdarwis party was represented by the pokdarwis secretary, Mr. Nur Ari Purnomo, S.Pi.

In maturing the concept for the development of the Rawa Kalibayem Tourism Area, the meeting was held in Rawa Kalibayem, this was done as an effort, in compiling a development plan to suit existing conditions. In addition, it can also directly identify the needs of the Rawa Kalibayem Tourism Area figure 4.



**Figure 4** Mentoring meeting with Pokdarwis

The result of this meeting is:

1. Outreach awareness of cleanliness and environmental care, the media used is in the form of posters or appeal boards
2. Development of a master plan for the Rawa Kalibayem tourist area, which is intended, among others; playground, fishing spot, jogging track, culinary pier, city forest and toga garden
3. Infrastructure that needs to be developed, among others; toilets, places of worship, parking lots, trash bins, washing hands, sitting groups or park benches and lighting
4. *Beautification spot selfie*

d. Meeting Saturday, 25 July 2020, at Rawa Kalibayem

The meeting with Pokdarwis Raka Mulya was held on Saturday, July 25, 2020. In this meeting, apart from holding discussions with Pokdarwis, a field survey was also conducted. And the meeting that coincided on Saturday, became a benchmark for estimating visitors who came at the weekend, and what activities the visitors did. Based on information from Pokdarwis, peakseason occurs on Saturday afternoon and Sunday morning-afternoon.

Based on the results of observations:

1. Activities undertaken by visitors include; fishing, snacks / culinary, sit back, discussion, selfie, boat ride, cycling.
2. Aktifitas masih tersebar dan belum tertata dan belum ada ploting lokasi secara jelas.
3. The need for infrastructure, among others; toilets, places of worship, parking lots, trash bins, washing hands, setting groups or park benches and lighting
4. Visitor awareness is still low on cleanliness and plant care.

The Rawa Kalibayem Tourism Area is divided into two sides, namely the east side and the west side. Each side has a post. Based on discussions in two locations, namely on the west and east side, developments that can be carried out in the Rawa Kalibayem Tourism Area include;

**a. West Side**

1. Development of a children's play area / playground
2. Fruit Garden
3. Boat jetty
4. Culinary area
5. Fishing spot
6. Parking area

7. Infrastructure; toilets, trash cans, washing hands, lighting
  8. Repair and improvement of road quality, to support as a jogging track location.
- b. East Side (figure 5):**
1. Flower Park and urban forest
  2. Selfie Spot
  3. Jogging track
  4. Culinary
  5. Boat jelly
  6. Amphiteater
  7. Parking area

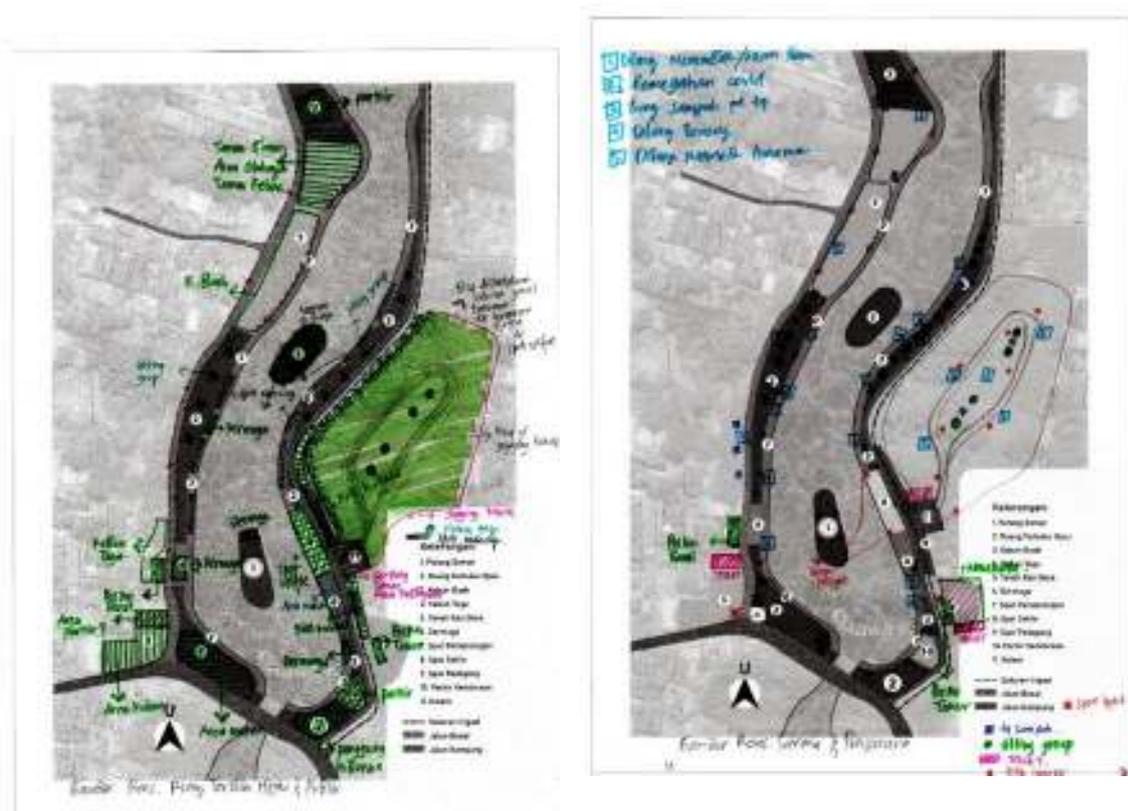


Figure 5 Plotting based on discussion results with Pokdarwis



**Figure 6** Discuss with pokdarwis

e. Meeting Wednesday, July 29, 2020, at Rawa Kalibayem (figure 6 and figure 7)

This meeting on 29 July 2020 was a meeting to agree on the results of the mentoring process. This meeting was attended by the Head of Ngestiharjo Village, Mrs. Dukuh, Pokdarwis Raka Mulya and UPY Architecture Study Program.

In this meeting, it was agreed that a follow-up to the results of this consultation would be submitted for budgeting in the 2021 Village Development Deliberation (Musrenbang)..



**Figure 7** Finalization with Chief Village and Pokdarwis

## 2. Results of the Existing Identification of the Kalibayem Tourist Area.

The existing data of the site aims to determine the physical condition of the site, the environmental conditions at the site, the boundaries of the site, and the potential that exists on the site. The existing data on this site will be used as the main basis for designing the Kalibayem Tourism Area development.

### 1.1. General Location



**Figure87** general location of Rawa Kalibayem

The location of the Kalibayem tourist area is on Rejodadi street, bordering:

- North : Human settlements
- East : Village Treasury Land
- South : Human settlements and public cemeteries
- West : Human settlements and public cemeteries

In general, this area is strategic enough for tourists to do culinary tourism, gathering and fishing activities because this area is not far from the city crowd figure 8.

### 1.2. Existing Condition of Site

Overall, the tourist area is divided into two parts, namely the western area of the swamp and the eastern part of the swamp. The condition of the tourist area is crowded with tourists from around 15.00 to 18.00 WIB. The western area is more crowded with visitors because in the afternoon, this area is more shady than the eastern area. During peak hours of visiting, in the western and eastern areas of Rawa, there are many street vendors selling their wares and attracting the attention of visitors to Rawa Kalibayem. The number of street vendors in the western area is more than in the eastern area, because the width of the road access on the western swamp border is wider than the eastern part.



Figure 9 The existing Rawa Kalibayem Tourism Area

The general description of the existing Kalibayem area is described as follows :

Pokdarwis has tried to manage several activities in the Rawa Kalibayem area, including tours to ride a gethek or a boat around the swamp and selfie photo spots on Semar Island. There are three port points that have been made by Pokdarwis to accommodate this activity. In the image above, it is depicted with a pink spot figure 10.



**Figure 10** *Tour activities by boat in Rawa Kalibayem*

The existing conditions in this tourist area are basically not well organized, because the existing facilities are inadequate for the size of a busy tourist area. In terms of accessibility, the circulation conditions in the western area of Rawa Kalibayem are partly still gravel dirt roads and partly paved roads covered with dirt. Meanwhile, the circulation in the eastern area of Rawa Kalibayem is in the form of arranged paving pavements figure 11.



**Figure 11.** *The state of circulation of the Rawa Kalibayem tourist area*

In terms of spatial planning, all activities are scattered around Rawa Kalibayem, with monitoring from Pokdarwis. However, spatial planning for activities that are accommodated there are no clear rules and land uses regarding the designated position of the culinary area, gathering area, children's play area, fishing area or parking area (figure 12).



**figure 12.** *Activities at Rawa Kalibayem*

In terms of infrastructure, lighting facilities, public toilet facilities and the Covid 19 protocol for hand washing areas have not been properly facilitated. An overview of the existing infrastructure is as follows:



**Figure 13.** *Facilities at Rawa Kalibayem*

Garbage bin facilities are already on the right and left of the road access around Rawa Kalibayem. In terms of quantity, there are 8 trash can facilities in the western area of the swamp. However, in the eastern area of the swamp there is only one trash bin. Therefore, in general, the location of the trash cans is not sufficient for Rawa Kalibayem tourism needs.

There is only one public toilet facility in this tourist area, with inadequate conditions, because the physical toilets are not permanent and not solid. Likewise, there is only one hand washing facility and its position is less strategic to all visitors. The ownership status of this public toilet and hand washing place is not from the pokdarwis facility, but independently of the local residents who provide public toilets for rent. As for the lighting of the tourist area has not been realized because at this time, the tourist area is only open to the public in the morning to evening, so that lighting facilities have not been provided by Pokdarwis.

### **3. The results of plotting the development of green open space (RTH) and public open spaces (RTP)**

Green open space has an important role related to ecological, socio-cultural and aesthetic aspects in an urban space. From an ecological point of view, open space acts as a producer of oxygen for an area, a noise suppressor and as a control over the view of the sun. From a socio-cultural perspective, green open space acts as an area for people to interact with one another or as a communication space. This is what creates a green open space that can also be said to be a public open space. In addition, green open spaces can also serve as a means of recreation, sports, education, and even culinary areas. Meanwhile, in terms of aesthetics, green open spaces can enhance the beautification of the city environment and stimulate the creativity and productivity of local residents. Therefore, in order for a public open space to function optimally, an ideal open space plan is needed in order to provide comfort and safety for visitors and tourists.

In planning the development of the Rawa Kalibayem tourist area, the area that can be optimally cultivated is the eastern side of the swamp, because the western area of the swamp is mostly private land belonging to residents that cannot be used for public purposes.

The following is an illustration of the plotting of the development of the Rawa Kalibayem tourist area figure 14.



Figure 14. Plotting Development of the Rawa Kalibayem tourist area

The green open space developed in the planning for the development of this tourist area is the use of land for fruit gardens, TOGA gardens (family medicinal plants) and agro-tourism areas. There are fruit orchards and toga gardens in the existing Rawa Kalibayem, but the conditions are not yet well ordered. As the development of green open space in the Rawa Kalibayem area, development is carried



The facilities added to support tourism activities in the Kalibayem area are:

1. Garden lights are scattered in all areas of the Rawa Kalibayem tourist area,
2. Spot light on the spot selfie spot,
3. Sitting group for visitors who enjoy the Rawa Kalibayem tour,
4. The points of the trash,
5. Additional pier at the island selfie spot, and
6. Trash cans and hand wash basins at several points adjacent to *sitting group*.

#### 5. An appeal board with the theme of environmental preservation of Rawa Kalibayem

The advisory board measuring 90cm x 60 cm is intended so that visitors and communities around Rawa Kalibayem always take part in maintaining the swamp environment so that it is well maintained and maintained. The resulting appeals board theme is as figure 16



Figure 16. The Advisory board

#### 5. Discussion

There are several outputs that have been produced in the service that has been carried out, namely the plotting plan for the development of open spaces in the Rawa Kalibayem area as a tourist area. The open space development plan in the Rawa Kalibayem area is in the form of a green open space master plan, public open space and a master plan for supporting facilities. This master plan will be used by pokdarwis as a reference for the development of Rawa Kalibayem tourism in the next stage. Other output targets are directions on improving environmental quality in the open space of the Rawa Kalibayem area so that it can become a leading tourist area with a media advisory board that will be installed at certain points that can be accessed directly by visitors.

#### 6. Conclusion

Based on the service activities of the PGRI Yogyakarta University Architecture Undergraduate Program in the Rawa Kalibayem tourist area, it can be seen that the feedback given by the dukuh and pokdarwis is very enthusiastic in planning the development of this tourist area. Later, the plotting generated from the results of this discussion will be used as a reference for the development of the

tourist area continuously in the Rawa Kalibayem tourist area. In addition, the warning boards that are produced can be a medium for educating visitors and the surrounding community to always work together to preserve the area's environment while still implementing the Covid 19 protocol.

## **7. Recommendations**

The plan to develop the Rawa Kalibayem tourist area should be carried out in stages and continuously so that it is in accordance with the references that have been produced together. So it is hoped that the Rawa Kalibayem tourist area will become one of the leading tourist destinations in the Bantul Regency area which is not far from the city center of Yogyakarta.

## **Bibliography**

- [1] Pendit, N S. 1994. Ilmu Pariwisata: Sebuah Pengantar Perdana. Jakarta: Pradnya Paramita.
- [2] Suwarno, Nindyo. 2009. Model Pengembangan Tata Ruang Kawasan Objek Wisata Air Studi Kasus: Objek Wisata Air Jlotundo. Klaten. UGM.
- [3] Dirjentaru. (2008). Peraturan Menteri Pekerjaan Umum Nomor: 05/PRT/M/2008 tentang Pedoman Penyediaan dan Pemanfaatan Ruang Terbuka Hijau di Kawasan Perkotaan. Departemen Pekerjaan Umum.
- [4] Ismayanti. 2010. Pengantar Pariwisata. Jakarta: PT. Grasindo
- [5] Undang-undang No. 26 Tahun 2007 tentang Penataan Ruang
- [6] <https://jogja.tribunnews.com/2019/02/22/bupati-bantul-tanam-bibit-pohon-buah-dan-tebar-ikan-di-rawa-kalibayem>
- [7] <https://jogya.com/inilah-lokasi-uji-coba-kapal-selam-pertama-indonesia-di-bantul/>