



Revitalizing Umbul Tlatar: A Strategic Plan for Post-COVID Tourism Recovery

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Abstract

The Umbul Tlatar area is a water tourism destination with considerable potential. Its proximity to the city of Surakarta, good accessibility, and abundant surface water resources makes it an attractive site for bathing and water sports. However, the lack of a defined tourism concept and development planning, as well as the absence of an integrative approach, has resulted in the area appearing underdeveloped and poorly maintained. This has led to suboptimal tourist appeal, with fluctuating visitor numbers, particularly in the post-COVID-19 period (2023–2024). Therefore, there is a need for a strategic development plan to maximize the tourism potential of Umbul Tlatar, enabling it to compete with other tourist destinations in Boyolali Regency and the surrounding areas. The objective of study us to construct integrative tourism planning in Umbul Tlatar. The combination drone mapping and field observation was conducted to obtain the hidden potency of Umbul Tlatar. The results shows that the Umbbul Tlatar has several tourism attraction that could be developed more such as Umbul Pengilon, National standar swimming pool, Etasia-Ecotourism, Tlatar Cullinary, Sumber Rejeki Fishing pond, and Karunia Outbound Centre. Those several tourism spots will be planned as integrated tourism area, thus at least can extend the tourist time to stay. To address this, a collaborative effort between the local government and community is required to develop an integrative tourism site plan that can increase visitor numbers to Umbul Tlatar.

1. Introduction

The Umbul Tlatar tourist attraction is a natural water tourism destination located in Kebonbimo Village, Boyolali Regency. This tourist site utilizes natural springs that flow continuously from volcanic rock layers at the foot of Mount Merbabu, at an altitude of about 350 meters above sea level. The spring, or umbul, consists of two springs: Umbul Pengilon

and Umbul Asem. These two springs are collectively referred to as Umbul Tlatar, as they are located in Dukuh Tlatar. The Umbul Tlatar tourist attraction has a Unique Selling Point (USP), which includes its location in the middle of rice fields and residential areas, the development of cultural and spiritual tourism products supported by natural water tourism, and the existence of several historical sites surrounding the Umbul Tlatar area (Nindy, 2008).

The Umbul Tlatar tourist location is in an area that remains largely natural. The main attraction of the Umbul Tlatar tourist site is the clear spring water with a large discharge, and there are many other potential destinations that could be developed. The large volume of spring water that flows continuously is used for public bathing and has been developed into a tourist attraction with various attractions for visitors to enjoy. Additionally, the water from Umbul Tlatar is also used for irrigation in rice fields and other household needs for local residents and surrounding areas in Boyolali Regency. This shows that Umbul Tlatar has great potential to be developed into a leading tourist destination in Boyolali Regency.

The development of the tourism sector in Boyolali Regency continues to be pursued sustainably, as it not only increases community income but also contributes to regional revenue. Since being developed into a tourist area, many visitors have come to enjoy the various attractions provided. Currently, the Umbul Tlatar tourist attraction has become a leading potential that can support the highest Local Revenue (PAD) in Boyolali Regency. However, over time, the number of visitors to Umbul Tlatar has remained relatively unstable (Figure 1). Based on field observations, the instability in visitor numbers can be seen from the low visitor turnout at certain times, which impacts the decline in the number of visitors caused by various factors such as costs, facilities, attractions, and others.

This situation requires a more in-depth study to stabilize and increase the number of visitors so that it can remain a leading tourist destination in Boyolali Regency. Furthermore, there needs to be a development plan aimed at enhancing the tourism potential of Umbul Tlatar, so it can compete with the development of other tourist attractions in Boyolali Regency and the surrounding areas. Therefore, it is necessary to develop an integrative tourism site plan in collaboration with the village government to increase the number of visitors to Umbul Tlatar.

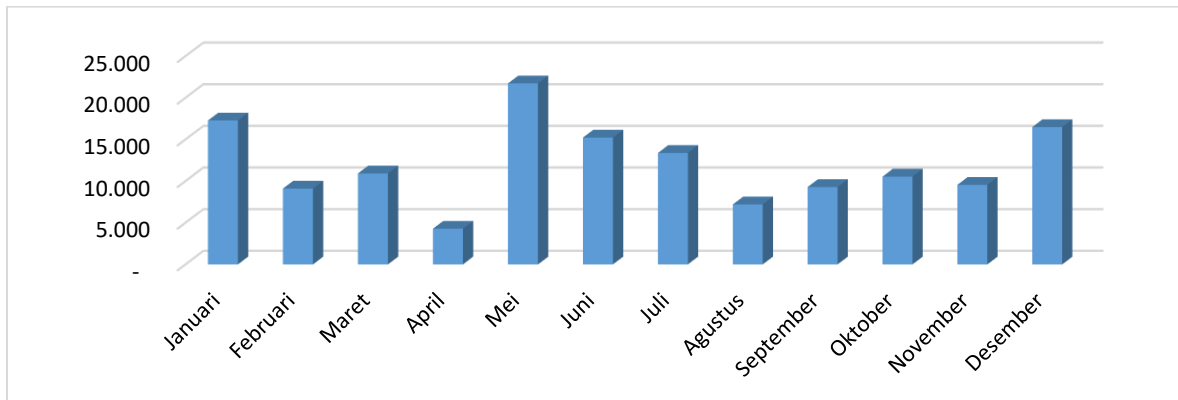


Figure 1. The number of visitor in Umbul Tlatar 2022, Source: Disporapar, Boyolali Regency, 2023

Umbul Tlatar has attractions that can be developed and may become a leading tourist destination in Boyolali Regency. Its proximity to the city of Surakarta and good accessibility makes the Tlatar area easy to visit from various regions. However, the lack of a tourism concept, development planning, and an integrative approach has led to the Tlatar area appearing underdeveloped and poorly maintained. This has resulted in suboptimal tourist appeal, and furthermore, the number of visitors remains fluctuating, especially post-COVID-19 (2023-2024). In this activity, the author was collaborating with the Village Government, which manages Umbul Tlatar, to plan development and create a more integrated site plan for the Umbul Tlatar area.

2. Methods of Implementation

This study will be carried out using mentoring techniques and field observation activities. For the drone mapping activity, it will be done in collaboration with the village authorities to obtain the existing conditions of Umbul Tlatar, which will later be used as material for developing integrative tourism. The activity will begin with a kick-off meeting (Forum Group Discussion (FGD) 1), drone mapping observation in the Tlatar area, FGD 2 for formulating tourism development, and socialization of the tourism development formulation

results to the village government. In general, the flow of the activity can be seen in the following Figure 2.



Figure 2 Conceptual framework of the study

2.1 FORUM GROUP DISCUSSION (FGD)

Forum group discussion was conducted in the early stage of the study to obtain the local government and people aspiration about Umbul Tlatar tourism area. In this stage, the location for observation and implementation of drone mapping is determined. The photographic area covers the entire area within the boundaries of the Umbul Tlatar tourist site. In this stage, information regarding both the physical and social potentials of the Umbul Tlatar area is also revisited.

2.2 DRONE MAPPING

After the observation area is determined, the area will be divided into several photography blocks. These blocks can be divided based on administrative boundaries or natural boundaries such as rivers, roads, or hilltops. Each block will vary in size depending on the obstacles in the field. Open areas can be photographed with a wider drone range (5-10 hectares), while enclosed areas can be photographed with a drone range of about 2-5 hectares

2.3 SFM ANALYSIS

In this stage, the results of the drone mapping photography will be further processed by the team using Agisoft Photo Scan Pro software. The Sf Mini analysis will produce orthophotos and DEM (Digital Elevation Model) of the Umbul Tlatar area, which will later be used as input for the development of the integrative tourism area. At this stage, the team will mostly work in the studio to produce the orthophotos and DEM of the Tlatar area.

2.4 INTEGRATED TOURISM PLANNING

In this stage, the team will focus more on discussions with relevant parties to formulate a development plan for the integrative tourism area of Umbul Tlatar. Some of the agencies to be involved include the POKDARWIS Tlatar, the village government, and other related departments.

3. Results and Discussion

FGD was held on March 16, 2024, at the DPU government complex. During FGD 1, the service team visited the Tlatar area to discuss and photograph the conditions of the Umbul Tlatar tourism site in Boyolali. At this stage, the boundaries of the area included in the Umbul Tlatar development zone were confirmed. Additionally, information about both the physical and social potentials of the Umbul Tlatar area was revisited. Based on the results of the FGD with the Umbul Tlatar managers, it was confirmed that the main attraction of Umbul Tlatar is the two springs used as bathing places, namely Umbul Tlatar and Umbul Pengilon. The boundaries of the Umbul Tlatar development area can be seen in the following Figure 3.

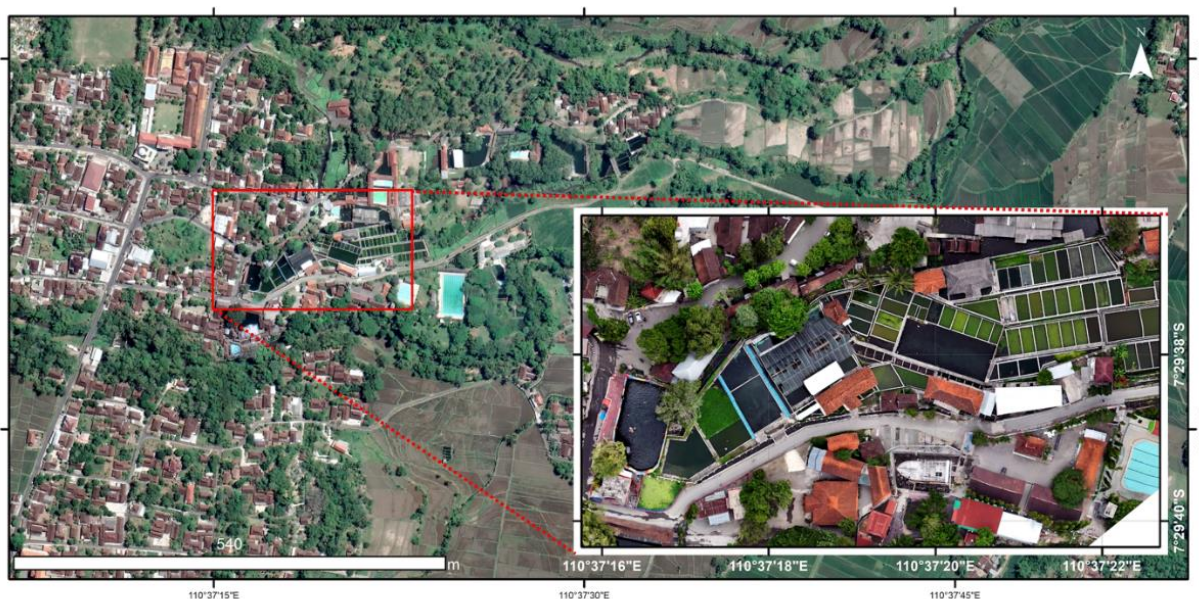


Figure 3. Umbul Tlatar area

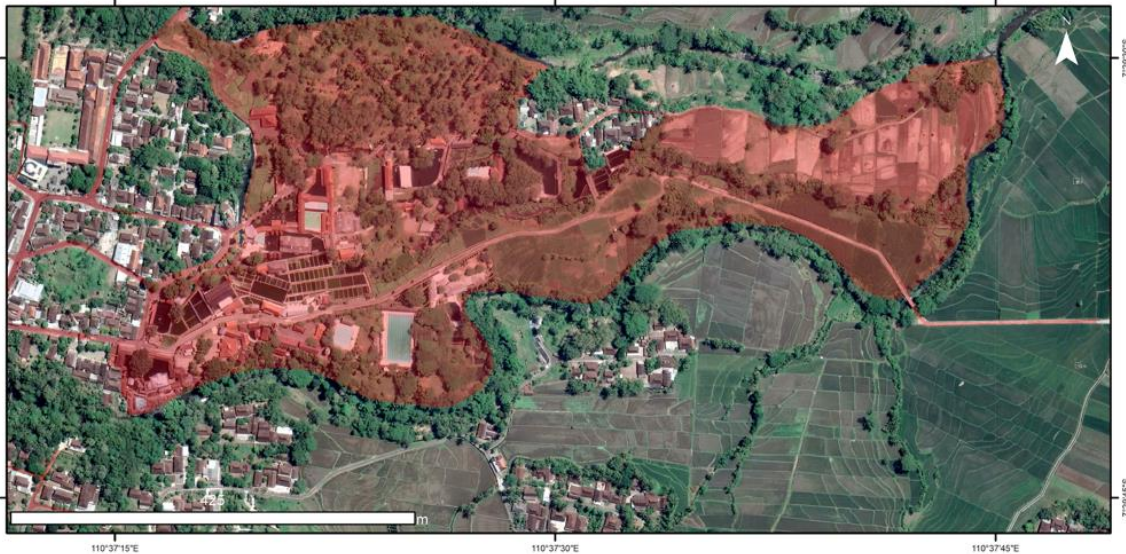


Figure 4. Umbul Tlatar Development area

Drone mapping has become widely used in the field of mapping recently, especially since drone devices have been equipped with positioning recording devices, commonly known as Global Positioning System (GPS) tools. With a drone, a surveyor is able to take photographs and produce aerial images with geographical references. Additionally, a surveyor can also produce stereoscopic aerial photos using drones, which can be used to obtain detailed aerial imagery for regional development and planning purposes. To carry out an aerial photography mission, at least 3 people are required. One person acts as the drone pilot responsible for controlling the drone, another person serves as the assistant pilot who helps the drone pilot, and the third person is the observer who monitors the drone's movements and the conditions around the take-off and landing site.

At the initial stage, the aerial photography mission was planned. During this activity, the location for the photography area was determined. The selection of the photography area was done by choosing regions within the Umbul Tlatar development zone. After the photography location is selected, the joint team collaborates to design the flight path and determine the take-off and landing points for the drone in the photography area. Additionally, at this stage, the distance the drone will cover beyond the development area is also determined. Based on information from the Umbul Tlatar team, the photography area is finalized. The photography area in Umbul Tlatar can be seen in the Figure 4 above. The photography was carried out over the course of 1 day, with the area covered not being too

large, around 40 hectares, divided into 8 flight mission blocks. With a flying altitude of 100 meters above sea level, the community service area was successfully photographed for 3-4.5 minutes per block. A technical illustration of the aerial photography process can be seen in the Figure 5, meanwhile the ortho-mosaic of drone mapping results can be seen in Figure 6



Figure 5. Block division of drone mapping in Umbul Tlatar

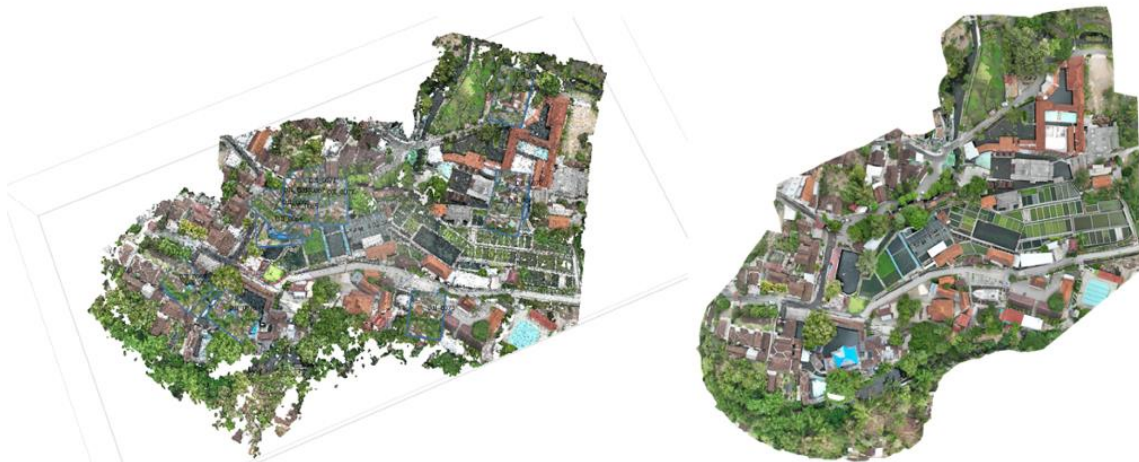


Figure 6. (left) Dense cloud part of Umbul Tlatar, (B) Ortho-Photo part of Umbul Tlatar

The formulation of the development of the Tlatar area is based on the existing physical and social potential. The formulation is carried out through a Focus Group Discussion (FGD) between the assistance team and the designated Umbul Tlatar management team. The assistance team presents the results of the previous studies and the analysis of the aerial photos. The development undertaken is still in its initial form, and it needs to be followed up

with the preparation of a master plan and detailed engineering design if the development involves physical infrastructure construction.

The development of the Umbul Tlatar area is essential to increase the number of visitors, both local and foreign tourists. The presence of Umbul Pengilon, Umbul Tlatar, the BBI fish pond, the Ecotourism Park, and the national-standard swimming pool serve as the primary assets for developing the Umbul Tlatar area. Additionally, the physical condition of the area, located on a gentle slope at the foot of Mount Merapi and Merbabu, with a relatively high elevation, makes the area suitable for various uses (Figure 7). The development being applied upholds the concept of ecotourism, which emphasizes tourism development while maintaining environmental sustainability

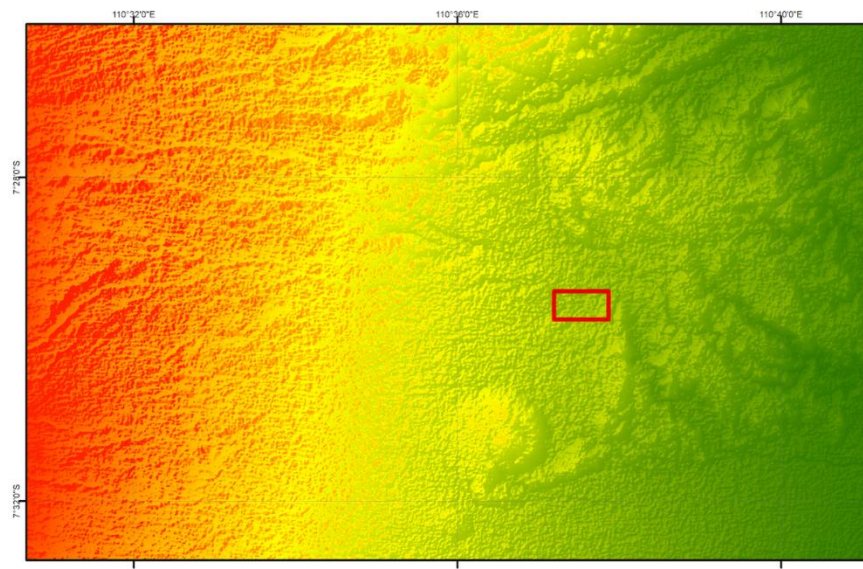


Figure 7. Elevation of Umbul Tlatar and its surrounding

The development of the Umbul Tlatar area takes into account several aspects, including land ownership, accessibility, the integrated tourism concept, ecology, and the socio-economic potential of the local area. During the FGD, the team guided the discussion by conducting a comprehensive SWOT analysis of the tourism potential in the Umbul Tlatar area. The tourism potentials discussed include the following:

1. Regional tourism potential
2. Umbul Pengilon and Tlatar potential
3. National standard swimming pool potential
4. Ecotourism potential of the Water Park (Etasia)

5. Mina Tlatar culinary potential
6. Fishing potential at 'Sumber Rejeki' (10 fishing ponds)
7. Paseban Agung restaurant potential
8. Karunia Outbound Centre potential

Based on the results, the integrative tourism design for the Umbul Tlatar area was developed. This development continues to support the existence of the tourist spots that were previously established. This development aims to enhance the tourist attraction of Umbul Tlatar. In general, the site plan for the Umbul Tlatar tourism development can be seen in Figure 8.

Based on the discussion with the management team, the management team agreed that the Umbul Tlatar Site Plan is divided into three zones: Zone 1 includes the Umbul Asem area, Umbul Pengilon, the restaurant, swimming pool area, fish breeding edutourism, the central parking area, the souvenir center, and the terraced rice field selfie spot. Zone 2 includes the ecotourism zone, Etasia water park, the woodball area, and the Tlatar homestay, while Zone 3 includes the water tubing or body rafting tourism.

3.1 ZONE 1, UMBUL TLATAR

"Zone 1 has main attractions, including Umbul Pengilon, Umbul Asem, fish breeding educational tourism, and the national-standard swimming pool. Supporting aspects of these main tourist attractions include the restaurant, the main parking area, the souvenir center, and the terraced rice field selfie spot. Zone 1 is located in the southern part of the Umbul Tlatar development area (Figure 8). The planned additions and developments in this zone include the expansion of the main parking area, the widening of the road that loops out of the Tlatar area, the souvenir center, and the terraced selfie spot. Meanwhile, improvements and enhancements will be made to existing tourist spots, such as Umbul Pengilon, Umbul Asem, fish breeding education, and the signboards for the Umbul Tlatar area. The site plan for Zone 1 can be seen in the following Figure 8.

The central parking area will be placed in the middle of this zone, as expanding the entrance is no longer feasible due to its proximity to residential areas. The central agricultural area will be located on village-owned land, which is currently used for agricultural purposes. Therefore, attention must be paid to its permits and legal status. The width of the access road from the entrance to the main parking area is an average of 5 meters, with asphalt on the western part and concrete blocks on the eastern part. Therefore, widening and asphaltting will be needed in the second phase of development. Based on current visitor data at Umbul Tlatar, this road width is expected to accommodate the traffic flow in and out of the Umbul Tlatar area.

For the mobility flow of tourists visiting zones 2 and 3, which are quite far to walk, several environmentally friendly shuttle modes will be added at the main parking area. Tourists will be able to choose from options such as electric bikes (1-2 people), electric autopats (1 person), or buggy cars (4-6 people) (Figure 10). These shuttles may be free or available for rent, depending on the agreement with the Umbul Tlatar management team



Figure 10 Example of eco-friendly transportation mode for shuttle around Umbul Tlatar

"For the tourist attractions of Umbul Tlatar and Pengilon, only modernization and improvements/addition of changing rooms or toilets are necessary. Meanwhile, the restaurant needs to align its concept with the integrated tourism theme, as it is currently managed privately. Regarding the Etasia ecotourism water park, direct access should be provided in the form of a bridge or path to connect the parking area with the water park. For the fish breeding educational tourism and fishing areas, a complete transformation is needed. The previous fish ponds were just ordinary ponds and have been abandoned; they need to be reimagined with a more engaging and educational concept. In addition to

educating the public about the freshwater fish breeding process, the fish produced can be supplied to the restaurant in the Umbul Tlatar area and its surroundings. A depiction of the fish education tourism concept can be seen in the following figure



Figure 11. Example of edu-tourism fishing pond.

3.2. ZONE 2, WOODBALL AREA, ETASIA ECO-TOURISM AND HOMESTAY

Woodball is a modern sport that is similar to golf, except the ball is made of wood (Figure 12). This sports area is already available at Umbul Tlatar, but it needs additional parking spaces and the organization of woodball competitions. Meanwhile, the homestay will be built near the woodball area and in the same area as the outbound area. The most suitable concept for the homestay in this location is an eco-homestay with a unique design. One example of a homestay that could be developed in this area is a glamping (Glamorous Camping) concept, which aligns with the outbound concept itself. An example of glamping can be seen in the Figure 13.



Figure 12. Woodball Sport



Figure 13. Glamping concept that will develop in Tlatar Area

Zone 2 covers the northern part of Umbul Tlatar up to the border with the residential area to the east. The location of Zone 2 can be seen in the following figure

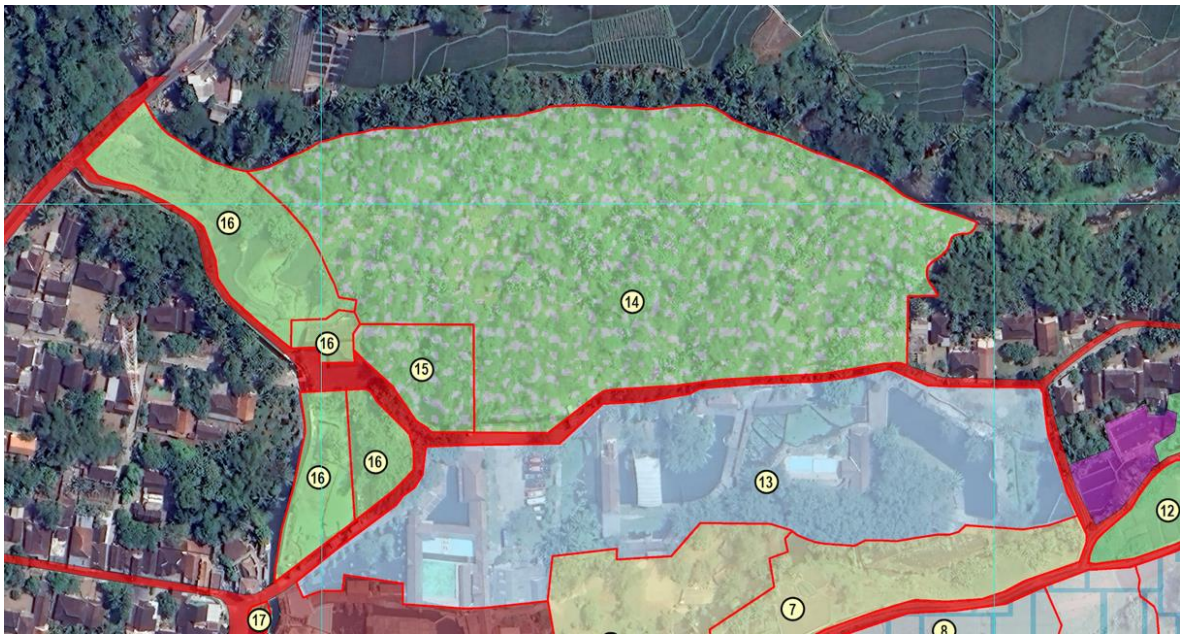


Figure 14. Zone 2 of Tlatar area

3.3 ZONE 3, RIVER TUBBING AND BODY RAFTING AREA

Zone 3 is the development of the Tlatar area that is integrated with the outbound area. The river that will be developed is the river in the Tlatar area that stretches from west to east. However, to realize this, there are several aspects that need to be considered, such as river engineering to make the river suitable for water tubing and body rafting. The conditions of the river that need attention include the small flow rate, shallow river depth, and river slope. Topographic engineering of the riverbed is required to create an area for water tubing and body rafting. This engineering includes dredging the riverbed to make it

deeper and creating descents along the river segments to increase the adrenaline for water tubing and body rafting participants. Additionally, stairs need to be built for the starting and ending points. Storage posts for equipment also need to be constructed at both the starting and ending points. The river segment planned for this activity can be seen in the Figure 15.



Figure 15. Zone 3 River Tubing and Body rafting

4. Conclusion

This site plan modeling activity is considered quite important because there has been no database related to regional planning so far. The development and construction of Umbul Tlatar have seemed to progress without any clear planning. With this activity, the management has the opportunity to collect data and build a database related to Umbul Tlatar. Additionally, with the knowledge of drone mapping concepts, the management will be able to independently monitor land use changes and develop a database.

5. Acknowledgements

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