

RESORT AREA WITH REGIONALISM ARCHITECTURAL APPROACH AND THERMAL COMFORT IN KLEDUNG TEMANGGUNG

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Abstract: The design of this Resort area uses the Thermal Comfort Approach. Using suitable materials and contemporary concepts, buildings in this area will later become comfortable lodgings and increase new comfort for new tourists. The realization of the conceptual basis for planning and designing a Resort in Kledung Temanggung, which is equipped with supporting facilities that can provide a sense of comfort through interior and exterior spatial processing based on the Regionalism Architecture Approach and Thermal Comfort, which can attract tourists. The methodology to be used in the design and planning of the Resort at Kledung Temanggung is competitively descriptive, and the data collection method obtained both primary and secondary data. This article produces a design concept for planning and designing a resort area by considering the existing thermal in the Temanggung district.

Keywords: Resort, regionalism, thermal comfort

1. INTRODUCTION

Economic development in the tourism sector is overgrowing. Tourism is one of the industrial sectors planned and promoted by the Indonesian government to increase the country's foreign exchange and introduce cultural diversity and potential in Indonesia. Kledung is one of the 20 sub-districts in the Temanggung district bordering the following areas: the western region with Wonosobo district, the northern part with Bansari sub-district, the east with Parakan and Bulu sub-districts, and the south with Magelang Regency, which is located at an average ground level of 1,138 masl with temperatures of 29 °C and 18 °C. With an average number of rainy days of 64 days and an amount of rainfall of 22 mm/year. Kledung District has an area of 3,221 ha, with a population of 24,640 people and has 13 villages. This sub-district is 24.6 km from the district capital, Temanggung. This sub-district is very strategic. Namely, the connecting road between Wonosobo Regency and Temanggung, which is between the foot of Mount Sumbing and Sindoro, the area around this is usually used as a place to rest or is called a Rest area when driving so that driving activities are comfortable and not tiring for road users or tourists who came to Temanggung district. As well as the many tourist attractions in this area, this area is visited by local and foreign tourists.

To cope with the many tourists visiting Kledung, there are many inns, places to eat and souvenir shops. This situation resulted in the appearance of many houses on the side of the road, which were deliberately used as inns or shops. Therefore it is necessary to have an accommodation and dining area that facilitates tourists to stay and relax in Kledung comfortably and safely.



Thermal comfort is a human perception of the environment so that it can form the basis for building planning (Hermawan et al., 2020). Thermal comfort is a human perception of the environment so that it can form the basis for building planning (Santoso et al., 2021). Perceptions of the thermal comfort of a building can be used as a reference in design (Hermawan, Svajlenka, et al., 2022). Thermal comfort is influenced by environmental variables such as air temperature, air humidity (Hermawan, Prianto, et al., 2018). Comparison of outside and inside air temperatures for making a house to live in needs to pay attention to building wall materials (Hermawan et al., 2019).

Environmental variables make local people build vernacular dwellings according to environmental factors (Hermawan & Fikri, 2020a). A hot environment will make the house hot so that building materials are needed that can absorb heat (Hermawan et al., 2015). The heat that occurs in buildings can affect the air content in the room (Hermawan, Kurniawan, et al., 2022). Thermal comfort is also influenced by local materials so that it is suitable for environmental (Arrizqi et al., 2021). The use of local wood elements is one way to achieve thermal comfort in accordance with local wisdom in each region. Differences in location require differentiation of building materials (Hermawan & Fikri, 2020b).

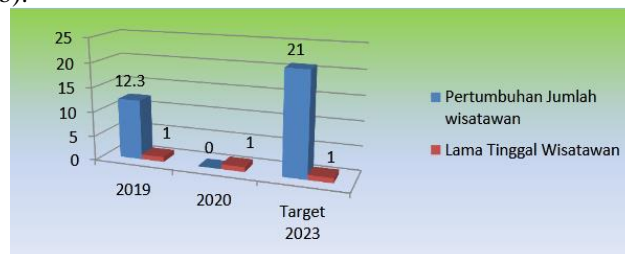


Fig.1. Tourist Visits in Temanggung Regency

From the data above, tourists counted in 2019 is very high compared to 2020. Since the beginning of February 2020, the number of foreign tourists entering Indonesia has decreased drastically. The peak occurred in April 2020 due to the COVID-19 pandemic, which has hit the tourism industry. Thus many tourist objects are closed due to Community Activity Restrictions (PKM). It took a little while for the Temanggung district government to rise again to plan and target 2023 for the tourism sector to record a high presentation.

The design of this Resort area uses the Thermal Comfort Approach. Using suitable materials and contemporary concepts, buildings in this area will later become comfortable lodgings and increase new comfort for new tourists. The realization of the conceptual basis for planning and designing a Resort in Kledung Temanggung, which is equipped with supporting facilities that can provide a sense of comfort through interior and exterior spatial processing based on the Regionalism Architecture Approach and Thermal Comfort, which can attract tourists.

2. METHOD

The methodology to be used in the design and planning of the Resort at Kledung Temanggung is competitively descriptive, and the data collection method obtained both primary and secondary data. The steps of data collection are carried out in the following way:

a. Study of Literature

A literature study is carried out to obtain a theoretical basis, design standards and planning and design policies through books, catalogues and other written materials that can be accounted for.

b. Comparative Study (Online)

At this stage, the author takes a comparative study via the internet regarding Resorts and Restaurants with an architectural approach to regionalism and Thermal Comfort as existing in Indonesia and abroad.

c. Field Observation Study

Field Observation Studies were conducted in the Temanggung city area to obtain data regarding strategic site locations for planning and designing the Resort Area in Kledung Temanggung.

d. Comparative study

A comparative study was conducted to broaden insight into building designs in several areas as a discourse in planning and designing the Resort Area in Kledung Temanggung.

e. Analysis

At this stage, the authors conducted several analyzes to obtain appropriate and maximum design results in planning.

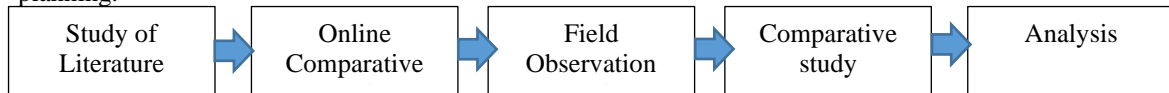


Fig. 2. Diagram of collecting data

3. RESULT AND DISCUSSIONS

The location of the site is on Jalan Raya Brengkok - Banjarnegara, Kalianggrung, Tlahap, Kledung District, Temanggung Regency, Central Java 56264. Data : The selected area is the West-South tip area, where Kledung has cool weather because it is at the foot of Mount Sindoro and Mount Sumbing and is used as a tourism destination. Analysis : The development of tourist areas in Kledung District is now being developed; the development of this tourism destination is supported by the natural beauty and mountains, which are the main attraction for tourists. Synthesis : The selected location is a tourist destination location, so the planning of this resort will respond to the local natural and cultural potential as a tourist facility and building design.

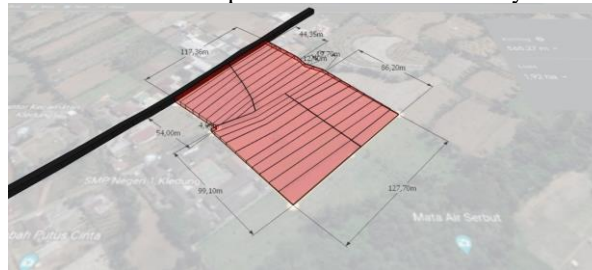


Fig.3. Location/Site Size

The site is quite large and empty. Currently, it is still being used for coffee and tobacco plantations. The site area is 1.92 Ha. By following the Government Regulation concerning Arrangements for the Implementation of Law No. 28 of 2002 concerning Buildings, the site area is divided into percentages, namely:

- Green Area Coefficient (KDH) is the percentage ratio between the total area of open space outside the building designated for landscaping/greening and the plot site of the planning area controlled according to the spatial layout plan and the building environmental layout plan. The percentage is KDH: $1.92 \text{ Ha} \times 40\% = 0.768 \text{ Ha}$
- Basic Coefficient of Building (KDB) is the percentage ratio between the area of the entire ground floor and the land/plot/planning area controlled according to the spatial layout plan and the environmental and building layout plan. The percentage is (KDB): $1.92 \text{ Ha} \times 20\% = 0.384 \text{ Ha}$
- Building Floor Coefficient (KLB) is the percentage ratio between the total area of the building and the site of the plot/planning area controlled according to the building layout plan and the environment. The achievements are (KLB): $1.92 \times 0.4 = 0.768 \text{ Ha}$
- Building Spadan Line (GSB) is the minimum boundary line delimits buildings and occupied land boundaries. The calculation is $\frac{1}{2} \times 8\text{m (road width)} + 1 = 5 \text{ m}$

The approach method is shown as a reference in compiling the basis of the Resort Area planning program with the Architectural Approach of Regionalism and Thermal Comfort in Kledung District, Temanggung Regency. With this approach, planning and design will achieve optimal results in fulfilling functions, space requirements and aesthetics in the overall architectural appearance.

The purpose of the planning approach analysis is to provide an approach to site management by providing an assessment of the site and buildings according to architectural principles.

For the planned building to play a role and function optimally, it must meet the design criteria, which are the essential reference for resort planning concerning building construction, land management and management, and the appearance of the building in general. These criteria are:

- Function

Resorts is a place of recreation and a tourist destination with all the facilities and objects sold attractively but can also function as a stopover for those who want to carry out other activities considering the resort's location, which is close to tourist areas

b. The strength/sturdiness of the building

Planning the upper and lower structures must consider the existing construction regulations

c. Aesthetics / Beauty

Processing the appearance of the planned building must have an impression that attracts attention and shows a design characteristic of regionalism with cultural traditions that exist in Temanggung Regency.

The primary function of the Resort at Kledung Temanggung is as a temporary place to stay or rest for tourists and residents for recreation and tourism purposes. The provision of facilities at the resort supports the primary function. Activity actors at the resort can be divided into two groups, namely:

A. Management Group

The management group is the organization that handles everything related to the management of resort staff. The management structure and the number of managing actors are as follows:

Table 1. Resort Management and Staff

No	Division	Position
1	Leader	General Manager, Executive assistant Manager
2	Room Division	-House Keeping : Floor Section, Public Area, Linen Section -Front Office : Receptionis, Reservation, Information, Chahier
3	Division of food and Beverege	- Food Production -F&B Servise : Bar, Restaurant, Room Service, Banquet
4	Division of Marketing	- Reservation - Convertation

B. Visitor groups

There are several actors of visitor group activities in the resort, the activity actors are divided into the main activities in the resort, namely:

- Overnight visitors
- Visitors do not stay overnight

Resort Function Approach

A. Activities

Analysis of space requirements based on the actors and activities in it are:

Table 2. Actor and Activity Flow Analysis

No	Actor	Activity
1	Non-staying visitors	-come -parking -buy tickets -relax, eat, recreation -Using the toilet -Mushola -parking -go home
2	Overnight visitors	-come -parking -check in -stay the night - eat, relax, recreation

		<ul style="list-style-type: none"> -swim - Using the bathroom -mushola -check out -parking -go home
3	Manager	<ul style="list-style-type: none"> -come -parking - Manage and be responsible for the overall operation of the resort -hold a meeting -use the toilet -mushola -Rest -parking -go home
4	Asisten Manager	<ul style="list-style-type: none"> -come -parking - Arrange the provision of rooms and smooth house keeping -attend meetings -use the toilet -mushola -Rest -parking -go home
5	Front Office	<ul style="list-style-type: none"> -come -parking - Serving ticket bookings - Serving handlers of guest goods -Serving resort information - Serving check-in and check-out -attend meetings -use the toilet -mushola -Rest -parking -go home
6	Food and Beverage	<ul style="list-style-type: none"> -come -parking - Serving food and beverage orders -Provide food and drink -attend meetings -use the toilet -mushola -Rest -parking -go home
7	House Keeping	<ul style="list-style-type: none"> -come -parking -Cleaning resort guest rooms -Cleaning the public spaces of the resort -Provide linen for resort operations

		- maintenance of linens -attend meetings -use the toilet -mushola -Rest -parking -go home
8	Engineering	-come -parking -Check MEP (Mechanical Electrical Plumbing) -maintain and repair resort facilities -use the toilet -mushola -Rest -parking -go home
9	Accounting	-come -parking -Make and check the resort bookkeeping reports -attend meetings -use the toilet -mushola -Rest -parking -go home
10	Human Resource Department	-come -parking - Manage and manage resort staffing -Training resort employees -attend meetings -use the toilet -mushola -Rest -parking -go home

B. Space requirements

By paying attention to the actors of the activities and the types of activities planned, it can be determined the space requirements that need to be provided according to the activities based on the types of activities, activity groups and activity sub-groups.

C. Spatial planning

The resort in Kledung Temanggung consists of several buildings, the spatial planning approach must be based on the function of each building. Spatial planning in the building is carried out by taking into account things such as the function of space, the effectiveness of activities, comfort in carrying out activities, and circulation in the building. The spatial planning system includes:

- Open space system
Spatial planning without using permanent room dividers
- Enclosure system
Is a spatial arrangement that uses a permanent or semi-permanent space divider. In this separation system the space is clearer, has privacy, and easy room arrangement
- Combination system
The combination system is a combination of open and closed spatial planning systems. In this system, spatial planning is based on the need for privacy and visual relations between space and actors in space.

In general, the three spatial planning systems can be implemented in each resort building according to the needs of the existing types of space.

D. Capacity

This approach to management capacity is an elaboration of the structure and space requirements of the activity actors.

Table 3. Resort Capacity in Kledung

No	Actor	Amount
1	Visitors :	
	- Visitors do not stay overnight	140
	- Visitors staying overnight	92
2	Manager:	
	-Manager	1
	-Assistant manager	1
	-Front Office	4
	-House Keeping	4
	-Engineering	6
	-Food and beverage	6
	-Accounting	3
	-Human Resource Department	4
Jumlah		261

The basis for the above calculation is the perpetrator of the activity and the type of activity carried out by the perpetrator of the activity, by knowing this basis, the number of users found at the resort is obtained and related to the amount of space planned.

E. The size of the room

Basic consideration :

- The amount and type of space needed according to the plan
- Standard size of space, flow capacity and human movement
- Space requirements for equipment

Standard study requirements based on:

- Architect Data
- Standard time saver of building type
- Other references (object analysis and comparative studies)
- Determination of flow rates based on the time saver of building

Table 4. Recapitulation of Resort Space in Kledung

No	Space Requirements	Room	Wide (m ²)
1	Visitor activities	6 units of class A villas	1.013,04 m ²
		6 units of class B villas	1.177,56 m ²
		6 units of class C villas	1.152,96 m ²
		Restaurant	171,4 m ²
2	Manager activities	Manager's Room	30 m ²
		Assistant Manager Room	30 m ²
		Management toilet	30,42 m ²
		Office	24,75 m ²
		Meeting room	14,625 m ²
		Security post	6 m ²
		Rubbish bin	6 m ²
		Genset Room	10 m ²
		Water Tower Room	25 m ²
		Control Room	6 m ²

3	General activity	Pump Room	12 m²
		Warehouse	12 m²
		Receiving area/dropezone	240 m²
		Parking lot	1.126 m²
		Lobby	28,028 m²
		Park	160 m²
		prayer room	58,02 m²
		Total	

Based on the planning and design approach that has been analyzed into a description of the basic approach that underlies the process of the physical design concept of the Resort Area building with the Architectural Approach of Regionalism and Thermal Comfort in Kledung Temanggung, is as follows:

- The resort area in Kledung is able to accommodate existing functions and support activities in it, as well as provide maximum convenience, security and comfort for visitors as there are functions that accommodate
- The resort area in Kledung as an inn building must give the impression of being receptive, attracting attention and highlighting a design that is adapted to the concept of course with the differences in buildings around the site
- The Resort area in Kledung was designed by taking into account the condition of the soil which makes the building strength and robustness, as well as the beauty of the building makes a sense of satisfaction for visitors and users.

The resort area in Kledung has the following building criteria:

- Showing the impression of a building that is cultural, has ethnic, philosophical values and can show Regionalism Architecture in Kledung Temanggung
- Prioritizing the requirements and comfort of spaces both inside and outside the building.

Based on the arrangement of the shape and mass of the resort in Kledung which adjusts the shape of the site and the surrounding nature, the shape of the building mass will be circular with the center of the circle being a garden and a restaurant, and outside the circle is a villa or inn. Here is an example of the shape of the building mass.



Fig. 4. Mass Form of Amanjiwo Resort in Magelang

The design of this resort building is more emphasized on the regionalism architecture of the local area, which can be used as a reference for design. This approach is expected to promote regional uniqueness by incorporating cultural elements into a building but still emphasizing on attractive, innovative building designs, both in terms of appearance, use and processing of materials and technology. As an example of a building design that adopts the concept of Regionalism Architecture in the local area is Windara (Wiwitan Ngulandra), which is one of the

winning designs for the Borobudhur tourism information center competition. With a design team by Muhammad Rizki Hidayat and Reza Renaldi. The design of the Windara building carries the concept of the Joglo house in Central Java and is combined with the architecture of the Borobudur Temple.

In the concept of appearance, it will be adjusted to the approach, namely Regionalism Architecture and applying the concept of Thermal Comfort. The physical form of the building uses local regional architecture, namely the traditional concept of Central Java and adapts to nature in Kledung Temanggung. So that the form of the resort will have ethical, philosophical, cultural and comfortable values with environmental adaptation so that it is hoped that it can become the identity of the Temanggung Regency. As an illustration of the regionalism architectural concept applied to this resort in Kledung Temanggung, besides prioritizing comfort and environmental adaptation it also applies ethnic and philosophical elements of Central Javanese culture to the design concept.

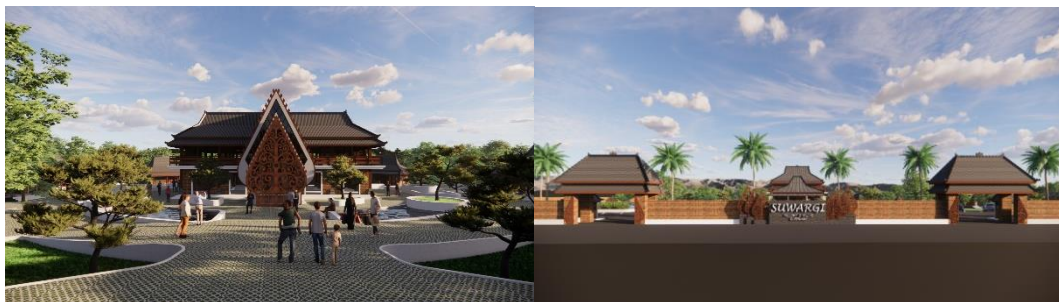


Fig. 5. Front view of the building

Image of the outside of the building with a thermal and regionalist approach. front view using wood material. The Joglo roof is a characteristic of Central Javanese architecture. With an emphasis on a more attractive design, the Joglo roof structure will adapt to attractive materials and shapes, but will not leave the characteristics of the Joglo roof. The use of paving grass blocks as pavers for roads and parking lots, so that rainwater can still seep into the ground. For the floor of the building using tile material to give a traditional impression. The use of wood as a wall and sill material adds a natural impression to the building concept. To add a natural and green impression, it can be applied by adding vegetation to the resort area. wooden-walled buildings can create thermal comfort for building occupants.(Hermawan, Sunaryo, et al., 2018).

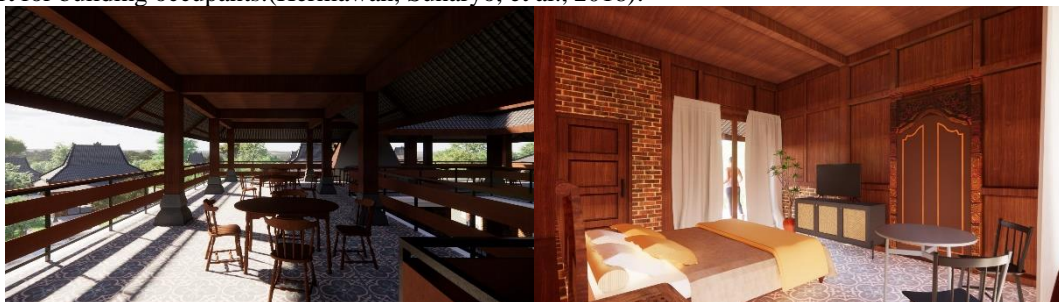


Fig. 6. Interior

4. CONCLUSION

It is hoped that the resort planning in Kledung Temanggung can become an icon in Temanggung Regency, and can provide a comfortable and refreshing resting place as well as relaxation for both domestic and foreign tourists. The existence of a resort in Kledung can also provide benefits for the people of Temanggung Regency because it uses the concept of Regionalism, where tourists will experience the traditions and culture of the local community. Thus it will improve the economy of the community and the government of Temanggung Regency.

5. ACKNOWLEDGMENT

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