Final Architectural Design Studio
International Undergraduate Program In Architecture

**Design Report**

# Design of an Ecotourism Cabin Resort Based on a Regionalism Approach in Sawangan, Magelang Regency, Central Java

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## ORIGINALITY STATMENT

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I declare that the entire design project of the final project entitled "**Design of an Ecotourism Cabin Resort Based on a Regionalism Approach in Sawangan, Magelang Regency, Central Java.**" is my own work except for the work mentioned in the reference and there is no assistance or help from other parties either in whole or in part in the process of making it. The final result of this work is submitted to the Department of Architecture, Islamic University of Indonesia to be used for educational and publication purposes, but intellectual property rights remain owned by the author.



## FOREWORD

Praise be to Allah SWT for all His mercy and grace, Shalawat and greetings cannot be forgotten by the author to the Prophet Muhammad SAW and his family and friends. Thanks to His grace and help, the author can complete this Final Architecture Design Studio entitled "Design of Ecotourism Cabins to Enhance Tourism Attraction and Economic Growth in Sawangan, Magelang Regency, Central Java". The writing of this Final Project is one of the requirements for graduation in obtaining a Strata-1 degree in the Architecture study program, Islamic University of Indonesia. It is hoped that this report can increase knowledge for readers. The author would also like to express his deepest gratitude to all those who have helped in the learning process and the preparation of this report, to:

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## Abstract

Magelang has great tourism potential, especially in the Sawangan area which is rich in natural and cultural beauty. However, the development of the tourism sector still faces challenges in terms of sustainability and local economic balance. The designer of the ecotourism cabin as a form of increasing tourist attractiveness and also supporting the economic growth of the local community. The design is carried out by considering aspects of sustainability, utilization of local materials, aspects of regionalism, and integration with the surrounding landscape. The proposed design focuses on the application of ecotourism principles which include environmental preservation, and economic benefits for local communities. With this concept, it is expected that ecotourism cabins can be a comfortable accommodation solution for tourists while contributing to environmental preservation and empowerment of the surrounding community.



**Keywords**: ecotourism, ecotourism cabin, sustainability, Magelang, regionalism





## Abstrak

Magelang memiliki potensi pariwisata yang besar, terutama di daerah Sawangan yang kaya akan keindahan alam dan budaya. Namun, pengembangan sektor pariwisata masih menghadapi tantangan dalam hal keberlanjutan dan keseimbangan ekonomi lokal. Perancang kabin ekowisata sebagai bentuk meningkatkan daya tarik wisata dan juga mendukung pertumbuhan ekonomi masyarakat setempat. Perancangan dilakukan dengan mempertimbangkan aspek keberlanjutan, pemanfaatan material lokal, aspek regionalisme, dan integrasi dengan lanskap sekitar. Desain yang diusulkan berfokus pada penerapan prinsip ekowisata yang meliputi pelestarian lingkungan, dan manfaat ekonomi bagi masyarakat lokal. Dengan konsep ini, diharapkan kabin ekowisata dapat menjadi solusi akomodasi yang nyaman bagi wisatawan sekaligus berkontribusi dalam pelestarian lingkungan dan pemberdayaan masyarakat sekitar.



**Kata kunci**: ekowisata, kabin ekowisata, keberlanjutan, Magelang, Regionalisme

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# CHAPTER 01

## Introduction

### 1.1 Project Title

**Design of Ecotourism Cabins to Enhance Tourism Attraction and Economic Growth in Sawangan, Magelang Regency, Central Java**

**Ecotourism**

Ecotourism is a form of tourism that focuses on conserving natural environments, respecting local cultures, and promoting sustainable economic benefits for local communities. It emphasizes responsible travel to natural areas, ensuring that tourism activities do not harm the ecosystem. Ecotourism in Sawangan offers opportunities for travelers to engage in eco-friendly activities such as trekking, wildlife observation, and cultural experiences, contributing to the preservation of biodiversity and cultural heritage.

**Cabin**

A cabin is a small building that generally serves as a temporary or permanent residence, taking into account aspects of functionality, space efficiency, comfort, and harmonization with the surrounding environment. In addition, cabins can be used for various purposes, such as resting places, ecotourism lodging, or even sustainable housing.

**Ecotourism Cabins**

Ecotourism cabins are accommodations designed to integrate harmoniously with nature while minimizing environmental impact. These cabins provide a sustainable lodging option that promotes eco-friendly tourism practices, such as using renewable energy sources, sustainable materials, and efficient water management systems. In Sawangan, Magelang Regency, the development of ecotourism cabins aims to enhance the local tourism sector by attracting visitors who seek immersive nature-based experiences. These cabins also encourage responsible tourism, fostering a deeper appreciation for the natural environment while supporting local communities.

**Tourism Attraction**

Tourism attractions refer to natural, cultural, or man-made features that draw visitors to a particular location. Sawangan, with its stunning landscapes, lush forests, and proximity to Mount Merapi, presents a unique opportunity for ecotourism development. By enhancing tourism attractions through well-designed ecotourism cabins, visitors can enjoy a comfortable and sustainable stay while exploring the rich natural and cultural heritage of the region.

## 1.2 Design Premise

Magelang Regency is an area in Central Java Province that has an extraordinary wealth of nature, culture and history. Located between Mount Merapi, Mount Merbabu, and the Menoreh Mountains, this district offers beautiful **natural scenery and fertile land for agriculture**. In addition, Magelang District is also known as one of the leading tourist destinations, especially with the presence of Borobudur Temple, which is a UNESCO world heritage site and a major tourist attraction in Indonesia. Apart from Borobudur, Magelang district has many other tourism potentials, such as nature tourism, village tourism, and agro-tourism that have not been fully developed optimally.

To maximize these potentials, this project proposes an ecotourism architecture approach that combines the concept of sustainability with natural beauty and local culture. This approach can be applied in the development of **ecotourism-based agritourism and resorts**, which not only increase tourist attraction but also support the economic growth of local communities. By utilizing the existing natural and cultural potential, this design is expected to be a solution to the economic challenges as well as creating a more environmentally friendly and sustainable tourist environment in Magelang Regency.



## 1.3 Background

**Tourism in Magelang Regency**

Magelang Regency has abundant natural resources that have the potential to be developed as a tourist area. Located between Mount Merapi, Mount Merbabu, and Mount Sumbing, this region offers beautiful natural beauty of the mountains. Favorable geographical conditions make Magelang have a pleasant weather. Thus, tourists visiting Magelang take advantage of the natural beauty of the region. Attractions such as protected forests, hilly areas that have biodiversity, and hiking trails are many objects of interest to tourists. Especially hikers and nature lovers who are looking for nature and adventure-based tourism experiences.



Figure 1.1 Merbabu mountain
Source: https://travelbuddies.co.id/tour/gunung-merbabu-3-hari-2-malam/

The Central Bureau of Statistics of Magelang District recorded in the period of 2023 the tourist attractions that are in demand based on the types of tourism in Magelang District. Artificial tourism in Magelang District is Ketep Pass in Sawangan Subdistrict, Mendut Recreation Park in Mungkid Subdistrict, and Banyuroto Agro Tourism in Sawangan Subdistrict. Cultural tourism objects of interest in Magelang District are Borobudur Temple in Borobudur Subdistrict, Mendut Temple in Mungkid Subdistrict, and Pawon Temple in Wanurejo Subdistrict. In addition to cultural tourism there are also special interest tourism such as Rafting or Elo rafting in Mungkid Subdistrict,



Figure 1.2 Borobudur temple
Source: https://borobudur.injourneydestination.id/destination-info/

One of the most popular trekking trails on Mount Merbabu is the Wekas Trail in Sawangan sub-district. With its diverse tourist attractions, Magelang Regency continues to be a favorite destination for domestic and foreign tourists. The uniqueness of each type of tourism offered is the main attraction that contributes to the growth of the tourism sector in this area. In addition, Magelang district has great potential in ecotourism development, especially in Sawangan Regency. Sawangan offers an attractive natural landscape with a combination of tropical forests, plantations, and hiking trails that are still beautiful. The development of ecotourism cabins in this area can be one of the strategies to increase tourist attractiveness and encourage local economic growth. With a concept that focuses on sustainability and environmental preservation, it can provide a different experience for tourists who want to enjoy the beauty of nature without damaging the ecosystem. Improved infrastructure and proper tourism promotion can strengthen the position of Magelang Regency as a leading ecotourism destination in Indonesia.

**Tourism Growth and Hotel Occupancy Trends in Magelang Regency**

The Central Bureau of Statistics (BPS) recorded the number of archipelago or domestic tourists in the period of 2023 the number of tourists visiting Magelang Regency was 60.33 million tourists. Tourist destinations that play a significant role in this growth are natural attractions such as landscapes, beaches, and mountains.

Data from the Central Bureau of Statistics (BPS) published by Magelang Regency shows that the Room Occupancy Rate (TPK) in Magelang Regency has increased significantly from 49.54% in 2022 to 53.38% in 2023. This increase indicates the growth of the tourism sector in the region, especially during vacation periods such as July and December, where the occupancy rate reaches the highest figures, namely 64.26% and 64.27%.

| Bulan | Persentase Tingkat Penghunian Kamar Hotel dan Akomodasi Lainnya Menurut Jenis Hotel dan Bulan di Kabupaten Magelang (hari) | | | |
|---|---|---|---|---|
| | Hotel Bintang | | Hotel Non Bintang | |
| | 2022 | 2023 | 2022 | 2023 |
| Januari | 47,92 | 45,49 | 20,94 | 21,04 |
| Februari | 34,03 | 46,88 | 17,21 | 18,78 |
| Maret | 45,86 | 44,89 | 21,64 | 18,63 |
| April | 27,10 | 39,37 | 12,96 | 18,78 |
| Mei | 56,99 | 53,61 | 31,09 | 21,10 |
| Juni | 52,12 | 56,93 | 26,68 | 25,40 |
| Juli | 57,56 | 64,26 | 27,63 | 28,32 |
| Agustus | 49,26 | 52,64 | 23,67 | 22,69 |
| September | 52,24 | 59,09 | 28,79 | 22,76 |
| Oktober | 54,07 | 53,68 | 24,64 | 23,38 |
| November | 52,80 | 59,86 | 25,04 | 24,99 |
| Desember | 62,61 | 64,27 | 32,53 | 29,71 |
| Kabupaten Magelang | 49,54 | 53,38 | 24,36 | 23,36 |

Keterangan Data :
Sumber: BPS, Survei Perusahaan/Usaha Jasa Akomodasi

Figure 1.3 Room occupancy percentage
Source: Central Bureau of Statistics Magelang Regency. 2025

Meanwhile, non-star hotels have a lower average TPK, with 24.36% in 2022 and a slight decrease to 23.36% in 2023. In addition to the increase in Room Occupancy Rate (TPK), data from the Central Bureau of Statistics (BPS) also noted that the average length of stay in Magelang Regency experienced slight variations throughout 2022 and 2023. In general, guests in starred hotels tend to stay for 1 to 2 days. Other that, non-starred hotels show a more stable trend with a constant average length of stay of 1 day throughout 2022 and 2023. This shows that tourists who choose non-starred hotels generally have a shorter visit duration compared to starred hotel guests. Overall, the average length of stay of guests in both starred and non-starred hotels is still relatively short, which indicates that tourism in Magelang Regency is dominated by short trips or visits with a tight agenda. Although the average length of stay is still relatively short, the potential for increasing the duration of visits remains, especially with the development of experiential tourism destinations, such as ecotourism and cultural tourism.



| Bulan | Rata-rata Lama Menginap Tamu Menurut Jenis Hotel dan Bulan di Kabupaten Magelang (hari) | | | |
|---|---|---|---|---|
| | Hotel Bintang | | Hotel Non Bintang | |
| | 2022 | 2023 | 2022 | 2023 |
| Januari | 1 | 1 | 1 | 1 |
| Februari | 1 | 1 | 1 | 1 |
| Maret | 1 | 2 | 1 | 1 |
| April | 1 | 1 | 1 | 1 |
| Mei | 2 | 2 | 1 | 1 |
| Juni | 1 | 1 | 1 | 1 |
| Juli | 1 | 2 | 1 | 1 |
| Agustus | 2 | 2 | 1 | 1 |
| September | 2 | 1 | 1 | 1 |
| Oktober | 2 | 1 | 1 | 1 |
| November | 2 | 2 | 1 | 1 |
| Desember | 2 | 2 | 1 | 1 |
| Kabupaten Magelang | 2 | 2 | 1 | 1 |

Figure 1.4 Average room occupancy per day
Source: Central Bureau of Statistics Magelang Regency. 2025

The local government together with the private sector also plays a role in developing supporting facilities such as tourist information centers, restaurants, and additional attractions that can make tourists feel more at home and extend the duration of their visit. With diverse tourism potential and support from various parties, Magelang has a great opportunity to continue to develop as a leading destination that not only attracts domestic tourists, but also foreign tourists.

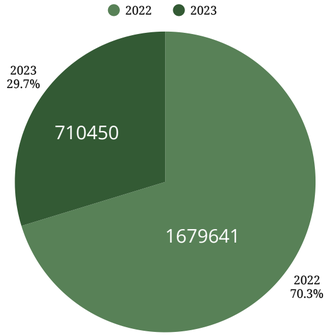



Figure 1.5 Toursim Attraction
Source: Central Bureau of Statistics Magelang Regency. 2025

The number of visitors to tourist attractions in Magelang has changed between 2022 and 2023. In 2022, the number of visitors was recorded at 1,679,641 of the total, while in 2023 the number decreased to 710,450. This decline in the number of visitors can be influenced by various factors, such as changes in tourism trends, economic conditions, or policies enacted regarding the tourism sector. Therefore, it is important for local governments and related parties to continue to improve tourist attraction through facility development and wider promotion. Strategic steps such as infrastructure improvement, diversification of tourist attractions, and cooperation with tourism industry players can help optimize the number of visits in the coming years. Magelang, with its natural and cultural wealth, still has great potential to develop as a leading destination, both for domestic and foreign tourists.

## Ecoturism in Magelang Regency

Ecotourism is a tourism concept that emphasizes environmental conservation, natural uniqueness, and local culture. This concept has great potential in improving the tourism sector in a sustainable manner while maintaining a balance between tourism exploitation and environmental conservation. Magelang, with its distinctive natural beauty and rich local culture, is one of the areas that has great potential in developing ecotourism optimally. With the right approach, ecotourism in Magelang not only improves the welfare of the community, but also preserves the environment and local cultural heritage. One of the main strategies in the development of ecotourism in Magelang is the construction of ecotourism cabins. These cabins not only serve as accommodation for tourists, but also provide an experience that is closer to nature. The cabin design should consider the use of environmentally friendly and sustainable materials, such as bamboo, recycled wood, or other natural materials from the surrounding area. In addition, eco-friendly technologies should also be implemented, such as rainwater management systems, the use of solar energy, as well as designs that allow for natural ventilation to reduce reliance on air conditioning. Ecotourism development must also involve local communities as part of a sustainable tourism ecosystem. The community can play a role as a tourist destination manager, nature tour guide, homestay-based accommodation service provider, and regional culinary specialties that can become souvenirs for tourists. Thus, ecotourism can contribute to local economic development. In addition, environmental education and conservation programs need to be developed to increase tourist awareness of the importance of environmental sustainability, such as through reforestation programs, community-based waste management, and introduction to local ecosystems. To support the development of ecotourism in Magelang, the local government has taken strategic steps through various policies and regulations.




Figure 1.6 Tourism economic training in Magelang Regency
Source: https://www.beritamagelang.id/tingkatkan-kopetensi-disparpora-kabupaten-magelang-gelar-pelatihan-pemandu-wisata-alam

by implementing governance policies that maintain local cultural values. One form of implementation is to ensure that buildings around tourist areas retain traditional Javanese architecture, so that the cultural character is maintained. In supporting the economic sustainability of the community, the government also provides various training and assistance programs for small and medium enterprises (MSMEs) engaged in the tourism sector. These programs include business management training, digital marketing, and improving the quality of local products to make them more competitive in the tourism market. Tourism digitalization is also developed by creating an online platform that allows tourists to get complete information about tourist destinations, available accommodation. Magelang has several ecotourism destinations that have developed and become an attraction for tourists. One example is Svarga Bumi Borobudur, which is located in Borobudur District. This place is a nature-based tourist area that offers the beauty of rice fields with a modern concept that still preserves the environment. This place is designed so that tourists can enjoy the natural panorama without damaging the existing agricultural ecosystem.






Figure 1.7 Svargabumi Borobudur
Source: https://www.dejogjaadventure.com/2020/09/02/svargabumi-borobudur/

In addition, there is Punthuk Setumbu, which is located in Borobudur District. This place is famous as the best location to enjoy the sunrise with Borobudur Temple in the background. This destination offers a tourist experience that is close to nature and local culture. Another ecotourism destination is Ngargoretno Village, located in Salaman Sub-district. The village focuses on nature conservation and community empowerment. Here, tourists can take part in various ecotourism-based activities, such as trekking to conservation forests, learning to grow crops organically, and getting to know local culture through village arts and culinary specialties. This program is not only attractive to tourists, but also helps the community in developing a sustainable tourism-based economy. With the right strategy, both in terms of infrastructure planning, community involvement, and government policies, ecotourism in Magelang has a great opportunity to develop optimally.

## Environmental Damage




Figure 1.8 landslide in Magelang
Source: https://www.detik.com/jateng/berita/d-7211925/longsor-timpa-usaha-grubi-di-salaman-magelang-4-terluka

Magelang, with its geographical condition dominated by hills and mountain slopes, has a high risk of landslides. In recent years, landslides in this region have become more frequent, especially in sub-districts such as Windusari, Salaman, and Kajoran. One of the main factors causing the increasing frequency of landslides is land use change due to development that pays less attention to environmental and sustainability aspects. Settlement and infrastructure development in hilly areas is often done without considering the local geology. Land clearing for housing, roads and commercial buildings often removes natural vegetation that previously served as soil retention. Land that has lost tree roots becomes more susceptible to erosion, especially during the rainy season. As a result, the soil layer becomes unstable and prone to movement, leading to landslides. In addition, a poor drainage system is also a factor that worsens the condition.

Rainwater that is not properly absorbed into the soil or not drained by a proper drainage system can increase the soil load and trigger shifting of the soil mass. Coupled with uncontrolled slope cutting for development purposes, the soil loses its bearing capacity and eventually collapses. These landslides not only cause damage to buildings and infrastructure, but also threaten the safety of local residents. Houses in landslide-prone areas are often severely damaged, and in some cases, these disasters have even caused fatalities. In addition, landslides also impact the economic sector, especially for people who depend on agriculture and tourism, the two main sectors in Magelang that are affected by landslides. To overcome this problem, a more sustainable architectural approach is needed in development planning. The application of strong foundation systems, terracing to reduce soil pressure, the use of retaining walls, and effective drainage management are some of the measures that can be implemented. In addition, a green architecture approach that integrates vegetation in building and landscape design needs to be implemented to maintain soil stability and reduce the risk of future landslides. Uncontrolled development can accelerate environmental degradation and increase disaster risks. Therefore, collaboration between the government, architects, and the community is necessary to create a safer and more sustainable environment in Magelang.



## 1.4 Problem Statment

The urgency of ecotourism in cabin design is an effort to **increase economic growth** in the tourist area of Magelang Regency, especially in the Sawangan area. Thus, it can **balance the surrounding tourism economy**. Based on the background of the problem that has been described, the problem formulation is as follows:

**General Problem**

How to design a cabin design with the concept of ecotourism architecture in Sawangan can attract visitors and meet the needs of tourists in Sawangan?

**Specific Problem**

How to design a cabin design with an ecotourism architecture approach?

How the opportunities for ecotourism development in Magelang for now and the future?

**Goals**

This design aims to design an ecotourism-based cabin model that can increase tourist attractiveness and maintain environmental sustainability in Sawangan, Magelang Regency.

Creating economic balance in the tourism sector through the development of eco-friendly accommodation that attracts tourists and benefits local communities.

**Objective**

Developing architectural designs for ecotourism cabins that prioritize sustainability, local culture, and integration with the environment that can support natural tourist destinations around the area.

**Design Limitation**

The limitation for this design:

1. The design focuses on the development of a cabin resort that will use an architectural ecotourism approach as a concept.
2. There are limitations in accordance with the design functions such as recreation and staycation.
3. There are also limitations related to regulations at the design location which is located in Sawangan, Magelang Regency.

## 1.5 Design Method

**Problem Identification**

Problems are identified based on the problems that exist in Magelang Regency so that these problems must be overcome, from the problems obtained produce themes that are relevant to the existing problems.

**Data Collection**

Data collection is carried out with two stages, namely primary data and secondary data which aims to obtain accurate data information in Sawangan, Magelang Regency.

**1. Primary Data**

Primary data collection is directly carried out by the author by collecting data about the context of the existing site location in Magelang.
a) Interviews with relevant sources to obtain information
b) Observation

**2. Secondary Data**

The Secondary Data is data that is already available so that the author only needs to collect the data. Secondary Data, such as:
a. RDTR and RTRW of Magelang District, and other related regulations.
b. Theoretical review
c. Precedent
d. Images and supporting information from the internet.



## 1.6 Design Hypothesis

This hypothesis design departs from the main problem, namely the lack of lodging facilities in the tourist area of Magelang Regency and the lack of management of lodging facilities that raise local potential. In addition, the economic distribution of the tourism sector is uneven where the eastern area of Magelang Regency is still neglected, especially in the Sawangan tourist area, Magelang Regency. Based on the results of the analysis of the literature study, the potential of the cabin resort by carrying out the concept of ecotourism by considering the typology and also the potential of ecotourism and regionalism which is quite strong in the region. The cabin design is designed to support tourism attraction as a form of accommodation facility that aims to increase the economic growth of local communities.

The designed building is an ecotourism cabin that blends with nature, utilizing the potential of the surrounding landscape in the form of hills, green vegetation, and direct views of Mount Merapi and Merbabu. The design emphasizes the principles of sustainable architecture such as the use of local materials such as natural stone, natural cross ventilation, the use of joglo roof approach system to maximize rainwater flow.

Each cabin unit has an orientation that considers the best vantage point (view) while minimizing excessive direct sunlight exposure, thereby reducing energy requirements. Building layouts are arranged separately and organically follow the contours of the land, to minimize large excavations and maintain natural ecosystems. Tourism activities facilitated in the site include an organic farming education area, and strengthening the involvement of the local community as the main actors of tourism. So that the economy of the surrounding community can increase from the tourism sector.



**CLIENT**

Regulation
Local Culture





**User**

Welfare
Healing and Chilling Place



**Strategy**

Natural lighting, Cross Ventilation, Response user requirement. Response site context, and Rentable unit and Functional area

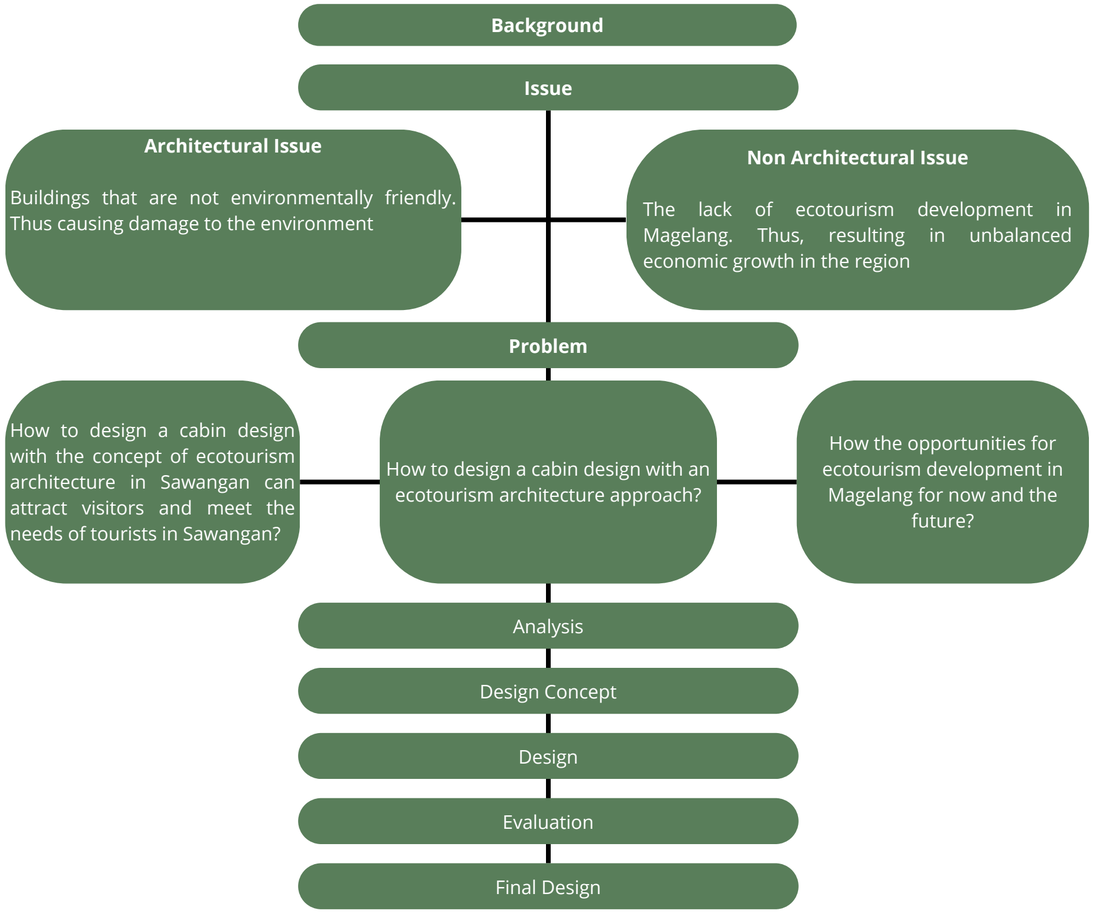




**Resort**

Ecotourism & Regionalism
Architectural Approach

## 1.7 Design Framework






## 1.8 Originality & Novelty

| Title | Author | Year | Instuition | Similarities | Different |
|---|---|---|---|---|---|
| PERANCANGAN RESORT Dengan pendekatan eko-arsitektur | Qonitah Ulfiyah Ahmad | 2024 | Universitas Islam Indonesia | • Architectural Approach<br>• Typology | • Background<br>• Site location<br>• Problem |
| DESIGN OF AGROTOURSIM & RESORT WITH ECO-TOURISM ARCHITECTURAL APPROAC IN TLOGOMULYO, KRETEK, WONOSOBO, CENTRAL JAVA | Aliya Jauhari Hidayanti | 2022 | Universitas Islam Indonesia | • Architectural Approach<br>• Typology | • Background<br>• Site Location<br>• Problem |
| RESORT DAN SPA DI KAWASAN DATARAN TINGGI DIENG DENGAN PENDEKATAN DESAIN GREEN ARCHITECTURE | Rokhmatullah Panji Ibrahim | 2015 | Universitas Negeri Malang | • Typology | • Background<br>• Site location<br>• Architectural Approach<br>• Problem |

Figure 1.9 Original and Novelty
Source: Author, 2025

## 1.9 Matrix of Design Thinking

| Matrix of Design Thinking by Bryan Lawson | Practical | Formal | Symbolic | Radical |
|---|---|---|---|---|
| **Regulation** | Magelang Regency RTRW 2010–2030: Limited nature tourism zone on the slopes of Merbabu–Merapi. Utilization of space for ecotourism activities without damaging the environment. | Development of Agropolitan Areas and Educational Tourism in RTRW: optimization of tourism functions based on agriculture and the environment. | Wonolelo Tourism Village Development Plan: maintaining local wisdom, agrarian culture, and harmony with nature as a tourist attraction. | PP No. 16 of 2021 concerning Green Buildings: construction of cabins with sustainability principles (local materials, energy efficiency, waste management) in ecologically sensitive areas. |
| **User** | The cabin should be comfortable, safe and tropical climate friendly for tourists: good ventilation, easy accessibility, basic facilities available. | The cabin must support educational tourism experiences: close to gardens, tracking paths, sunrise/sunset spots, and other nature activities. | The cabins reflect local identity: inspired by cultural heritage, traditional houses as part of the accommodation experience. | The cabin becomes an educational medium: introducing eco-living to tourists through the concept of an energy-independent cabin, rainwater as a clean water supply, and an organic garden around the cabin. |
| **Client** | The cabin must support the local economy: supporting homestays, village culinary MSMEs, tour guide services, and outdoor equipment rentals. | The destination image needs to be strengthened: branding the Wonolelo Ecotourism Village through unique, natural, and memorable cabin aesthetics. | Cabins highlight local pride: cabin names are based on local flora and fauna, interior design highlights folklore or village history. | The village is an example of a green project: implementing the principles of circular economy (recycling tourism waste), small-scale village technological innovations (biogas, solar panels). |
| **Designer** | Designing a functional, cost-effective cabin, using local materials such as local wood, and natural stone or materials available around Wonolelo. | Designing the cabin layout following the natural contour, directing the main view to Mount Merapi and Merbabu, and considering privacy zoning and social interaction. | Using local elements in the design: simple traditional limasan roof, Magelang batik patterns in the interior, open spaces themed on agrarian wisdom. | Designing the cabin as an educational space: self-sufficient unit (independent of energy, water and waste), modular system so that it can be developed in stages with the local community. |



Final Architecture Design Studio 2025

Design of Ecotourism Cabins to Enhance Tourism Attraction and Economic Growth in Sawangan, Magelang Regency, Central Java

# CHAPTER 02

## Site Data, Site Analysis, and Site Response

## 2.1 Location, Site, Context, and Analysis

**Location**

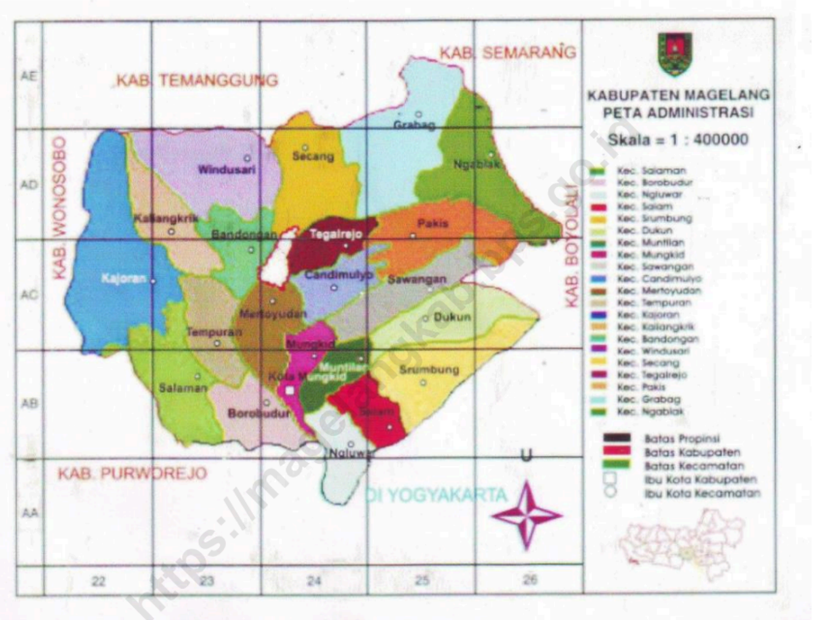



Figure 2.1 The administrative map of Magelang regency
Source: Central Bureau of Statistics Magelang Regency. 2025

Sawangan sub-district is a sub-district located in Magelang Regency, Central Java. It has an area of 72.37 km2 and a population of 56,551 people. This sub-district is 15 km from Kota Mungkit, the capital of Magelang District. Sawangan sub-district is located on the southwest slope of Mount Merbabu. Geographically, Sawangan sub-district is located at an altitude of 575 meters above sea level. Tourist destinations that offer natural beauty are an attraction for tourists. One of them is the view of Mount Merbabu and Merapi. In addition, the famous tourist destinations in Sawangan District are Ketep Pass, Kedung Kayang Waterfall, Negeri Kahyangan, Strawberry Garden, and Lumbung Temple. There is also Merbabu Basecamp via Suwanting as a climbing route to Mount Merbabu. People in Sawangan Regency mostly work as vegetable farmers, such as chilies, cabbage, and fruits.

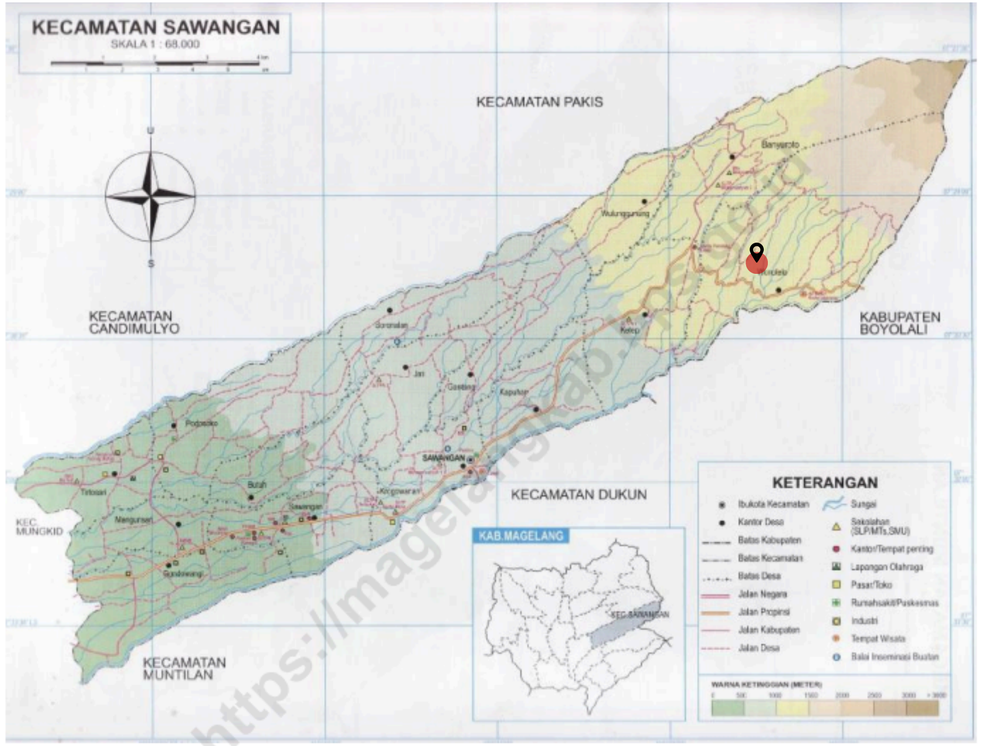



Figure 2.2 The administrative map of Sawanga, Magelang regency
Source: Central Bureau of Statistics Magelang Regency. 2025

**Location Context Analysis**

Sawangan Sub-district is a Horticultural Area recorded in the administrative map of Magelang Regency which has an area of 72.37 Km2. Horticultural Area is an area that has the potential to be utilized and developed both on wet land and or dry land for plantation commodities. The Magelang District Government has a plan to develop the function of the **Horticultural Area**, the development of which is the development of **Agro Edu Tourism** (AEW) which is one of the development programs of the Regional Spatial Plan of Magelang District No. 7 Year 2024. The average temperature in Sawangan sub-district is 28°C and the average rainfall is 1615.5 mm



## 2.2 Competitors in The Surrounding Area

**Pesona Ketep - Homestay**

Pesona Ketep Homestay is a homestay that uses hotel standards 2 star and presents views of Mount Merbabu and Mount Merapi. Pesona Ketep is located on Jl. Tembus Blabak - Boyolali Km.16 Ketep, Sawangan, Magelang. The types offered start from standard room which is the lowest for the type and resort room which is the highest for the type offered. The cost varies for the standard room type is priced at Rp. 325,000/night on weekdays, while the resort room type is priced at Rp. 1,050,000/night on weekdays. In addition to Pesona Ketep homestay, there are also facilities such as meeting rooms, restaurants, and in-house bars.




Figure 2.3 Pesona ketep homestay
Source: https://pesonaketepmagelang.com/

**Kenangan Ketep - Homestay**

In addition to Pesona Ketep Homestay in the secang area there are also several homestays, one of which is Kenangan Ketep Homestay located in Dadapan RT.7 RW 3 Ketep, Sawangan, Magelang. Unlike Pesona Ketep Homestay, Kenangan Homestay has 5 main rooms and 1 spare room. This homestay is specialized for families. The cost per night at Kenangan Ketep Homestay varies from Rp. 100,000/night to Rp. 400,000/night depending on the unit chosen.



Figure 2.4 Kenanga ketep homestay
Source: Author, 2025

From the data released by the Central Bureau of Statistics of Magelang District, the number of hotels/resots is 78 with classification:

**5 Star**

2 Property

**4 Star**

2 Property

**3 Star**

5 Property

**2 Star**

1 Property

**1 Star**

0 Property

**Other Accommodations**

68 Property



## 2.3 Community Activity in The Surrounding Area

**Agriculture**



Figure 2.5 Community Activity in Surrounding Area
Source: Author. 2025

Favorable geographical conditions with hilly topography and a climate that makes agriculture one of the main activities of the community in the surroundings of the area. The majority of the population make their living from the dryland-based agricultural sector, such as the cultivation of upland vegetables, as well as horticultural plantations. Some agricultural products are sold to local markets in Magelang and some are used for personal consumption, creating a sustainable and self-sufficient lifestyle. In recent years, agricultural activities in Wonolelo have also become synergized with the tourism sector, through the concept of agro-tourism and eco-tourism, where visitors can directly see the farming process, pick harvest products, and learn about organic farming. This opens up new opportunities for the local community in developing a nature-based economy.

**Type of Agriculture and Horicultura**

**Vegetables**


Cabbage


Pakcoy


Leek


Chinese Cabbage


Seladra


Carrots


Tomato


Chili

**Fruits**


Strawberry

Plants commonly found around the area are the types of plants consumed daily by the local community, such as leeks, cabbage, celadra, chili, carrots, and various other highland vegetables. In addition, there are also fruit plants such as strawberries that are intensively cultivated and have developed into one of the leading agro-tourism attractions, namely Wonolelo Strawberry Picking Tourism. The existence of various horticultural plants is a great potential to be developed further, especially in the form of collaboration between the community and the tourism sector. One of the development opportunities is through interactive activities for visitors, such as hands-on planting or harvesting experiences, which not only enrich the tourism experience but also strengthen local community involvement and empowerment.



## 2.4 Activity and Nearby Attraction

**Eco-print Batik**

Ecoprint Batik is a type of batik that uses natural dyes derived from tannins or coloring substances found in leaves, roots, or stems, which are placed on a piece of fabric. This environmentally friendly traditional fabric printing technique, known as ecoprint, utilizes natural materials such as plant-based dyes and leaves. It offers many advantages, such as producing unique, varied, and eco-friendly patterns.

Ecoprint batik employs the ecopounding technique, where leaves, flowers, twigs, or plant roots are arranged on the fabric according to the desired pattern, then pounded using a wooden mallet or other striking tools. The goal is for the color from the plant material to transfer onto the fabric following the intended pattern. Once the pattern has formed, the plant materials are removed from the fabric, and the process continues to fix the color so it becomes permanent (non-fading).

The purpose of this activity is to preserve the environment by promoting the use of natural and eco-friendly materials in the dyeing and batik-making process. It also aims to develop entrepreneurship by providing knowledge and skills in producing ecoprint batik. Furthermore, the ecopounding technique introduces a new understanding of how to independently utilize the abundant natural resources in their surroundings as a sustainable, economical, and creative way of life. It is hoped that this method can serve as an environmentally friendly, economical, and creative livelihood.


Figure 2.6 Ecoprint Batik Process
Source: pindah.jatengprov.go.id


Figure 2.7 Ecoprint Batik Product
Source: pindah.jatengprov.go.id

**Batik Tulis**

Batik Tulis is a traditional type of batik created manually by drawing patterns on fabric using a canting (a traditional wax pen) and hot wax. This technique is an eco-friendly fabric dyeing method, as it often involves the use of natural dyes and is done entirely by hand without the use of machines. Batik Tulis offers many advantages, such as producing unique, detailed, and artistically valuable patterns, since each piece is individually handcrafted by artisans.

The process of Batik Tulis begins with manually drawing the design onto the fabric. Specific areas are then covered with wax according to the desired pattern. After dyeing, the wax is removed, and the process may be repeated multiple times to create complex and colorful motifs. This technique requires precision, patience, and high-level craftsmanship, as the entire process is done by hand.

The purpose of Batik Tulis is to preserve both culture and the environment by encouraging the use of traditional techniques and natural dyes in the production process. Additionally, Batik Tulis is developed as a form of creative entrepreneurship that imparts knowledge and skills to the community in producing economically valuable batik. Through this technique, people can learn to independently utilize natural resources in their surroundings as a sustainable, economical, and creative way of life. It is hoped that this method can become a source of livelihood that is environmentally friendly and culturally meaningful.



Figure 2.8 Batik Tulis Process
Source: pindah.jatengprov.go.id



Figure 2.9 Batik Tulis Product
Source: pindah.jatengprov.go.id



**Yoga Class**

Yoga Class is a wellness activity conducted in a natural open-air setting near the cabins, surrounded by the serene landscape of Wonolelo. The session combines gentle stretching, breathing techniques, and basic meditation, aiming to cultivate mindfulness and physical balance in harmony with the surrounding environment.

Held in the morning or late afternoon, the class provides a quiet space for reconnecting with the body and calming the mind. The natural backdrop of forests and mountains enhances the sensory experience, supporting a deeper state of relaxation and awareness.

This activity is designed to suit various levels of ability, encouraging steady movement and conscious breathing as part of a restorative and nature-integrated experience.

**Mini Campfire**

Mini Campfire is an evening activity held in the open area around the cabins, surrounded by the cool atmosphere of Wonolelo's highlands. A small fire is lit as a gathering point, creating a warm and intimate ambiance in the midst of the mountain air.

The activity often involves casual conversations, storytelling, or enjoying simple snacks such as roasted marshmallows and warm drinks. The glow of the fire and the calmness of the night provide a reflective and personal moment, forming part of a restful experience that connects guests more closely with nature and with one another.



Figure 2.10 Yoga Class
Source: id.pinterest.com



Figure 2.11 Mini Camfire
Source: id.pinterest.com

**Jeep Tour**

Jeep Tour Ketep is a nature exploration activity located on the slopes of Mount Merapi, specifically around Ketep Pass in Sawangan District, Magelang. Using 4x4 vehicles, participants travel along open trails that offer a blend of stunning mountain landscapes, volcanic activity remnants, and the daily life of the local mountain communities.

The route passes through hilly terrain with rocky soil, plantation areas, and several strategic viewpoints showcasing panoramic views of Mount Merapi, Mount Merbabu, and the surrounding area. The tour often includes visits to educational sites such as the Ketep Volcano Centre Museum and observation decks, as well as natural spots featuring lava flows and volcanic rock deposits.

There are three route options with varying durations:

- The short route explores Grojogan Watu Purbo and lasts about 1.5 hours.
- The medium route passes through Ketep Pass, Gunung Gumpak, Negeri Khayangan, and Grojogan Kapuhan with an approximate duration of 2.5 hours.
- The long route covers Negeri Khayangan, Mount Merapi Observation Post Badaban, Candi Asu, and Grojogan Kapuhan, lasting up to 5 hours.

This activity highlights the harmonious relationship between the local communities and the volcanic environment of Merapi's slopes, while showcasing the power and beauty unique to this volcanic mountain region.



Figure 2.12 Jeep Tour
Source: beritamagelang.id



Figure 2.13 Grojogan Kapuhan
Source: kompas.com



## 2.5 Tourist Attractions in The Surrounding Area

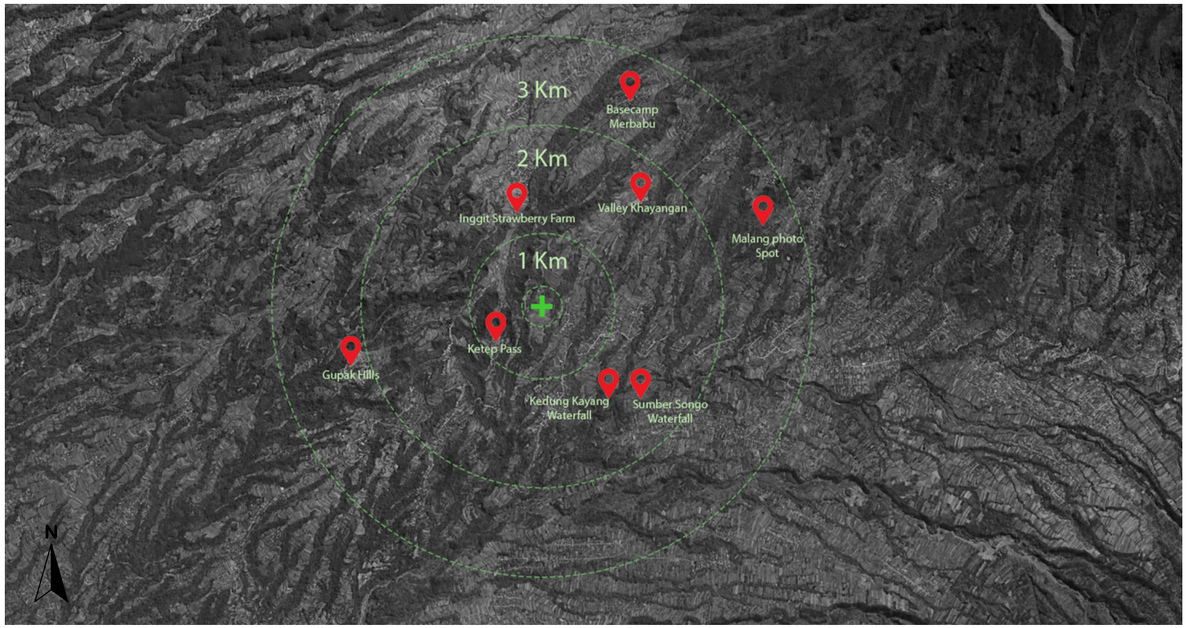



Figure 2.14 Radius Map of Tourist Attractions
Source: Author. 2025

This tourist attraction radius map illustrates the distribution of tourist destinations around the site location which is marked with a green plus symbol. This point is the center of three consecutive radius circles of 1 km, 2 km, and 3 km. Within a 1 km radius of the site, there are several leading tourist attractions, such as Ketep Pass, a popular destination that offers a direct panorama of Mount Merapi and Merbabu. Entering a 2 km radius from the site, there are tourist attractions that offer a different experience, such as Inggit Strawberry Farm, where visitors can enjoy strawberry picking activities directly, as well as Valley Khayangan, a valley with interesting photo spots and surrounded by charming mountain landscapes, as well as two natural waterfalls, namely Kedung Kayang Waterfall and Sumber Songo Waterfall which are known for their natural beauty and cool atmosphere. Furthermore, within a 3 km radius from the site, visitors can find Basecamp Merbabu, which is the starting point for climbing Mount Merbabu, as well as Malang Photo Spot, a popular place for taking selfies with a natural mountain backdrop. On the southwest side, there is also Gupak Hills, a hilly area with a calm atmosphere and expansive views of the mountain slopes. Overall, the distribution of tourist attractions within a 3 km radius of the site shows the potential of an area rich in natural attractions and is very supportive for the development of ecotourism destinations based on mountain landscapes.

**Ketep Pass**

Ketep Pass is a natural tourist attraction developed with the characteristics of volcanic tourism. becoming one of the most popular tourist attractions in the Sawangan area, based on data from the Magelang Regency Tourism Office, the number of visits to Ketep Pass reaches 200,000 per year with a significant increase during the holiday season and weekends. The location of Ketep Pass is at the top of Sawangan Hill (midway between Mount Merapi and Mount Merbabu). In addition to natural tourism, Ketep Pass also offers educational tourism by visiting the Volcanology Museum which provides information about Mount Merapi.




Figure 2.15 Ketep pass
Source: https://travel.kompas.com/read/2023/09/23/194000627/ketep-pass-magelang--harga-tiket-jam-buka-dan-daya-tarik?page=all

**Inggit Strawberry Farm**

Kebon Inggit Strawberry Garden is located in Banyuroto Village, Sawangan District, Magelang Regency, Central Java. Kebon Inggit Strawberry Garden is an educational agrotourism located on the slopes of Mount Merbabu, becoming one of the family's favorite tours because it offers a learning experience while enjoying strawberries that can be picked directly by visitors. This tour provides an interactive nuance that is very suitable for children and adults who want to get to know more about natural strawberry cultivation.




Figure 2.16 Inggit strawberry garden agrotourism
Source:
https://regional.kompas.com/read/2023/10/21/194830378/kebun-inggit-strawberry-di-magelang-daya-tarik-harga-tiket-dan-jam-buka?page=all



**Wekas Climb Basecamp**

Nature tourism is the most popular tourism for visitors. Especially climbers who want to climb Mount Merbabu. The Wekas route is the most popular route for climbers who want to climb Mount Merbabu, besides being the shortest route, the Wekas mountain route also has many water sources. The Mount Merbabu climbing route via Wekas is located in Wekas Village, Pakis District, Magelang Regency, and is one of the official accesses to the peak of Mount Merbabu. Based on data from the Mount Merbabu National Park Office, the number of climbers who use the Wekas route has increased significantly every year. In 2023, more than 35,000 climbers were recorded using this route, especially during the dry season and long holidays.




Figure 2.17 Mount Merbabu climbing gate via Wekas
Source: https://shelterjelajah.com/gunung-merbabu-via-wekas-dan-estimasi-waktu-pendakian/

**Kedung Kayang Waterfall**

Kedung Kayang is one of the natural waterfalls located in Wonolelo Village, Magelang Regency, Central Java. This waterfall is located on the slopes of Mount Merapi and Merbabu, which makes it a tourist spot that has an amazingly beautiful, cool and beautiful natural panorama. This location not only offers a stunning visual experience, but also offers a calm and natural atmosphere suitable for relaxation and nature photography. Apart from being a tourist destination, Kedung Kayang also has educational potential in the fields of ecotourism and environmental conservation. This potential makes Kedung Kayang very suitable to be developed as part of a sustainable tourism area in Magelang, by involving the surrounding community in management, guiding, and providing tourist support facilities such as homestays.



Figure 2.18 Kedhung Kayang Waterfall
Source: https://shelterjelajah.com/gunung-merbabu-via-wekas-dan-estimasi-waktu-pendakian/

## 2.5 The Main Target User



Tourist



Family



Couple



Study for conservation

- **Tourist**

Tourists visiting generally seek an authentic nature tourism experience that differs from conventional tourism. They are attracted to the beauty of the mountainous landscape, forests, and ecotourism activities such as hiking, birdwatching, or interacting with the local community. This group includes both domestic and international travelers who want to enjoy the nature while still having access to comfortable facilities.

- **Family**

Families are one of the primary segments requiring child-friendly facilities and a safe environment. They typically look for destinations that provide educational experiences for children, such as learning about local flora and fauna, farming activities, or nature exploration. The presence of facilities like natural playgrounds, easy trekking trails, and interactive activities will enhance the appeal for families looking to spend quality time together.

- **Couple**

Couples, whether on vacation, honeymoon, or celebrating a special moment, are looking for a romantic and private travel experience. The ecotourism cabin concept can provide accommodation with beautiful views, a peaceful atmosphere, and facilities such as an outdoor dining area or a spot to enjoy the sunset. With a more intimate and exclusive approach, ecotourism can be an option for couples who want to enjoy nature with comfort and a romantic atmosphere.

- **Study for Conservation**

This group consists of academics, students, researchers, and environmental communities interested in nature conservation and sustainability. They require supporting facilities such as research areas, environmental information centers, and access to locations that serve as study objects. Educational and research programs on local ecosystems, biodiversity, and sustainable ecotourism practices can be key attractions for this group.



## 2.6 Site Location




Figure 2.19 Site location
Source: Google earth pro

**Site Location**

This area is located on the slopes of Mount Merbabu, Wonolelo Village, Sawangan District, Magelang Regency with a geographical location of 7°29'29.9"S 110°23'23.5"E. This area is one of the tourist village areas developed by the Magelang Regency.

**SWOT Analysis**

**Strength**: The government supports the development of ecotourism, locations that have the potential to build cabin resorts because they have natural resources that can be utilized as recreational tourism.

**Weakness**: There is no public transportation that reaches the location, supporting facilities such as hospitals and minimarkets are quite far away.

**Opportunity**: A strategic location for the development of ecotourism cabins can increase regional economic income, create jobs, increase tourism around the location.

**Threat**: Natural disasters such as volcanic eruptions, and landslides due to the location at the foot of Mount Merbabu and adjacent to the active Mount Marapi are likely to be affected by eruptions.

## Land Use Regulation

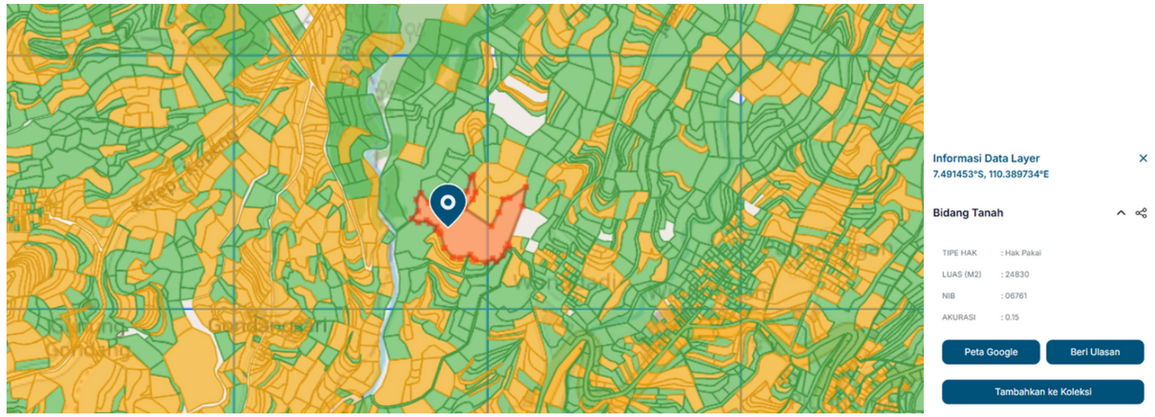



Figure 2.20 Administration Maps
Source: https://bhumi.atrbpn.go.id

Pasal 35

(1) Kegiatan Pariwisata Desa Wisata, dapat berupa:
a. pengembangan usaha Daya Tarik Wisata;
b. pengembangan usaha informasi Wisata;
c. pengembangan usaha atraksi Wisata;
d. pengembangan usaha akomodasi Wisata dan kuliner;
e. pengembangan usaha wisata edukasi; dan
f. pengembangan usaha kerajinan rakyat.

Pasal 40

(1) Jenis jasa Usaha Pariwisata Desa Wisata meliputi:
a. jasa makanan dan minuman;
b. penyedia akomodasi;
c. penyelenggaraan kegiatan hiburan dan rekreasi;
d. Daya Tarik Wisata;
e. kawasan pariwisata;
f. jasa transportasi Wisata;
g. jasa perjalanan Wisata;
h. penyelenggaraan pertemuan, perjalanan insentif, konferensi, dan pameran;
i. jasa pramuwisata;
j. wisata tirta;
k. jasa informasi pariwisata;
l. jasa konsultan pariwisata; dan
m. spa.

In the land use analysis obtained from the atrbpn map, the site location is in a land area that can be used for development. The development of Wonolelo tourism village is regulated in Regional Regulation (PERDA) Number 8 of 2023 concerning Tourism Villages. Article 35 point 1 chapter VI on the development of tourism businesses in tourist villages shows the development of tourism activities in tourist villages, one of which is tourist accommodation that can support tourist activities in the region. In addition, in article 40 point 1, which mentions the types of business services permitted in tourism village tourism, one of them is accommodation providers as a permitted business service. In addition, this area is also included in the tourism development zone as stated in the Regional Regulation of Magelang District RTRW No. 7 of 2024. In other words, the development of accommodation such as risor, homestay or hotel is one form of support in developing tourism in the region, precisely in Wonolelo, Magelang District.






Figure 2.21 Site location
Source: Google earth pro

## Site Area

Site Area: **22,122 m2 (2,2 Ha)**

KDB: 40% x 22,122 m2 = **8,848 m2**
KLB: 0,8 x 8,848 m2 = **7,078 m2**
KDH: 60% x 35,047.26 m2 = **13,273 m2**
FAR: 2 Floor (Maximum)



**North View**



**East View**






**West View**



**South View**



**North View**

The view to the north of the site shows a natural open area, overgrown with green grass and shrubs. The dense vegetation forms a natural sightline in the distance, with relatively flat contours. The impression from this side is one of tranquility and beauty, making it suitable for light conservation zones or passive activity areas such as outdoor seating, reflection areas or natural gardens that support ecotourism principles.

**East View**

The eastern direction offers a panoramic view of Mount Merbabu as the main backdrop. The vast open landscape in front creates a dramatic and powerful visual. The horizon line is clearly visible, connecting the expanse of land with the vegetation at the foot of the mountain. This view has a high aesthetic value, making it ideal for directing building openings such as tourist cabins, outdoor dining areas, or observation decks oriented towards the east for visitors to enjoy the beauty of the landscape to the fullest.

**West View**

The view to the west of the site features open land with slightly sloping land contours. The sky appears to dominate the view with a broad and unobstructed horizon, creating an airy and open atmosphere. In the distance, faint hills can be seen providing an additional visually interesting backdrop. This western side has great potential as a location to enjoy the sunset, and is suitable to be developed as a shared space such as a nature-based mini amphitheater.

**South View**

The view is to the south with Mount Merapi standing majestically in the distance. Its iconic mountain slopes reinforce the identity of the area as part of Magelang's distinctive volcanic landscape. This south side is very suitable to be the main face of the project or the main orientation of the building, such as the placement of the entrance, reception area, with an exclusive view directly facing Mount Merapi. This visual strength can be utilized as the main selling point in the development of ecotourism destinations based on nature and local culture.



Figure 2.22 North View
Source: Author. 2025



Figure 2.23 East View
Source: Author. 2025



Figure 2.24 West View
Source: Author. 2025



Figure 2.25 South View
Source: Author. 2025

## Contour Analysis

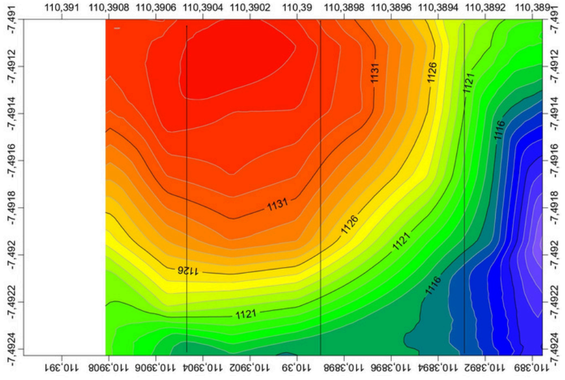



Figure 2.26 2D Contour
Source: Author. 2025

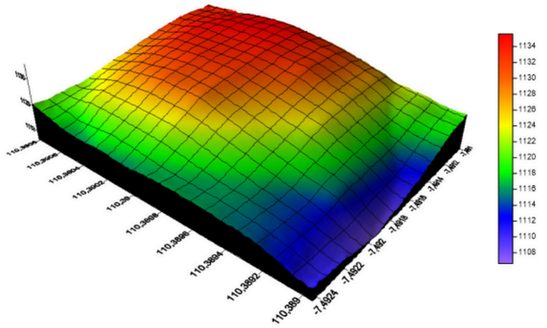



Figure 2.27 3D Contour
Source: Author. 2025

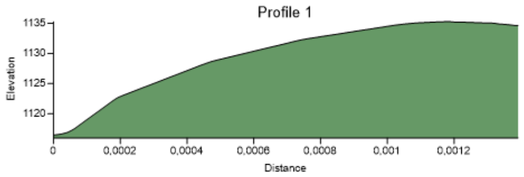



Figure 2.20 Section profile 1 contour
Source: Author. 2025

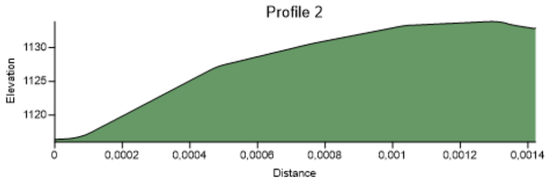



Figure 2.28 Section profile 2 contour
Source: Author. 2025

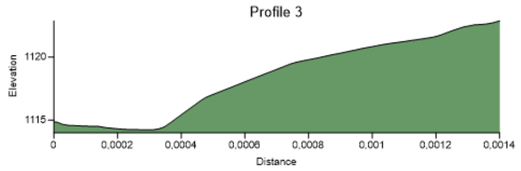



Figure 2.29 Section profile 3 contour
Source: Author. 2025

This site is located at the foot of Mount Merbabu. Based on the analysis of the land contour surface, it shows significant variations in height with an altitude of 1110 to 1134 meters above sea level. The red color indicates the highest point and the purple color indicates the lowest point. This contour pattern illustrates the presence of slopes with varying slopes from gentle to moderate.



## Sun Analysis

The average annual temperature data is up to 24/28 °C and the highest temperature is up to 28/32 °C. The lowest temperature up to 20/24°C. And the mean temperature is 28°C

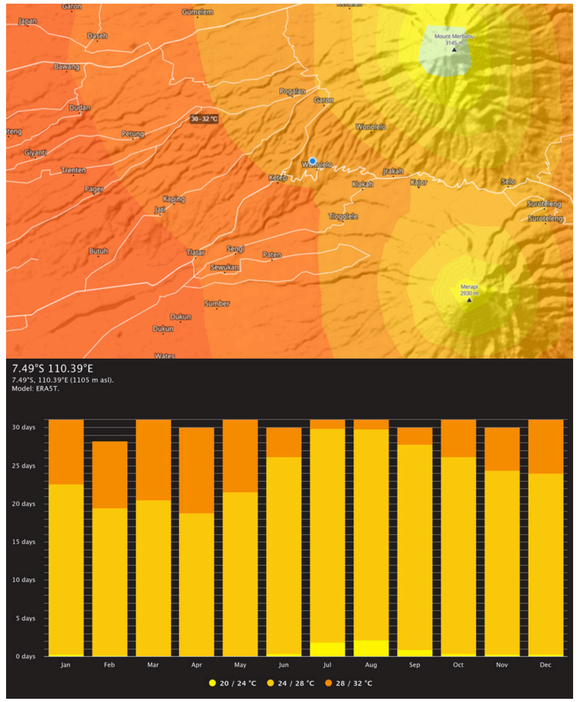
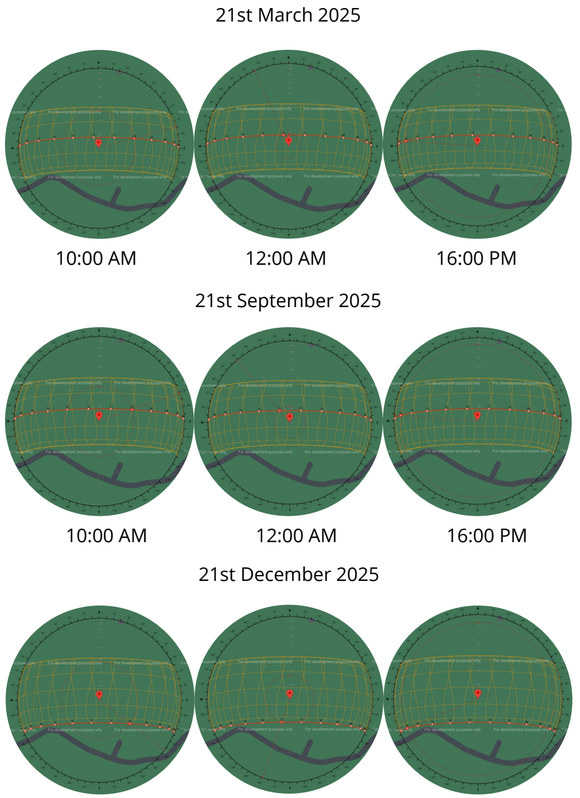



Figure 2.30 Temperature Map and Graph
Source: https://www.meteoblue.com



## Rainfall Analysis

The rain intensity in this area is quite high every month, only the months of May to October experience dry conditions, dry conditions are not long, only range from 5 to 10 days.

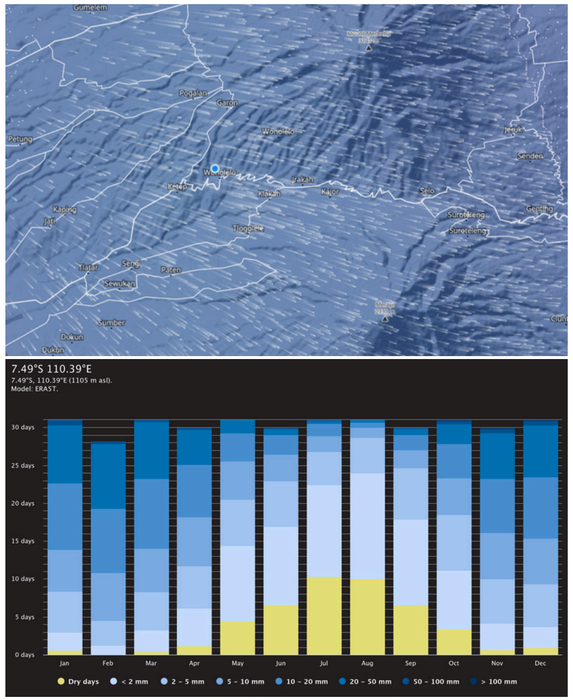



Figure 2.31 Rainfall Amount Map and Graph
Source: https://www.meteoblue.com

## Wind Analysis

The average wind speed each month reaches 5 to 10 km/h, the highest wind speed will occur in July to September reaching 10 to 20 km/h this wind speed will last until day 25.

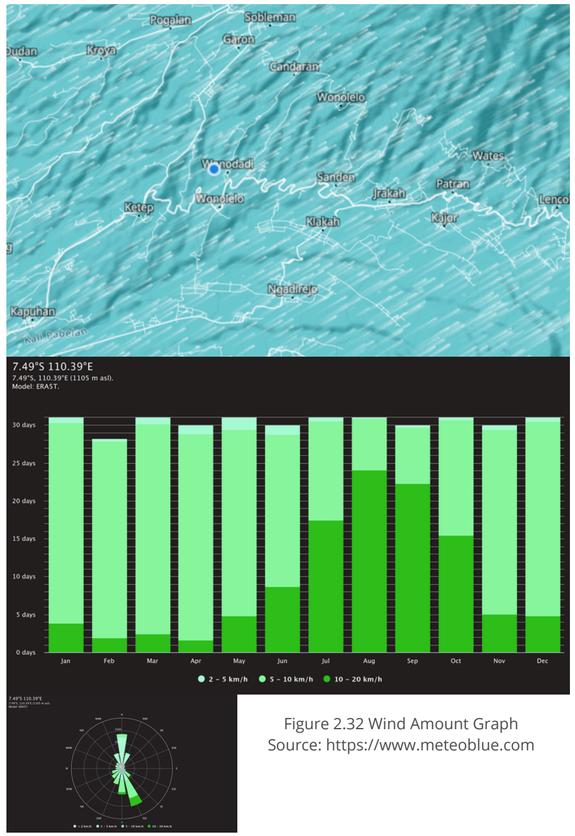



Figure 2.32 Wind Amount Graph
Source: https://www.meteoblue.com



## Applying Previous Analysis To The Site

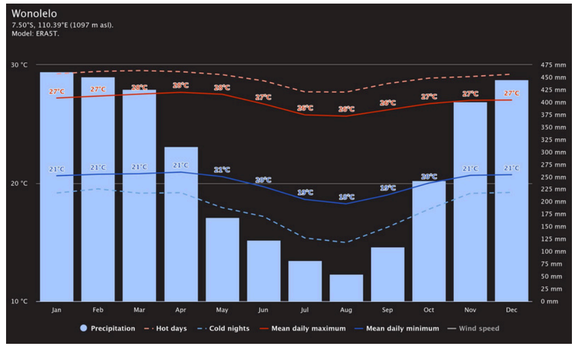



Figure 2.33 Site Analysis
Source: Author. 2025

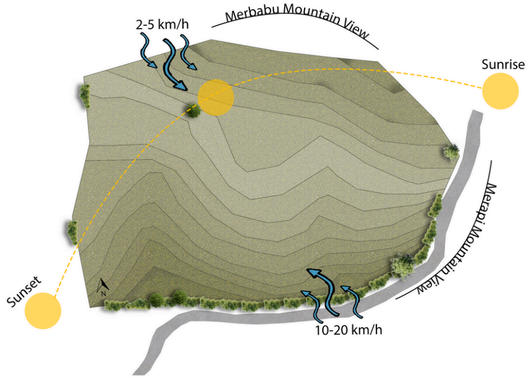



Figure 2.34 Site Analysis
Source: Author. 2025

This data is a combination of all the data to produce the “average daily maximum” (thick red line) which shows the average maximum temperature for each month in Wonolelo. Likewise, the “average daily minimum” (solid blue line) shows the average minimum temperature. Highest and lowest days (red and blue dashed lines) show the average hottest and lowest days of each month in the last 30 years. For vacation planning, you can estimate the average temperature, and be prepared for hotter and cooler days. Wind speed is not shown by default, but can be enabled at the bottom of the graph.

## 2.7 Design Study

**Ecotourism**

Ecotourism is often used as a concept for tourism development that is managed and developed by the government and local communities with the aim of attracting tourists and economic growth. According to (Yunianti, 2018), ecotourism is one of the tourism activities that is worth environmental insight by prioritizing aspects of social, cultural and economic empowerment of local communities which aims as a place of learning and education. The International Ecotoursim Society (TIES) as the first ecotourism organization defines ecotourism as responsible travel to natural areas that conserves the environment and improves the well-being of local people. Another definition of ecotourism according to (Martha Honey 2008) Ecotourism is a form of tourism that prioritizes the principle of sustainability by respecting and preserving the natural environment and empowering local communities. In addition, Ecotourism also focuses on nature conservation and natural resource management, while providing economic, social, and cultural benefits to local communities, leading to their empowerment. Ecotourism plays an important role in supporting nature conservation while improving the quality of life of surrounding communities in a sustainable way. This is in line with the principle of ecotourism which not only focuses on the utilization of natural potential, but also maintains a balance between the needs of tourists and the preservation of natural ecosystems (Moseley, 2007). Ecotourism management requires collaboration between the public, private and local community sectors. Thus, effective ecotourism development must involve active participation from all parties to achieve the goals of conservation, education, and sustainable economic empowerment.

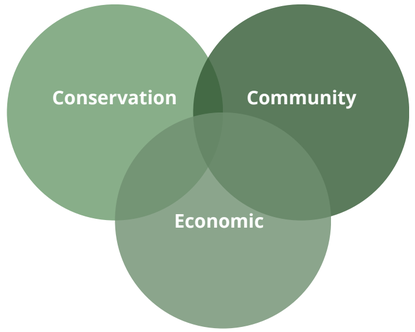



Figure 2.35 Ecotourism main principle diagram
Source: Author. 2025

**Ecotourism Principle**

According to Page and Ross (2002), ecotourism has three main principles, namely; conservation principles, community participation principles and economic principles.

1. Conservation Principle. The principle of conservation means having concern, responsibility and commitment to the preservation of the natural and cultural environment, implementing the principles of responsible business and sustainable economy. The principle of nature conservation has concern, responsibility and commitment to nature conservation and development that follows ecological principles, while the principle of cultural conservation is sensitivity and respect for the socio-cultural values and religious traditions of the local community.
2. Principle of Community Participation. Ecotourism planning and development must optimally involve local communities.
3. Economic Principles. Ecotourism development is carried out efficiently, where natural resource management is carried out so that its sustainable use can support future generations.



**Characteristics of Ecotourism**

According to the Directorate General of Nature Protection and Conservation (2000), there are five basic characteristics in the business of ecotourism activities, namely:

- Nature based, namely ecotourism is part or all of nature itself including elements of its resources, where the wealth of biodiversity and its ecosystems is the main strength and has the most important selling point for ecotourism development.
- Ecologically sustainable, namely ecotourism must be ecologically sustainable, meaning that all environmental functions including biological, physical, and social continue to run well, where changes from development do not interfere with and damage ecological functions.
- Environmentally educative, that is, through activities that are positive to the environment, it is expected to be able to influence the behavior of the community and tourists to care about conservation so that it can help long-term sustainability.
- Beneficial to the local community, namely by involving the community in ecotourism activities is expected to provide benefits to the community both directly and indirectly, such as the community renting out equipment needed by tourists, selling tourist needs, increasing insight into the environment and so on.
- Tourist satisfaction, namely satisfaction with natural phenomena obtained from ecotourism activities can increase awareness and appreciation for conservation of nature and local culture.




Figure 2.36 Ecotourism characteristics
Source: Author. 2025

**Resort**

A resort is a tourist accommodation designed to provide a comfortable stay for a while. According to the Director General of Tourism (1988), a resort is a temporary residence for someone outside their place of residence with the aim of getting freshness of body and soul and meeting the needs of recreation, sports, health, and conventions. It can also be associated with interests related to sports activities, health, conventions, religion, and other business purposes. Meanwhile, Pendit (1999) defines a resort as a place to stay that has special facilities for relaxation and sports activities, such as tennis, golf, spa, trekking, and jogging. Resorts are generally located in locations that have natural attractions, such as beaches, mountains, or rural areas that offer beauty and tranquility. Some common types of resorts include:

1. Beach Resorts - Resorts located in coastal or beach areas with main facilities in the form of marine activities such as snorkeling, diving, and various water sports.
2. Mountain Resort - Located in a mountainous area with natural scenery, offering activities such as hiking, trekking, and enjoying the cool atmosphere typical of mountainous areas.
3. Eco Resort - A resort that emphasizes the principle of environmental sustainability by using eco-friendly materials and managing resources sustainably.
4. Luxury Resort - A luxury resort that provides exclusive facilities such as private villas, high-end spa services, and restaurants with international standards.
5. Wellness Resort - A resort that focuses on health and wellness, providing services such as yoga, meditation, massage therapy, and detoxification programs.
6. Cabin Resort - Resorts that offer a stay in log cabins or small structures with a design that blends in with nature, often located in mountainous, forested or lakeside areas. Cabin resorts generally have a more private and eco-friendly concept, perfect for travelers seeking tranquility or nature-based tourism.

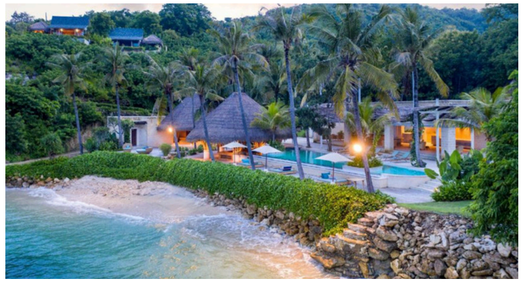


Figure 2.37 Beach Resort
Source: https://www.booking.com



Figure 2.38 Mountain Resort
Source: https://royal-tulip-gunung-geulis.goldentulip.co



Figure 2.39 Cabin Resort
Source: https://greatnorthernresort.com/



**Cabin Resort**

Resort cabins are one type of tourist accommodation that carries the concept of environmentally friendly housing with a design that blends in with the surrounding nature. Usually, resort cabins are built in mountainous, forested or lakeside areas, offering a stay that is closer to nature. This concept is gaining popularity along with the increasing awareness of sustainability and the need for ecotourism-based tourism. According to Honey (2008), resort cabins are a form of tourist accommodation designed with sustainability in mind, including environmental conservation, local community empowerment, and energy and material efficiency. The International Ecotourism Society (TIES) defines a resort cabin as a place to stay that promotes the principles of ecotourism by utilizing natural resources wisely without damaging the surrounding ecosystem. In addition, according to Weaver (2001), resort cabins are a form of ecotourism that offers tourist experiences by minimizing environmental impacts through the use of environmentally friendly technology and the application of nature conservation principles.

**Characteristics of Resort Cabins**

According to Fennell (2003), the main characteristic of ecotourism accommodation such as resort cabins is the balance between the needs of tourists and environmental preservation, and the implementation of systems that support ecological sustainability. This includes building designs that make efficient use of natural resources and the use of green technologies that can reduce negative impacts on the environment.

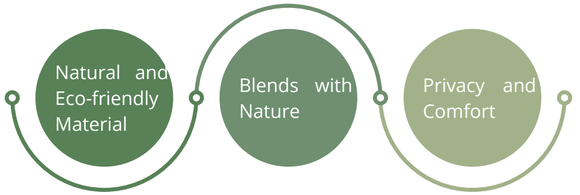



Figure 2.40 Characteristics Diagram Resort Cabin
Source: Author. 2025

Resort cabins have some key characteristics that set them apart from other types of accommodation:

1. Natural and Eco-friendly Materials: Built using local materials such as wood, bamboo, and natural stone.
2. Design that Blends in with Nature: Structures are designed to be ecologically sound and harmonious with the surrounding landscape.
3. Privacy and Comfort: Cabins are usually freestanding, providing a more exclusive experience for travelers.

Types of Resort Cabins Based on their design and concept, resort cabins can be divided into several types. According to Buckley (2004), the types of resort cabins include:

1. Eco Cabin Resort: Focuses on the use of renewable energy, passive design, and reduced environmental impact.
2. Luxury Cabin Resorts: Combines elements of sustainability with luxury amenities such as spas, organic ingredient-based restaurants, and exclusive services.
3. Adventure Cabin Resort: Designed for travelers who want to enjoy adventure experiences, such as hiking, rafting, and nature exploration.
4. Floating Cabin Resort: Resort cabins built on water, such as lakes or rivers, using eco-friendly construction systems.
5. Treehouse Cabin Resort: Using a treehouse concept that blends into the forest, providing a unique experience for travelers who want to get closer to nature.

**Room Standard Cabin Resort**

| Type | Size | Facility |
|---|---|---|
| Cabin Standar | 9 m2 | 1 king-size bed |
| Deluxe Cabin | 12 m2 | 1 king-size bed, bathroom |
| Executive Cabin | 27 m2 | 1 king-size bed, 1 queen-size bed, bathroom, terrace. |
| Grand Cabin | 32 m2 | 1 king-size bed, bathroom, kitchen area, dining area |
| Royal Cabin | 56 m2 | 2 king-size beds, 2 bathrooms, kitchen area, dining area |

Based on the background related to the potential of the area, and the data data that has been collected, the design of the cabin resort in Sawangan is planned to be an executive cabin and royal cabin type resort.



**Standard Resort Room Size**

Based on the regulation of the decision of the Director General of Tourism in 2014 No. 4/U/I 1/I 988

**A. Lobby and Front Office**

**Lobby facilities**

- Bell Captain Desk : 5m2
- Concierge Desk : 5m2
- Valet Parking Desk : 5m2
- Reception Desk (including in front office)
- Travel Agent Desk: 5m2
- Stairs/Ramps (including in circulation and utilities)
- Seating (including in main lobby)
- Minibar (including in main lobby)
- Public Telephone : 5m2
- Toilet : 30m2
- Access to other facilities (including circulation and utilities)

**Front office room**

- Reception Room, consisting of cashier area, accountant, reservation, telephone operator, facsimile, fire alarm system center, security monitor, safe room.
- Reservation room and front desk controller
- Accounting room consists of controller room, assistant controller room, payment management room supported by computer room, secretarial room, storage room
- General manager and Executive room
- Marketing director room, public relations room, catering manager room, convention manager room, banquet manager room, sales representative room, multipurpose book room, secretariat pool.
- Executive Room for superior resort facilities
- Specialist room for department heads and senior kitchen staff, laundry, and housekeeping. Standard area 1.5 m2/ guest room

**Lounge**

- Lobby Lounge (near the main lobby): 64m2
- Poolside Lounge (near the swimming pool): 72m2
- Garden Lounge (near the garden): 115m2

**Swimming Pool and Garden**

Outdoor swimming pool with recreational design and surrounded by garden.

**Room in a swimming pool:**

- Swimming pool:450m2
- locker :1m2/ unit
- Toilet:2m2/unit
- Shower:1,8m2/unit
- Equipment storage:30m2
- Pool pump/filter:30m2
- Management:25m2

**GYM**

- Fitness Center: 120 m2
- Sauna: 25 m2
- Jacuzzi:10 m2
- Massage room: 25 m2
- Lockers, toilets, showers: s.d.a
- Equipment storage: 30 m2
- Management: 25 m2

**Open Space**

- Basketball Court: 370 m2
- Children's Playground: 200 m2

**Car Park**

- Car: 30 m2
- Tour bus: 156 m2

**Coffe Shop**

- Standard: 1,4 m2/person
- Main kitchen: 80 m2
- Dishwashing: 15 m2
- Dry food storage 60 m2
- Refrigerated food storage 20 m2

**B. Service Area**

**Receiving and Storage**

- Loading Dock: 60 m2
- Receiving arena: 75 m2
- Receiving Office: 36 m2
- Purchasing office: 36 m2
- Garbage Empty: 20 m2
- Trash holding area 45 m2
- Refrigerated garbage 24 m2
- Can wash 30 m2
- Compactor 45 m2
- Ground equipment storage: 60 m2
- General storage: 300 m2
- Locked storage: 40 m2
- Empty bottle storage: 30 m

**Housekeeping Room**

- Executive Office: 30 m2
- Assistant Office: 20 m2
- Supervisor: 20 m2
- Housekeeping room: 30 m2
- Clean linen storage: 42 m2
- Soiled linen storage. : 30 m2
- Laundry: 200 m2
- Maintenace sto. : 43 m2
- Silver, glass, sto : 20 m2
- Supplies sto. : 15 m2

**Mechanical Engineers**

- Engineer office: 20 m2
- Assistant engineer: 20 m2
- Workshop: 90 m2
- Boilers: 40 m2
- Chiller: 40 m2
- Groundwater tank and pump: 300 m2
- Generator: 300 m2
- Control panel 60 m2
- Plumbing 60 m2
- Water treatment 300 m2
- Communication room 30 m2

**Security**

- Chief security office: 15 m2
- Assistant chief: 15 m2
- Security post: 15 m2
- Security monitor room: 30 m2

**Security Area**

- Head of security office: 15 m2
- Assistant Head: 15 m2
- Post security: 15 m2
- Monitor room: 30 m2

**Employee Area**

- Employee room: 50 m2
- Changing room and lockers: 5 m2/unit
- General manager suite: 80 m2
- Employee accommodation: 9 m2
- Toilet: 4 m2/unit
- Cafeteria, kitchen, dining room: 6.5 m2/person
- Musholla: 0.75 m2/person
- Clinic



## 2.8 Analysis Space Needed

**Identifying The Space Needed For Cabin And Users**

| Type Room | Type Area | Total Area ( + 20% Circulation) |
|---|---|---|
| Main Lobby | Public | 190,32 |
| Parking Area | Public | 525 |
| Mushola | Public | 45,6 |
| Restaurant | Semi Public | 129,6 |
| Laundry | Semi Public | 64,8 |
| Standard Room | Private | 17,04 |
| Deluxe Cabin | Private | 19,44 |
| Executive Cabin | Private | 28,56 |
| Office Staff Room | Private | 56,4 |
| Manager Room | Private | 47,4 |
| Electrical Mechanical | Private | 24 |
| Security Room | Private | 10,8 |
| Total Area | | 1158,96 |

## 2.9 Architectural Design Approach

**Architecture Regionalism**

Regionalism is the development of architecture that pays attention to regional characteristics and is closely related to culture, climate, technology, and the combination of old and new architectural elements in the design of the resulting building preserves these elements. According to Hidayatun. (2014) Architectural Regionalism is a concept in updating the archipelago's architecture which is considered appropriate because the parameters in the archipelago's architecture are in line with the parameters in architectural regionalism. So that the archipelago's architecture is the basis for forming Indonesian Architectural Regionalism which aims to update the archipelago's architecture as a wealth and strength that is full of values and meanings. Beside Hidayatun who defines regionalism architecture. Kenneth Frampton, an architectural theorist, also defines regionalism criticism Critical Regionalism is not a style but a design approach that seeks to mediate between global modernism and local culture. It resists the homogenizing forces of globalization by incorporating contextual elements such as topography, climate, light, tectonic form, and local traditions. Frampton emphasizes that architecture should not succumb to the homogenizing forces of globalization, but should have the ability to resist the dominance of universal culture by rooting itself in place. Good architecture is architecture that is able to create meaning and identity based on local geographical, climatic, cultural, and historical contexts, while still using modern technology and principles. Frampton also outlined six key principles in approaching architectural regionalism:

Critique of Cultural Universality

1.Architecture should be a form of resistance to the loss of place identity due to globalization and uniform modernism. This is done by emphasizing distinctive local aspects.

2.Awareness of “Place” and Topography

Architecture should be “rooted” in place, by responding to topography, landscape, solar orientation, and visual views of the natural surroundings.

3.Influence of Climate and Light

Climate and light elements should be part of the design strategy. Frampton encourages the use of natural lighting and good ventilation, in accordance with the local climate.

4.Tectural and Construction Expression

Buildings should be true to their materials and construction processes. The expression of local structures and materials is an important part of the design.

5.Rejecting Shallow Visualization (Scenography)

Architecture is not just an “outer skin” or visual decoration. Buildings should have a strong depth of meaning and spatial experience, not just an aesthetic form.

6.Balance between Culture and Civilization

Architecture must be able to balance technological advancement (civilization) and local heritage (culture), so as to create harmony between the old and the new.

The application of regionalism in architectural design has a visual unity in the composition of Architecture of the Past (AML) and Architecture of the Present (AMK). According to. Tohjiwa, Agus Dharma, 2014. in the research “APPLICATION OF REGIONALISM IN ARCHITECTURAL DESIGN” mentions three main conditions in the application of regionalism in architectural design, namely:

1.Domination

Domination is one that dominates the whole composition. Domination can be achieved by using colors, materials, and objects that form the composition itself.

2.Repetition

Repetition in the composition can be done by repeating shapes, colors, textures, and proportions. Repetition can be done with various rhythms or repetitions so that there is no monotony.

3.Continuity in composition

Continuity or continuity is the existence of a virtual connecting line (imaginary) that connects the placement of objects forming the composition.



**Application of Physical Elements of Past Architecture to Present Architecture**



Figure 2.41 Modern Joglo House
Source: Archdaily.com

**Application of Elements of Past Architecture to Present Architecture**



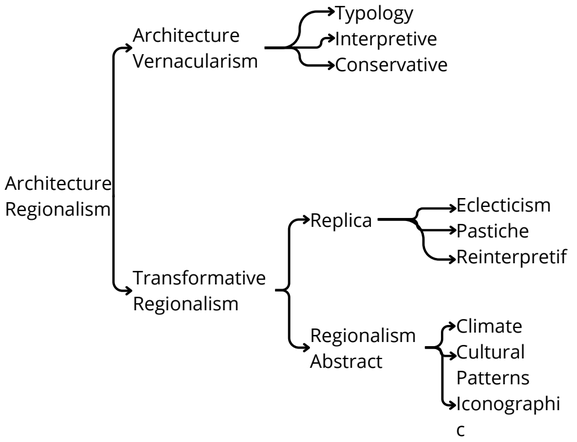
Figure 2.42 Monument Gadang
Source: Google Image

**Application of Past Architectural Expression to Present Architecture**



Figure 2.43 West Sumatra Grand Mosque
Source: Google Image

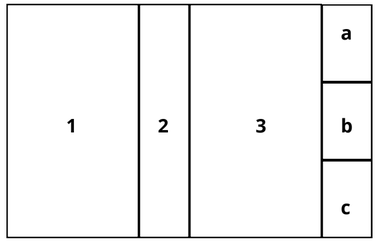
**Identify the Architecture Cycle Regionalism**



## Typology of Javanese Joglo House

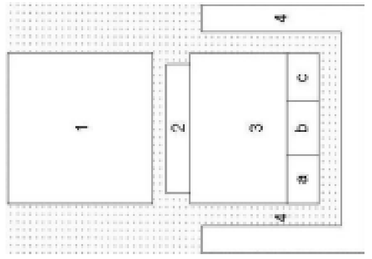
The selection of space patterns in Javanese houses, especially joglo houses, is the basic idea in designing this design, by transforming the spatial pattern of the joglo house as an inspiration for the pattern in the division of zones in the cabin resort design. So that this design has strong; okal characteristics, creates harmony between culture and nature, and presents a spatial experience that is not only functional, but also culturally meaningful for visitors.joglo house is a traditional Javanese building that has a characteristic roof in the form of a mountain with an overlapping structure. according to the Joglo House is a reflection of the attitudes, thoughts and insights as well as the economic, social, cultural capacity of the Javanese people. Miniaga, Christiana (2019), describes the joglo house as a reflection of the attitudes, thoughts and insights as well as the economic, social, cultural capacity of the Javanese people. The joglo layout consists of 2, namely the layout of ordinary houses and Javanese aristocrats. by having the same division of space properties consisting of public, semi-public, and private.

**1.** Pendhapa serves as a place to receive guests, for meetings, or as a performance venue
**2.** Pringgitan serves as an introductory room or corridor that will enter the main room (private)
**3.** Omah-Njero serves as the main activity space of the owner of the house.
a. Senthong tengen which functions as a room for the head of the family
b. The center senthong which functions as a sacred space
c. Senthong kiwo serves as a food storage room or functions as a room for the newlyweds.
**4.** Gandhok serves as a room for children and also the kitchen, for the right gandhok is used as a men's room, the left gandhok is used as a women's room, for the kitchen is placed behind the left gandhok.




1. Pendhapa
2. Pringgitan
3. Omah-Njero
   a. Senthong-tengen
   b. Senthong-tengah
   c. Senthong-kiwo

Figure. 2.44 The zoning normal joglo house
Source: Author, 2025

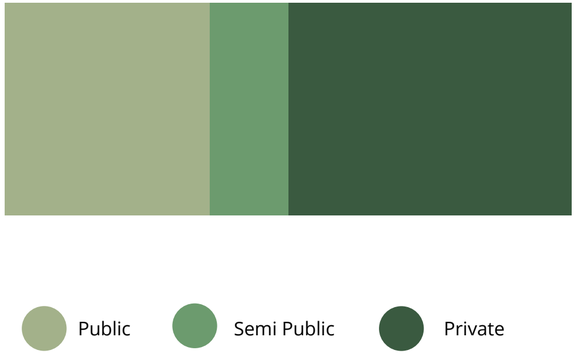


1. Pendhapa
2. Pringgitan
3. Omah-Njero
   a. Senthong-tengen
   b. Senthong-tengah
   c. Senthong-kiwo
4. Gandhok

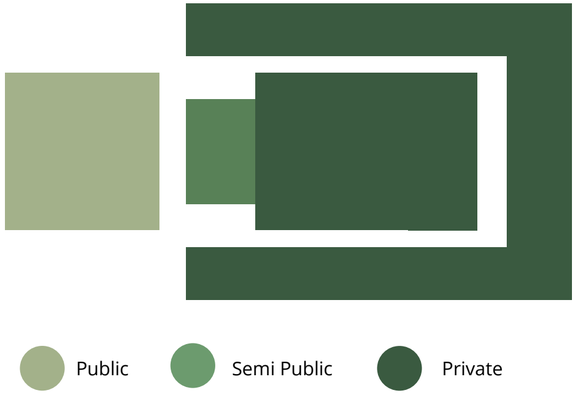
Figure. 2.45 The zoning noble joglo house
Source: Home Design and Idea



## Space Typology of Javanese Joglo Normal House




## Space Typology of Javanese Joglo Noble House




The selection of space patterns in Javanese houses, especially joglo houses, is the basic idea in designing this design, by transforming the spatial pattern of the joglo house as an inspiration for the pattern in the division of zones in the cabin resort design. So that this design has strong; okal characteristics, creates harmony between culture and nature, and presents a spatial experience that is not only functional, but also culturally meaningful for visitors.

**Cultural Heritage in Magelang**



Figure 2.46 Borobudur Temple
Source: Google Image



Figure 2.47 Mendut Temple
Source: Google Image

Borobudur Temple is a legacy of the Syailendra Dynasty recognized by UNESCO as World Heritage. Borobudur Temple has a stepped pundek shape that gets smaller upwards, with four stairs on each side. It is built of rectangular-shaped adensite stone with a total stone volume of 55,000 cubic meters.

The arrangement of the temple structure has a certain way depending on what material is used. For andesite stones used in Borobudur Temple, an interlock system is used. With this interlock system, it is proven that Borobudur Temple was able to survive when an earthquake occurred in Jogjakarta.

In addition to Borobudur Temple, there are also several temples in Magelang such as Mendut Temple, Pawon Temple, Ngawen Temple, Umbul Temple, etc. All of these temples use andesite stone material with an interlocking system similar to that of Borobudur Temple.

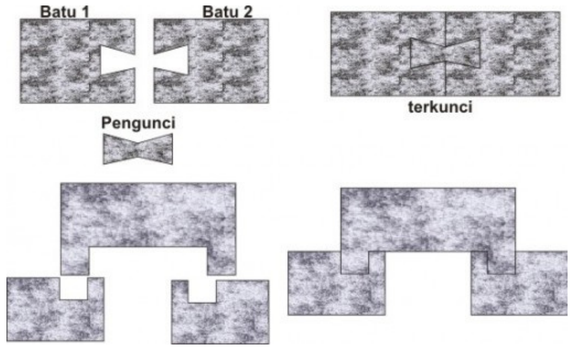



Figure 2.48 The Joint of Temple
Source: Google Image

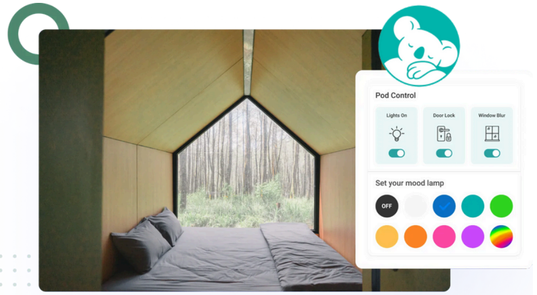


## 2.10 Study Management

**Bobobox Team**

Bobobox is a technology-based hospitality company that focuses on providing modular accommodation with innovative concepts and comfortable stay experiences. As a cabin resort manager, Bobobox brings a modern approach to ecotourism-based accommodation management, prioritizing space efficiency, sustainability, and technology-based experiences.

With experience in operating various types of accommodation, including Bobocabin which carries the concept of glamping (glamorous camping) with a total of 21 cabin designs spread throughout Indonesia, Bobobox combines minimalist and functional architectural designs with smart technology-based facilities. Each cabin is designed to blend in with the surrounding environment, using environmentally friendly materials, and utilizing an application-based booking and access control system to increase guest comfort.




**Vision**
Vision is to become the world's finest sleeping lifestyle company for everyone to get a quality rest.

**Mission**
Mission is to uplift everyone's lifestyle by delivering impeccable resting experiences through innovative technology, modularity, and hospitality.

**Our Product for Cabin**



Figure 2.49 Bobocabin
Source: https://bobobox.com/bobocabin/

## 2.11 Design Precedent

**Bobocabin - Kintamani Bali**



Figure 2.50 Bobocabin Bird View
Source: https://www.booking.com/hotel/id/bobocabin-kintamani-bali.id.html





There are 3 types of cabins available at cabin Kintamani, Bali with various facilities;
**Deluxe Cabin (20m2)**: 1 king size beds, 1 bathrooms, table and chairs, 1 pantry areas, 1 dining areas and a hot tub.
**Deluxe Cabin Hot Tub (20m2)**: 1 king size beds, 1 bathrooms, table and chairs, 2 pantry areas, 2 dining areas and a hot tub.
**Executive Cabin (27m2)**: 1 king size bed, Wi-Fi, bathroom, table and chairs, pantry area and dining area.

Bobocabin Kintamani, Bali is a glamping-style accommodation that combines modern comforts with the natural beauty of the mountains. Located in the highlands of Kintamani, this cabin offers a stay in the middle of a tea garden, with a relaxing panoramic view of Mount and Lake Batur. Carrying an eco-friendly minimalist design, each unit is equipped with large windows to enjoy the view, as well as technological facilities such as self check-in and B-Pad for guests' convenience. Bobocabin is the ideal choice for travelers who want tranquility, privacy and modern conveniences amidst Bali's nature.



**Ziedlejas Wellness Resort**



Figure 2.51 Ziedlejas Wellness Resort
Source: https://www.archdaily.com/957120/ziedlejas-wellness-resort-open-ad?ad_source=search&ad_medium=projects_tab

Ziedlejas Wellness Resort is a wellness resort located in rural Latvia, in the parish of Krimulda. Ziedlejas Wellness Resort presents a stay that emphasizes the balance between modern architecture and nature. The resort is designed as a retreat that offers tranquility, self-reflection, and closeness to the Latvian sauna tradition that has been passed down for generations. One of the main attractions of Ziedlejas are the modern cabins that blend into the natural landscape. Using corten steel and glass, the cabins have a minimalist design that is both elegant and functional. Large glass windows are the main element that allows guests to enjoy unobstructed views of the green hills, morning mist, and natural ambience. During the day, the cabin serves as a tea house, where visitors can savor Latvia's soothing herbal teas. At night, the room transforms into a cozy sleeping space, with interiors based on natural materials such as wood and linen, creating a calm and warm atmosphere. In addition to the comfort of accommodation, Ziedlejas Wellness Resort offers various facilities to support the wellness experience. One of them is three types of traditional saunas that each provide a unique experience. Baltā Pirts (White Sauna) presents a modern sauna atmosphere with natural lighting and direct access to a cold pool for extreme temperature therapy. Melnā Pirts (Smoke Sauna) maintains the Latvian tradition of smoke saunas, providing a soothing aroma of red fir wood. The Wool Sauna, with its spiral design and natural wool material, offers a therapeutic heat effect that softens the skin and improves blood circulation. As part of the holistic experience, guests can enjoy natural cold water pools to refresh after the sauna, relaxation and meditation areas, and trekking and hiking trails that allow them to explore the natural surroundings. The facility is designed to provide a balance between comfort, wellness and connection with the environment.

**Cabin 3.0 - Sukawana Bandung**



Facilities and Services

- Communal Space
- Fire Pit
- Kettle Jug
- Communal Space
- Hair Dryer
- Wifi
- AC
- Paid Breakfast Option
- King-size bed
- Private Bathroom
- Bathroom
- Bob's Mart
- Smart Window
- Parking Space
- Toilet

Figure 2.52 Bobocabin Bird View
Source: https://www.booking.com/hotel/id/bobocabin-sukawana-bandung.id.html

Cabin 3.0 is managed by Bobobox as part of a management team that provides technology-based capsule hotels in Indonesia. Cabin 3.0 is located in Sukawana, Bandung, in the middle of a tea garden that offers cool air, mountain views, and tranquility that is difficult to find in the city. This cabin provides extra comfort with a modern design and carries the concept of glamping (glamorous camping). This concept allows visitors to enjoy the experience of staying in the middle of nature without sacrificing comfort, thanks to various advanced technological facilities. One of the main innovations implemented is a self-service system for the check-in process, providing a more practical experience for visitors. In addition, each cabin is equipped with a B-Pad tablet, making it easier for guests to place food and beverage orders through Bobodeli. Cabin 3.0 also has larger windows, allowing visitors to enjoy the view of the mountains and tea gardens more freely, making the stay more integrated with nature.

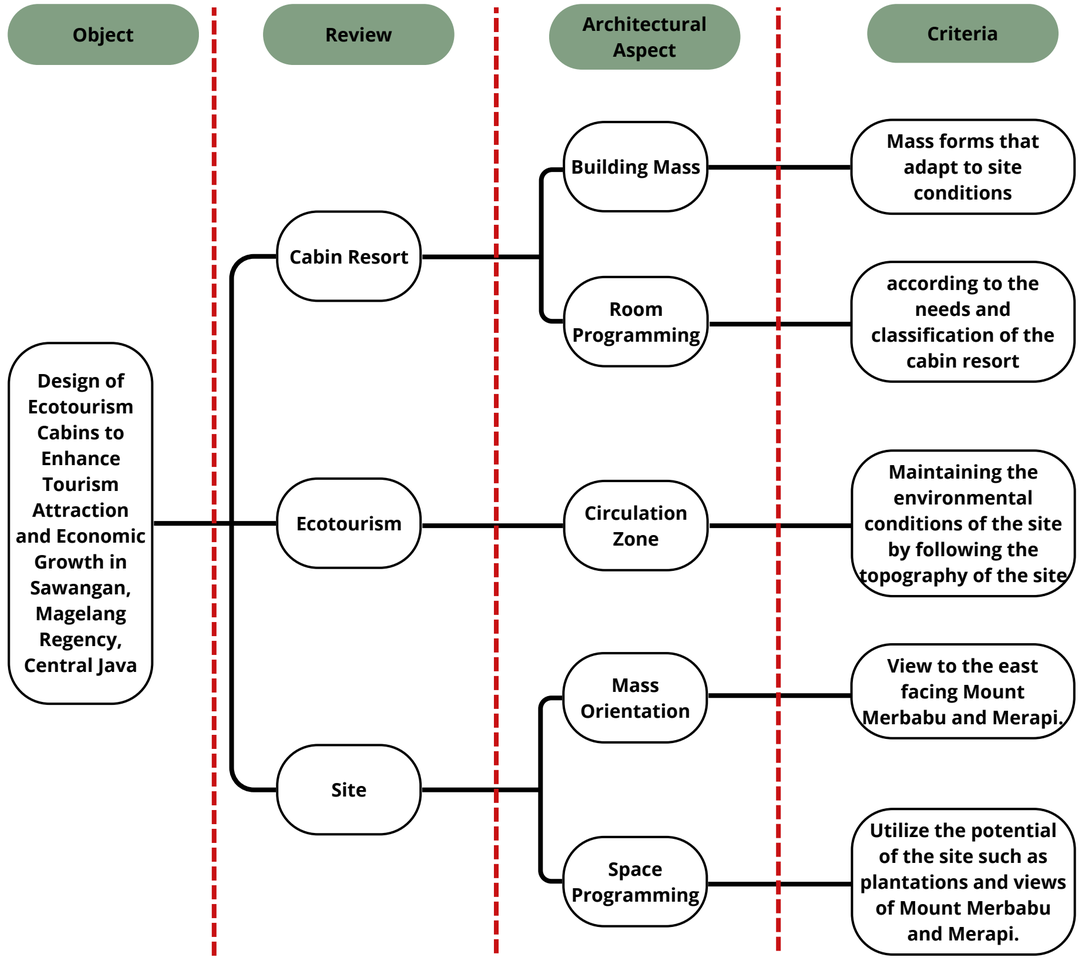


Figure 2.53 Grand Cabin Bobocabin
Source: Bobobox Internal Aset

There are 3 types of cabins available at cabin 3.0 Sukawana Bandung with various facilities;
**Grand Cabin**: 1 king size bed, Wi-Fi, bathroom, table and chairs, pantry area and dining area.
**Grand Cabin Hot Tub**: The facilities inside are almost exactly the same as the Grand Cabin. Only, in this cabin you can enjoy a hot tub.
**Royal Cabin Hot Tub**: 2 king size beds, 2 bathrooms, table and chairs, 2 pantry areas, 2 dining areas and a hot tub.



## 2.12 Mapping Problem Solving Ideas



## 2.13 Business Model Canvas

**KEY PARTNER**

- Bobocabin
- Jeep Community
- Professional Yoga

**KEY ACTIVITY**

Collaboration with Bobocabin and the surrounding community to promote tourism around and manage the resort and accommodate lodging visitors by developing ecotourism and cabin resorts in Wonolelo, Magelang Regency.

**KEY RESOURCE**

- Professional Staff
- Building Structure and Infrastructure
- Farmer Communities
- Surrounding Community

**VALUE PROPOSTION**

Profit
- Local Area Tourist Attraction
- Improve Productivity and Quality of Local Community

People
- Improve The Local Economic by Providing Jobs
- Educating Visitors About Nature

**CUSTOMER RELATIONSHIP**

- Providing Comfort And Attention To Visitors Is A Top Priority, Especially disability Visitors.
- Member Customers Will Get 5% Discount For Every Stay

**CHANNELS**

- Promoting In Website
- Promoting Any Social Media (Instagram Reels, Facebook, Etc

**CUSTOMER SEGMENT**

- Middle to Upper Income
- Members and VIP Guests
- General
- Family
- Community

**COST STRUCTURE**

- Construction Costs
- Production and Maintenance Costs
- Business Development and Marketing Costs

**REVENUE STREAMS**

- Cabin Resort
- Facilities (Restaurant, Merbabu Porter Service, Waterfall Tourist Guide Service, Laundry, Parking)



Final Architecture Design Studio 2025

Design of Ecotourism Cabins to Enhance Tourism Attraction and Economic Growth in Sawangan, Magelang Regency, Central Java

# CHAPTER 03

## Room Programming and Design Exploration

## 3.1 Users Circulation

**Staycation Users**



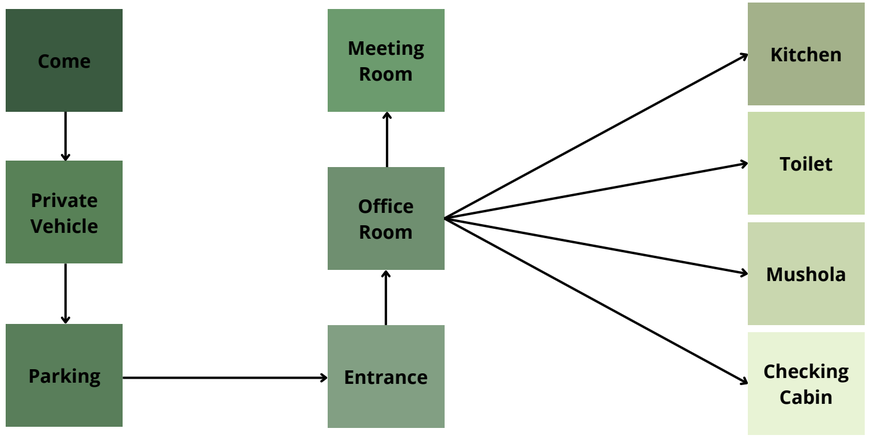



**Non Staycation Users**



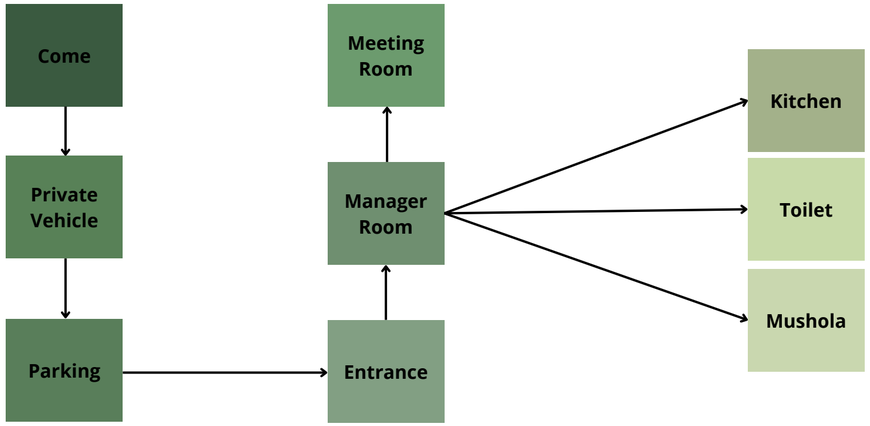
## Staff Office






## Manager Office

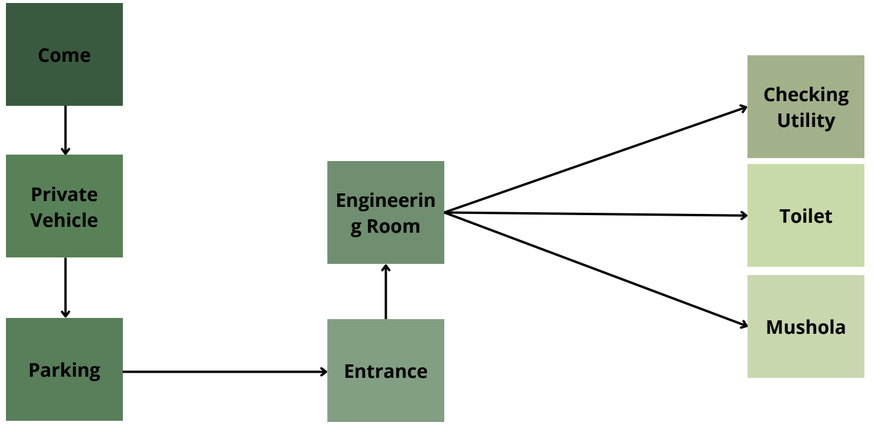




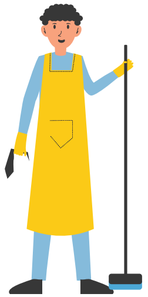


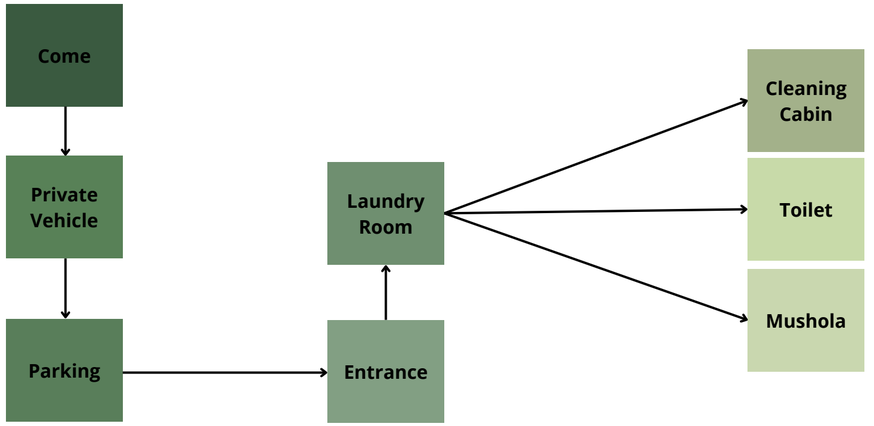

## Engineering





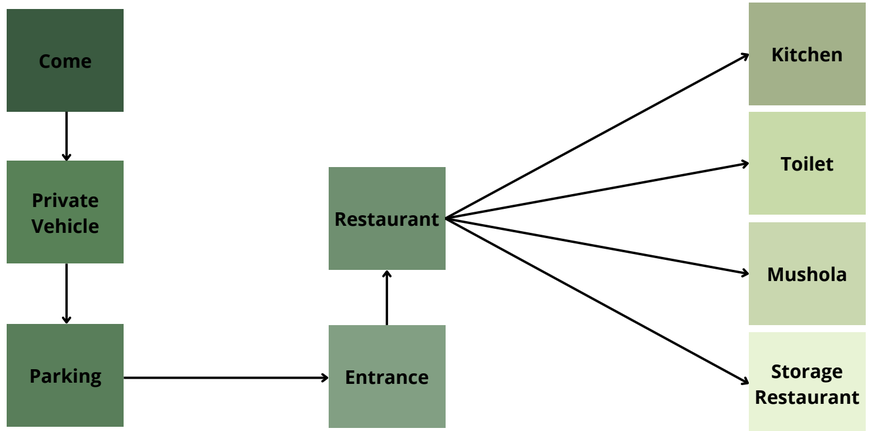

## Cleaning Service





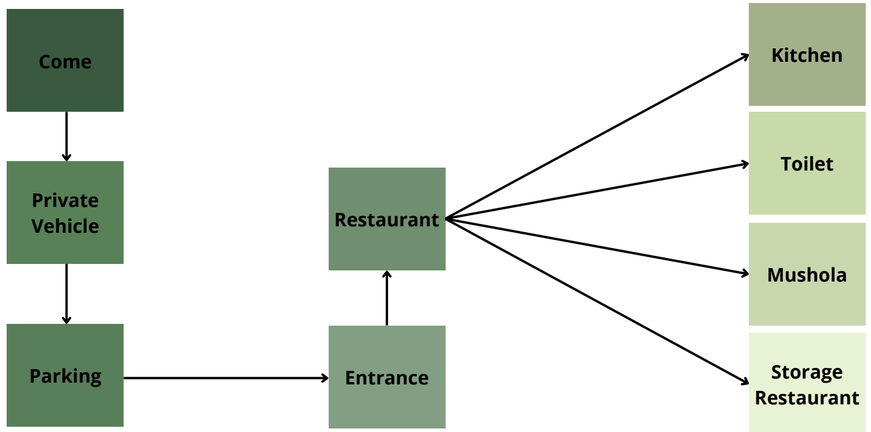
**Head Chef**






**Helper Chef**



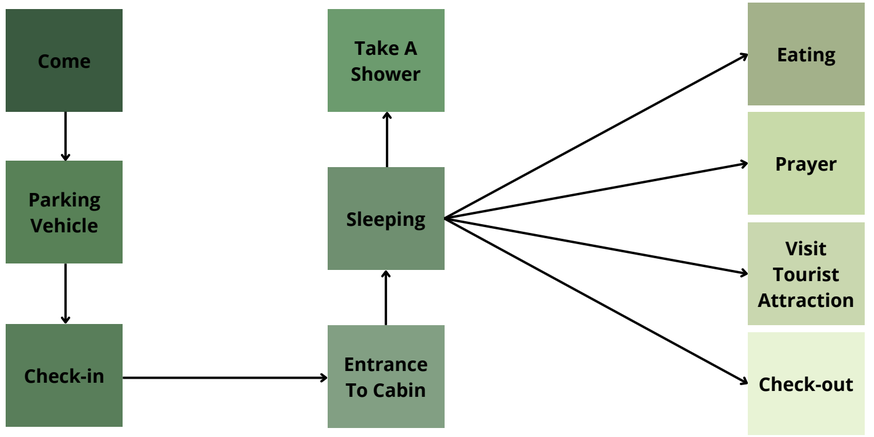





## 3.2 Users Activity

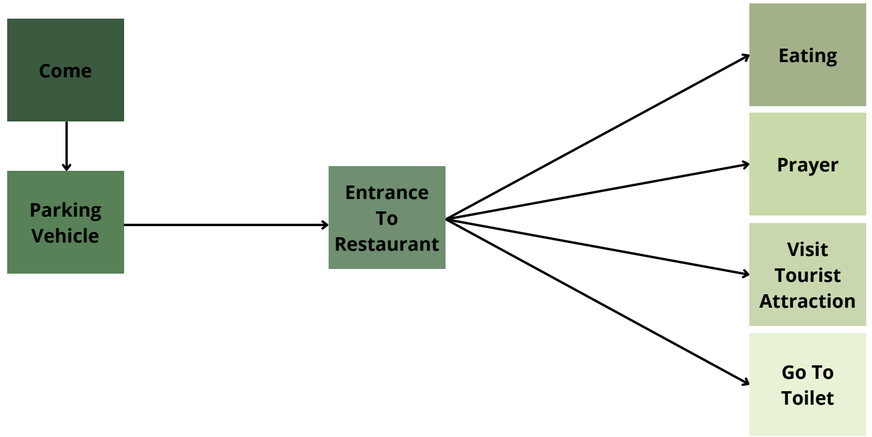
**Staycation Users**





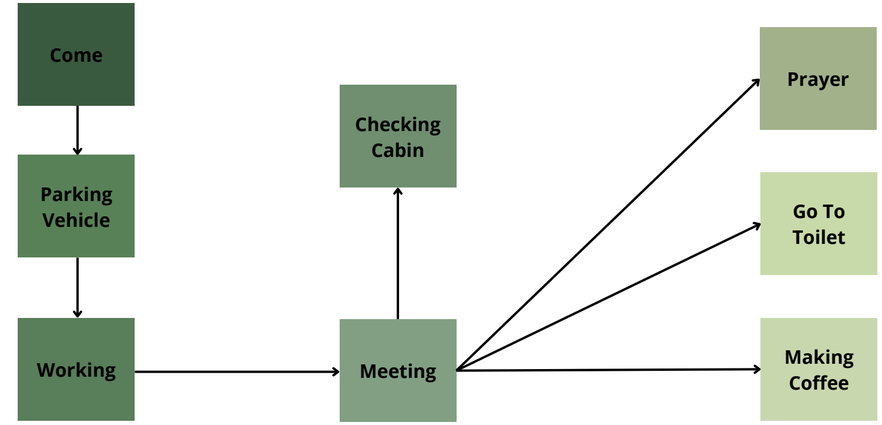

**Non Staycation Users**





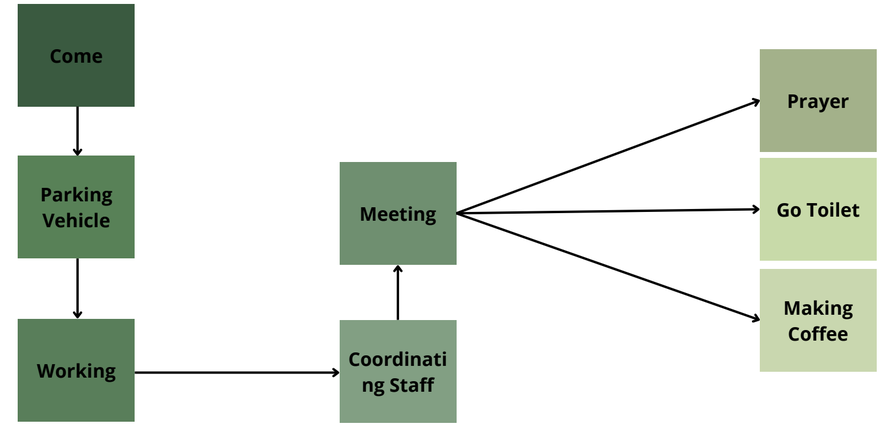
## Staff Office






## Manager Office

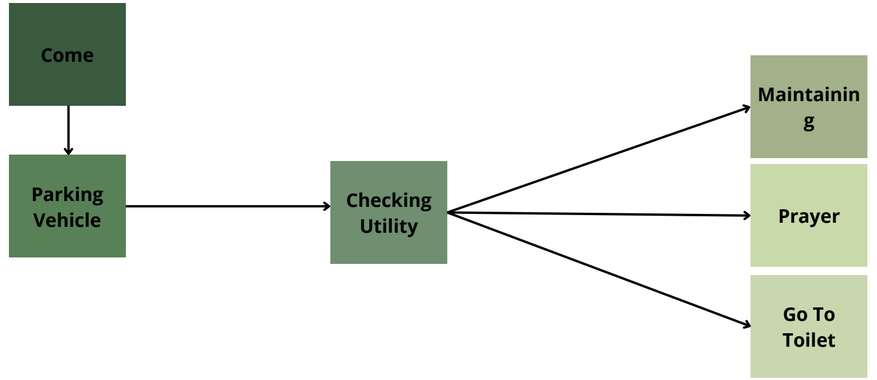




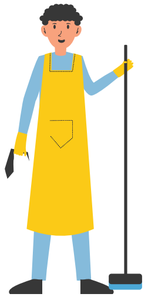


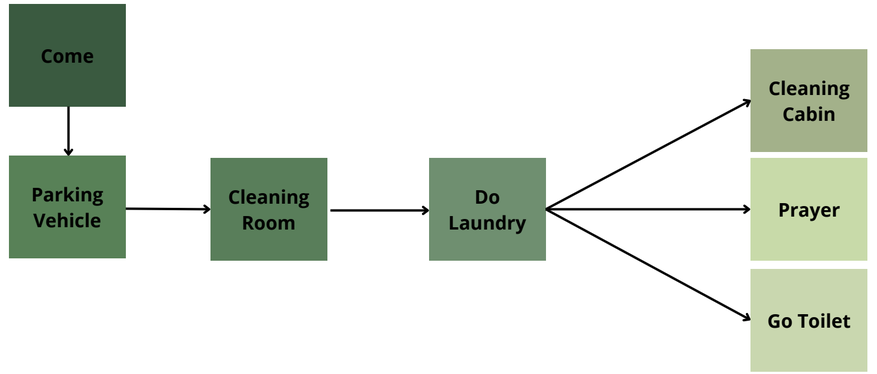

## Engineering





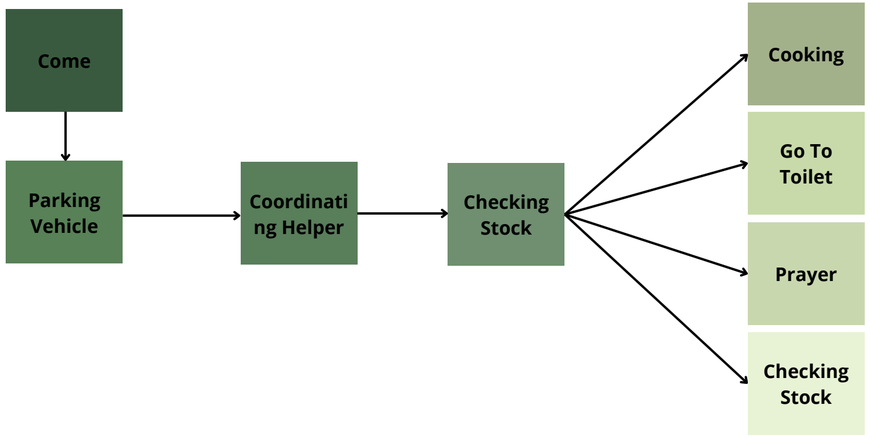

## Cleaning Service





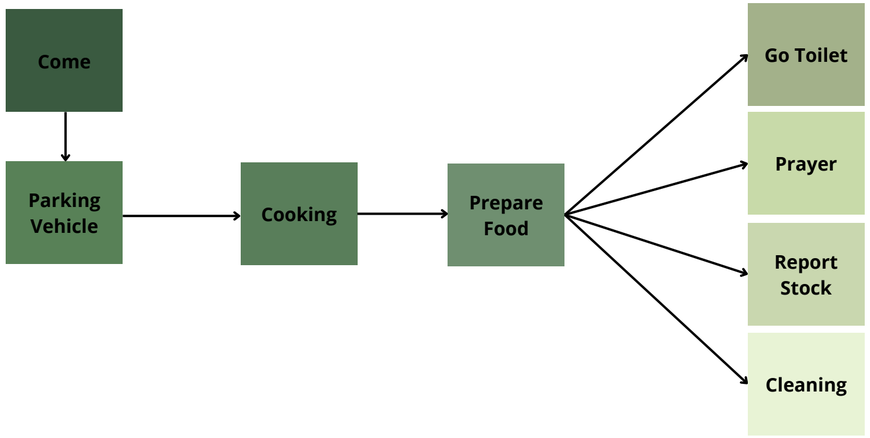
**Head Chef**






**Helper Chef**








## 3.3 Room Programming

**Room Programming Based on User Needed**

| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Main Lobby | Reception | 0,65 | 40 | 26 | Public |
| | Administration Room | 7,5 | 2 | 15 | Public |
| | Toilet | 1,5 | 6 | 9 | Public |
| | Disability Toilet | 3,6 | 1 | 3,6 | Public |
| Total Area | | | | 53,6 | |
| Lobby Area + Circulation 20% | | | | 10,72 | |
| Total Area | | | | 64,32 | |
| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
| Parking Area | Visitor (Car) | 12,5 | 30 | 375 | Public |
| | Visitor (Motor) | 2 | 15 | 30 | Public |
| | Manager (Car) | 12,5 | 1 | 12,5 | Public |
| | Manager (Motor) | 2 | 10 | 20 | Public |
| Total Area | | | | 437,5 | |
| Parking Area + Circulation 20% | | | | 87,5 | |
| Total Area | | | | 525 | |

| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Mushola | Prayer Room | 1,5 | 20 | 30 | Public |
| | Ablution Room | 1 | 8 | 8 | Public |
| Total Area | | | | 38 | |
| Mushola Area + Circulation 20% | | | | 7,6 | |
| Total Area | | | | 45,6 | |

| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Restaurant | Dining Room | 1,3 | 40 | 52 | Semi Public |
| | Kitchen | 3,5 | 4 | 14 | Semi Public |
| | Warehouse | 12 | 2 | 24 | Semi Public |
| | Service Room | 9 | 2 | 18 | Semi Public |
| Total Area | | | | 108 | |
| Restaurant Area + Circulation 20% | | | | 21,6 | |
| Total Area | | | | 129,6 | |

| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Laundry | Laundry Room | 18 | 3 | 54 | Semi Public |
| Total Area | | | | 54 | |
| Laundry Area + Circulation 20% | | | | 10,8 | |
| Total Area | | | | 64,8 | |



| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Standard Room | Bedroom | 3,6 | 2 | 7,2 | Private |
| | Bathroom | 4 | 1 | 4 | Private |
| | Bacony | 1,5 | 2 | 3 | Private |
| Total Area | | | | 14,2 | |
| Standard Area + Circulation 20% | | | | 2,84 | |
| Total Area | | | | 17,04 | |

| | | | | | |
|---|---|---|---|---|---|
| Deluxe Cabin | Bedroom | 3,6 | 2 | 7,2 | Private |
| | Bathroom | 6 | 1 | 6 | Private |
| | Living Room (Bacony) | 1,5 | 2 | 3 | Private |
| Total Area | | | | 16,2 | |
| Deluxe Cabin Area + Circulation 20% | | | | 3,24 | |
| Total Area | | | | 19,44 | |

| | | | | | |
|---|---|---|---|---|---|
| Executive Cabin | Bedroom | 3,6 | 4 | 14,4 | Private |
| | Bathroom | 6 | 1 | 6 | Private |
| | Living Room (Bacony) | 1,7 | 2 | 3,4 | Private |
| Total Area | | | | 23,8 | |
| Executive Cabin Area + Circulation 20% | | | | 4,76 | |
| Total Area | | | | 28,56 | |

| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Office Staff Room | Workspace | 4 | 10 | 40 | Private |
| | Kitchenette | 2 | 2 | 4 | Private |
| | Toilet | 1,5 | 2 | 3 | Private |
| Total Area | | | | 47 | |
| Office Staff Room Area + Circulation 20% | | | | 9,4 | |
| Total Area | | | | 56,4 | |

| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Manager Room | Workspace | 9 | 1 | 9 | Private |
| | Living Room | 9 | 1 | 9 | Private |
| | Toilet | 1,5 | 1 | 1,5 | Private |
| | Meeting Room | 2 | 10 | 20 | Private |
| Total Area | | | | 39,5 | |
| Manager Room Area + Circulation 20% | | | | 7,9 | |
| Total Area | | | | 47,4 | |

| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Electrical Mechanical | Mechanical and Electrica | 10 | 2 | 20 | Private |
| Total Area | | | | 20 | |
| Electrical Mechanical Area + Circulation 20% | | | | 4 | |
| Total Area | | | | 24 | |



| SPACE REQUIRED | TYPE | REGULATION (m2) | Capacity (Person) | REQUIRED (m2) | ZONE |
|---|---|---|---|---|---|
| Security Room | Security Room | 4,5 | 2 | 9 | Private |
| Total Area | | | | 9 | |
| Security Area + Circulation 20% | | | | 1,8 | |
| Total Area | | | | 10,8 | |

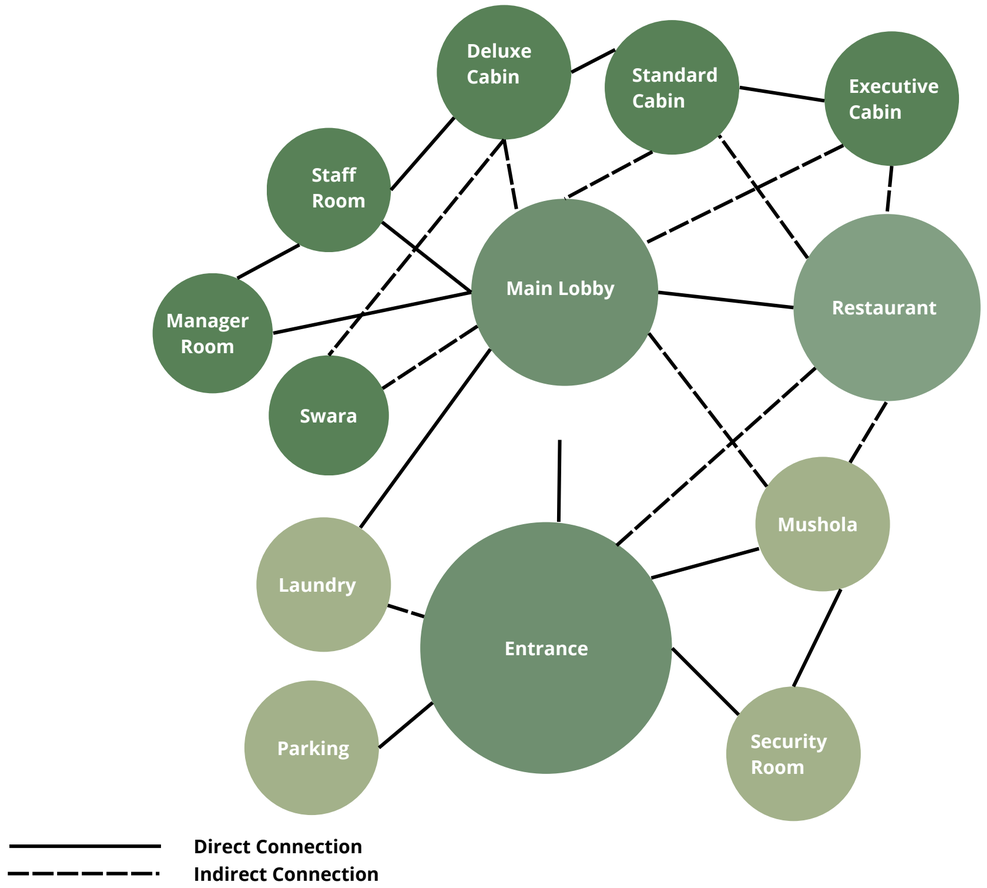
| Type Room | Type Area | Total Area |
|---|---|---|
| Main Lobby | Public | 190,32 |
| Parking Area | Public | 525 |
| Mushola | Public | 45,6 |
| Restaurant | Semi Public | 129,6 |
| Laundry | Semi Public | 64,8 |
| Standard Room | Private | 17,04 |
| Deluxe Cabin | Private | 19,44 |
| Executive Cabin | Private | 28,56 |
| Office Staff Room | Private | 56,4 |
| Manager Room | Private | 47,4 |
| Electrical Mechanical | Private | 24 |
| Security Room | Private | 10,8 |
| Total Area | | 1158,96 |

The determination of space requirements in the design area is based on an analysis of user needs, so that space can be classified into three main categories: public, semi-public and private spaces. This grouping aims to regulate the level of accessibility and maintain comfort and privacy between users.

The size of each space is determined based on the results of data analysis which includes the type of activity, intensity of use, and maximum capacity of users at one time. The standard for calculating space area also refers to references to technical regulations and functional space requirements.

In addition, to support smooth movement and circulation between spaces, an additional area of 20% of the total net space area was added. This addition refers to architectural design standards to accommodate transition areas such as corridors, stairs, and entry and exit access, as well as to fulfill the principles of comfort and efficiency in spatial design.

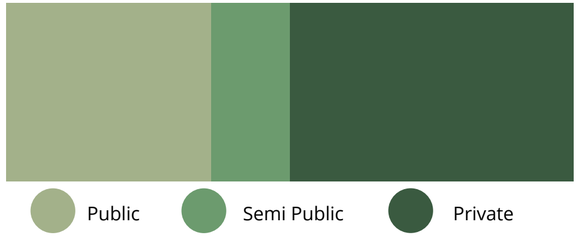
**Bubble Diagram Room Programming Based on User Needed**

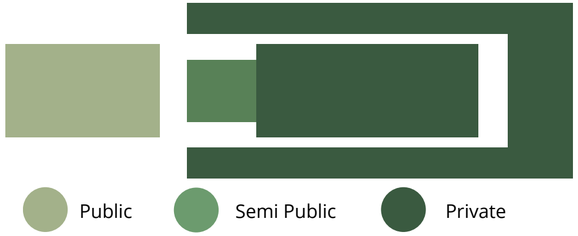





**Zoning Placement Based On Joglo House Zoning Approach**

The zoning of the cabin resort design adapts the spatial approach of the traditional Joglo house, which is known for its clear, hierarchical and tiered spatial division characteristics. The Joglo spatial concept inspired the division of zones in the design into three main sections: public, semi-public and private zones. This approach not only creates a structured and efficient circulation flow, but also presents a harmonious spatial experience, reflecting traditional Javanese architectural values. As such, the design seeks to maintain the essence of local culture while integrating it into a modern architectural context that is functional and relevant to today's needs.




**Building Material Approach**

The utilization of andesite stone as the local material used has a strong and relevant approach in Magelang identity. Andesite stone is used in Borobudur Temple and other historical sites in Magelang, proving that this material has a high historical and symbolic value. Functionally, andesite stone is very suitable to be applied in buildings in Magelang which has a cool, humid climate and high rainfall. The stone's resistance to water and temperature changes makes it ideal for exterior wall coverings, floors, landscape elements, stone fences, and decorative facade elements. Through this material approach, the design is not only contextual and responsive to the local environment, but also contributes to preserving cultural heritage and strengthening the relationship between people, architecture and the local. Thus, andesite stone symbolizes the integration between the past, present and future in Magelang's strongly characterized architecture.



Figure 3.1 Andesit Wall
Source: https://www.booking.com/hotel/id/bobocabin-sukawana-bandung.id.html

## Zoning Exploration

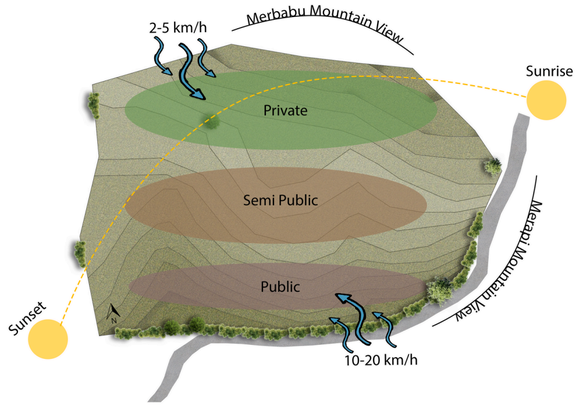



Figure 3.2 Zoning Exprloration Alternative 1
Source: Author. 2025

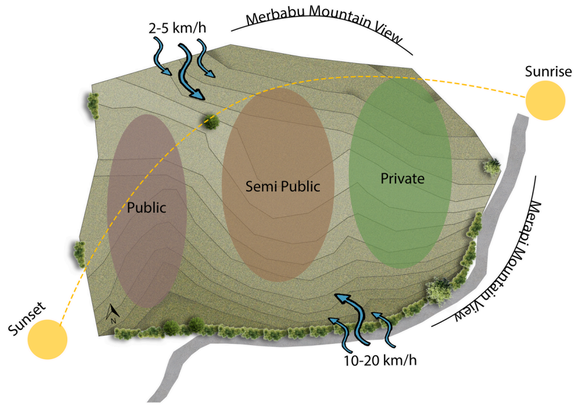



Figure 3.3 Zoning Exprloration Alternative 2
Source: Author. 2025

### Alternative 1

Alternative 1 responds to the Joglo zone context that places the public zone at the front, and the private zone at the back. In response to this zone analysis, emphasis is placed on utilizing the best available access and views.

**Advantage**

- More Privacy in Private Zone
- Easy Entry
- Best View (Merbabu View)
- Get Low Wind Speed in Private Zone

**Disadvantage**

- Highest Elevation Get Hard Access For Disability
- Potential Overheating In Semi Public Zone
- Imbalance View
- Stacking Cabin

### Alternative 2

Alternative 2 responds to the context of the solar movement analysis that places the public zone on the west side, and the private zone on the east. In response to this zone analysis, emphasis is placed on utilizing the best available lighting and view sharing.

**Advantage**

- Easy Access To Semi Public and Private Zone
- Distribution Best View (Merbabu and Merapi View)
- Distribution Natural Lighting

**Disadvantage**

- Hard To Access Public Zone
- Private Zone Close To The Street
- Stacking Cabin



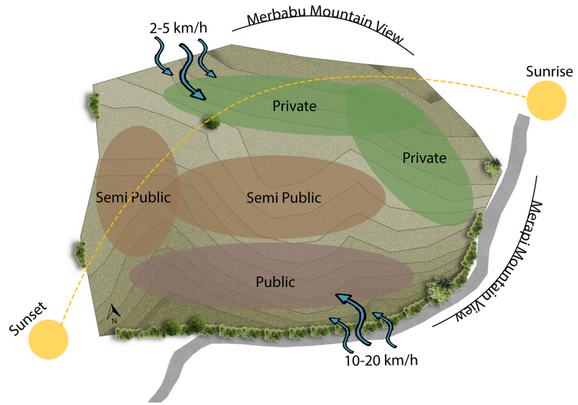



Figure 3.4 Zoning Exprloration Alternative 3
Source: Author. 2025

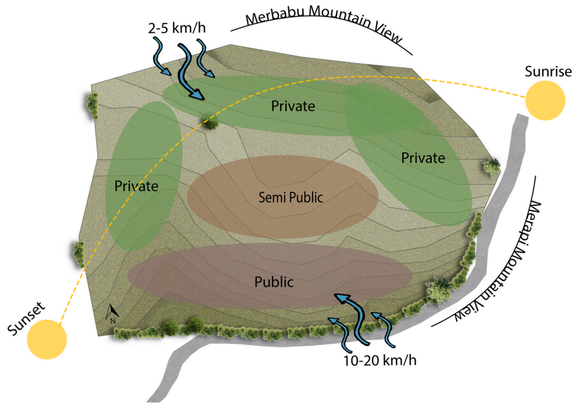



Figure 3.5 Zoning Exprloration Alternative 4
Source: Author. 2025

### Alternative 3

Alternative 3 responds to the context of the noble Joglo zone which places the public zone at the front, the private zone at the back and modifies the west side private area into a semi-public area. In response to this zone analysis, emphasis is placed on access utilization and area division in the design.

**Advantage**

- More Privacy in Private Zone
- Easy Entry
- Best View (Merbabu and Merapi)
- Get Low Wind Speed in Private Zone

**Disadvantage**

- Highest Elevation Get Hard Access For Disability
- Private Zone Close To Street
- Long Distant Space Between Each Room

### Alternative 4

Alternative 4 responds to the context of the noble Joglo zone that places the public zone at the front, and the equalization of the private zone at the back and on each side. In response to this zone analysis, emphasis is placed on utilizing access and best views.

**Advantage**

- More Privacy in Private Zone
- Easy Entry
- Best View (Merbabu and Merapi)
- Easy Access To Semi Public Zone

**Disadvantage**

- Private Zone Close To Street
- Potential Overheating In Semi Public Zone

## Zoning And Room Programming Placement Exploration

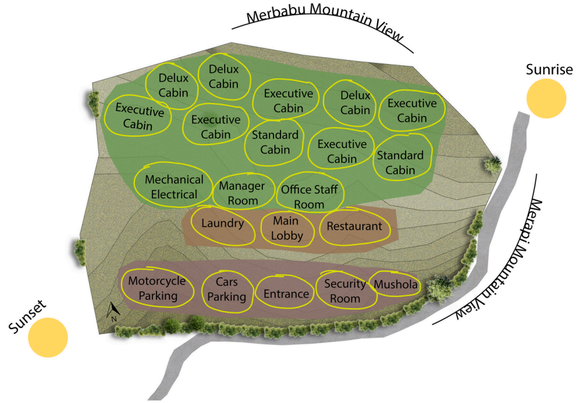



Figure 3.6 Room Programming Exploration Alternative 1
Source: Author. 2025

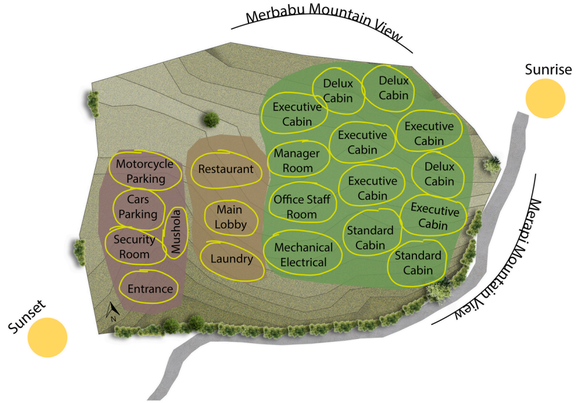



Figure 3.7 Room Programming Exploration Alternative 2
Source: Author. 2025

**Alternative 1**

Alternative 1 The public zone consists of parking area, entrance, security, and worship space. The entrance directly faces the main lobby, and placing the restaurant on the east side is one of the advantages provided in this alternative. In addition, the Private Zone on the north side gets a more private atmosphere for cabin users and is spoiled with views of Merbabu.

**Advantage**

- Optimal tranquility of the privacy area
- Easy access to restaurants and lobbies
- Cabin units are evenly distributed in the privacy area
- Easy to control security in the cabin area

**Disadvantage**

- Mushola Which is Difficult to Access by Users
- Noise Room ME Room
- Cabin Which Piles Up So That It Makes Wayfinding Difficult for New Users
- Security Room Which Is Less Effective for Security

**Alternative 2**

Alternative 2 Placement of the entrance area adjacent to the security room so that security can be clearly controlled. However, the privacy zone experiences a lack of security due to its proximity to the road.

**Advantage**

- Cabin Area Get Optimal View of Merbabu and Merapi
- Access Controlled by Security
- Service Area Integration

**Disadvantage**

- Unequal division of privacy zones
- User safety is compromised
- Long distance between rear cabin and restaurant
- Noise from ME Room



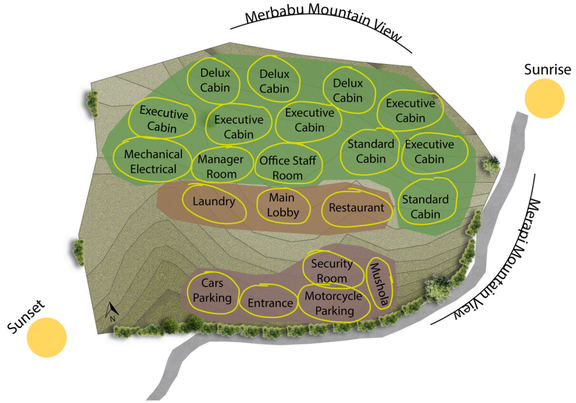



Figure 3.8 Room Programming Exprloration Alternative 3
Source: Author. 2025

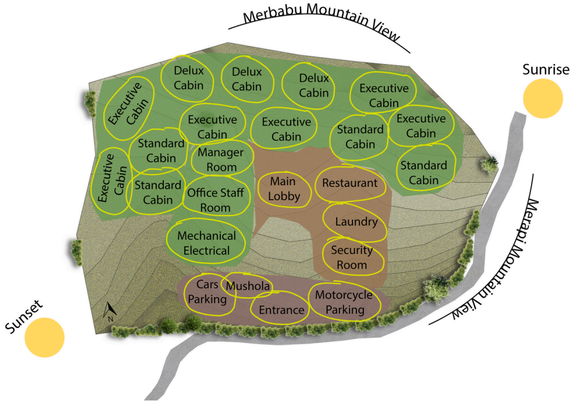



Figure 3.9 Room Programming Exprloration Alternative 4
Source: Author. 2025

**Alternative 3**

Alternative 3 has similarities with alternative 1 but the parking area is evenly divided against the entrance area. In addition, the cabin area gets the maximum view with views of Merbabu and Merapi.

**Advantage**

- Every cabin will get the maximum view
- Ease of access
- Equal access to every parking space

**Disadvantage**

- Mushola Which is Difficult to Access by Users
- Noise Room ME Room
- Security Room Which Is Less Effective for Security

**Alternative 4**

Alternative 4 has similarities with alternative 3 by dividing the parking area evenly divided against the entrance area. In addition, the cabin area gets the maximum view with views of Merbabu and Merapi.

**Advantage**

- Equal Positioned Cabins
- Easy Circulation in Each Cabin
- Ease of Access
- Cabin units are evenly distributed in the privacy area

**Disadvantage**

- Mushola area that is too far for users
- Uneven Access to the Restaurant
- Less efficient security room

**Zoning And Room Programming Placement Selected**

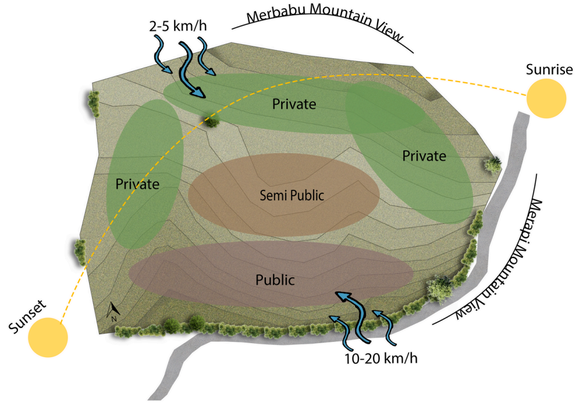



Figure 3.10 Zoning Exploration Alternative select
Source: Author. 2025

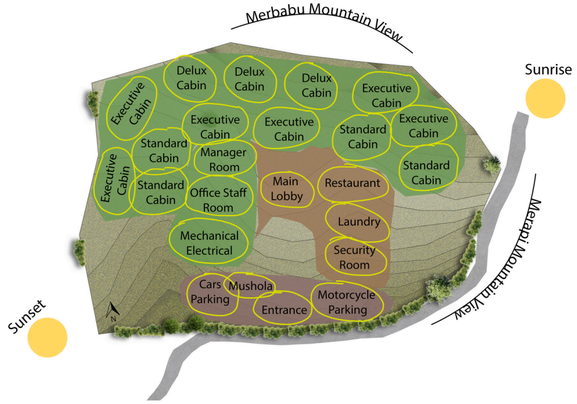



Figure 3.11 Zoning Exploration Alternative select
Source: Author. 2025

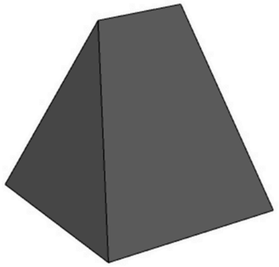
**Alternative 4**

This alternative was chosen for further development because it aligns the spatial pattern with the zoning concept of a Javanese noble Joglo house, namely the division of space into 'pendopo' (public space), 'pringgitan' (semi-public), and 'dalem' (private space). With this spatial organization, the regionalism approach can be presented through a spatial arrangement that responds to local culture as well as site conditions. In addition, it considers the integration and division of zones that provide circulation efficiency for users. Overall, Alternative 4 was chosen because it is able to present a spatial layout that is functional, comfortable, and responsive to the characteristics of the site. This arrangement also creates a clear circulation flow and maximizes the visual potential and microclimate of the site. The similarity of zoning with traditional architecture makes it not only ecologically contextual, but also culturally, thus supporting the architectural approach of regionalism that blends with local identity.

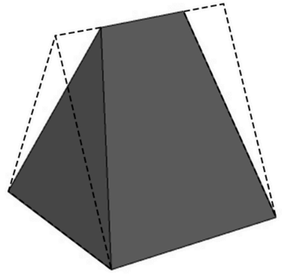


## 3.4 Design Exploration

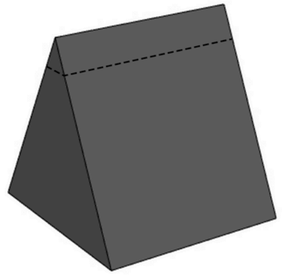
**Cabin Mass Exploration**



Top Off Roof Joglo House



Expand the Area to Maximize Human Circulation

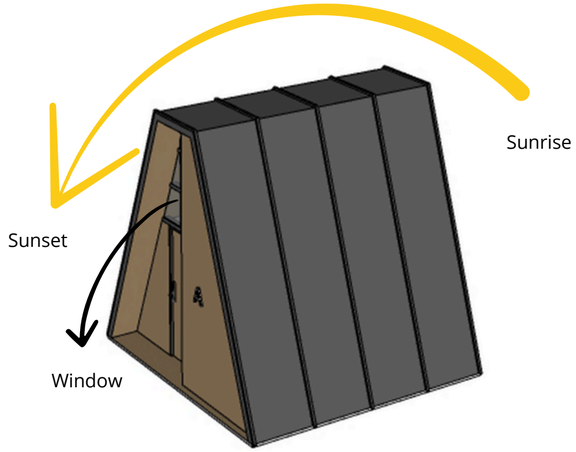


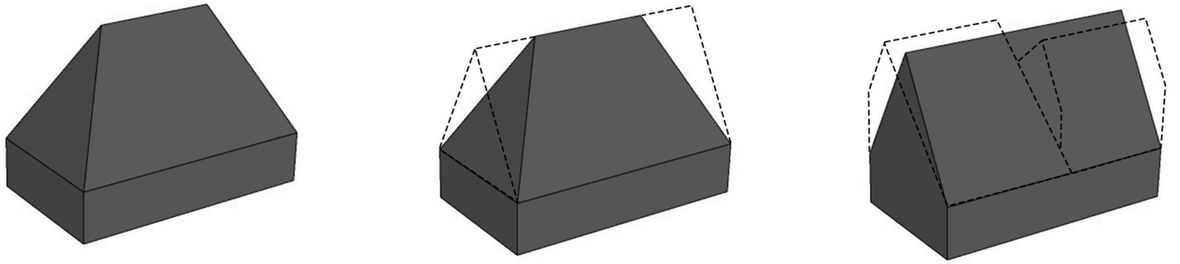
Cut the top to get more circulation

Figure 3.12 Cabin Mass Exploration Alternative 1
Source: Author. 2025

**Mass Alternative 1**

This mass alternative uses a joglo roof approach that is expanded as a cabin shape by maximizing existing space requirements. In addition, it maximizes circulation by adding space and cutting the taper on the mass. There is a window above the door to maximize natural lighting so that energy use during the day will be lower.





Joglo House

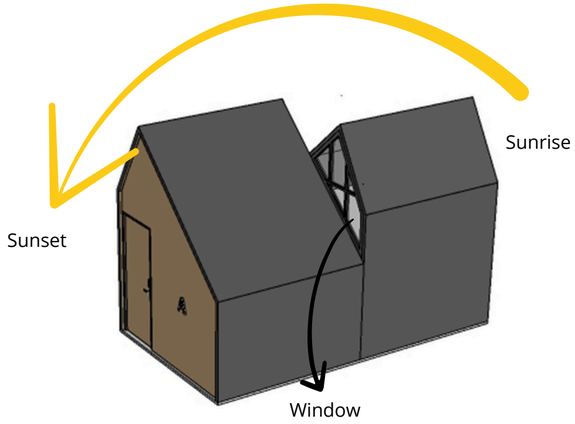
Expand the area to split the zone area

Split the roof to maximize natural lighting

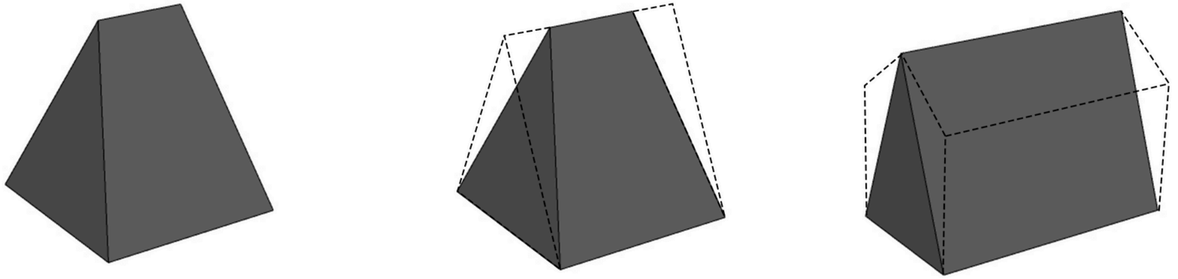
Figure 3.13 Cabin Mass Exploration Alternative 2
Source: Author. 2025

**Mass Alternative 2**

Alternative mass 2 uses the joglo house approach which is divided into two forms to divide the space of the front side of the bathroom, and the front side of the bed. In addition, maximizing the space of this two-time division will maximize natural lighting by placing a window in the middle.





Top of roof joglo house

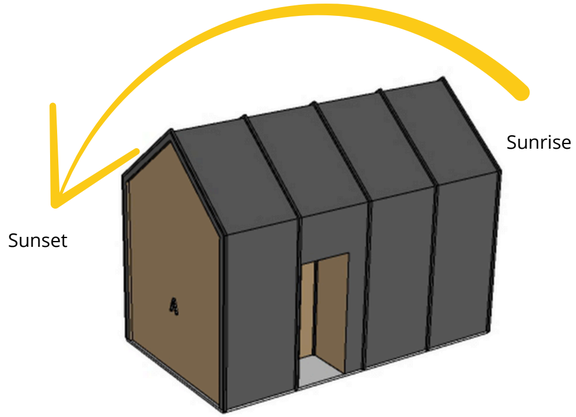
Expand the area to maximize human space

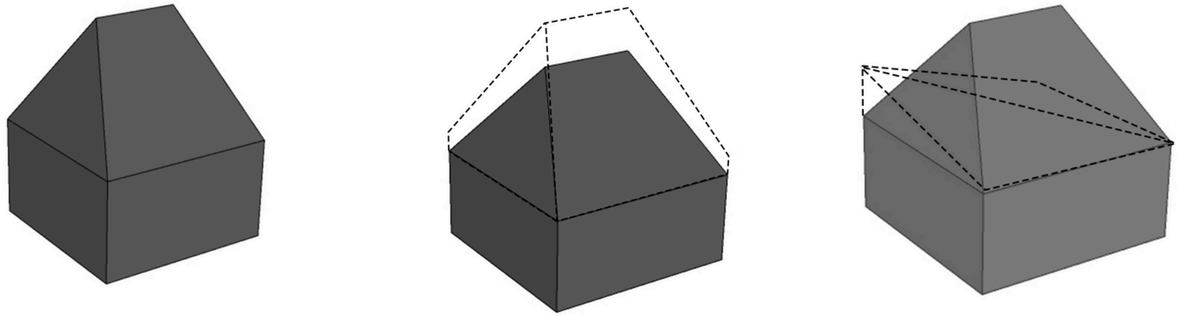
Extanded the Form to maximize human circulation

Figure 3.14 Cabin Mass Exploration Alternative 3
Source: Author. 2025

**Mass Alternative 3**

Alternative mass 3 uses an extended joglo roof approach as a form of cabin by maximizing existing space and circulation needs. Unlike the previous two alternatives, this mass has an entrance on the right side that functions as a transition and space divider in the cabin.





Joglo House

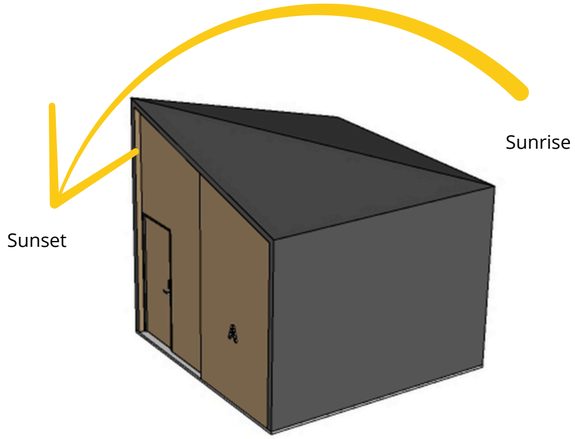
Reducing the size roof

New form to responses sun movement

Figure 3.15 Cabin Mass Exploration Alternative 4
Source: Author. 2025

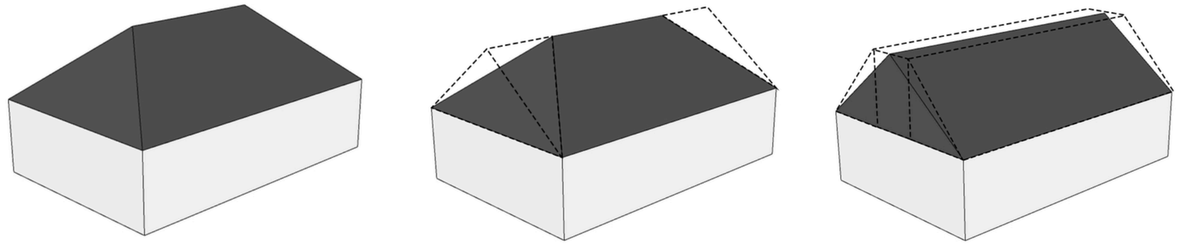
**Mass Alternative 4**

Alternative mass 4 forms a new roof in response to the movement of the sun. Unlike the previous alternative, the mass has a more modern but still minimalist form by changing the shape of the roof. So that the shape of the joglo roof is not totally disappeared






**Other Function Mass Exploration**



joglo house

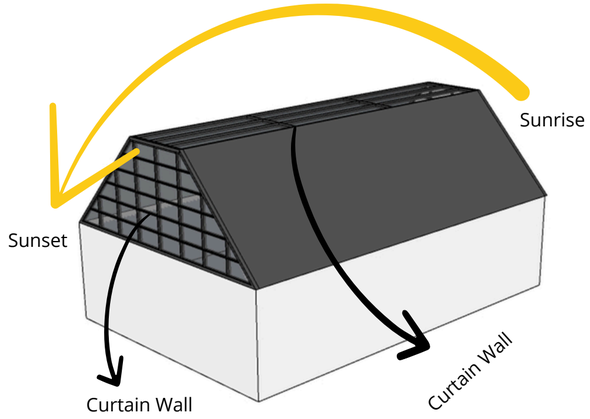
Expand the roof to maximize the form

Split the roof to get more sun lighting

Figure 3.16 Other Mass Exploration Alternative 1
Source: Author. 2025

**Mass Alternative 1**

The function of this period is planned to be used as a lobby area, office, and restaurant. The mass of alternative 1 is taken from the shape of the joglo house mass which is modified in the shape of the roof, aiming to get more natural lighting, by adding curtain walls on the top side of the roof, and the front and back sides. This mass has the advantage of natural lighting which will reduce energy consumption. However, this mass also has the disadvantage of allowing the room temperature to become more heat.



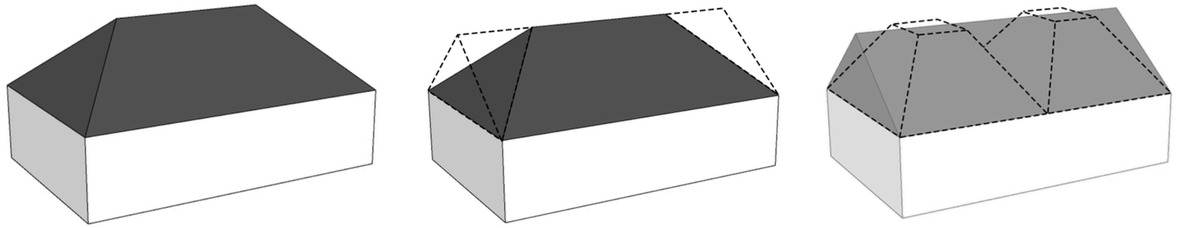
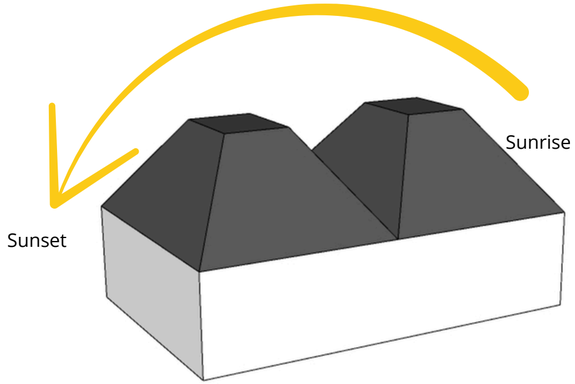



Figure 3.17 Other Mass Exploration Alternative 2
Source: Author. 2025

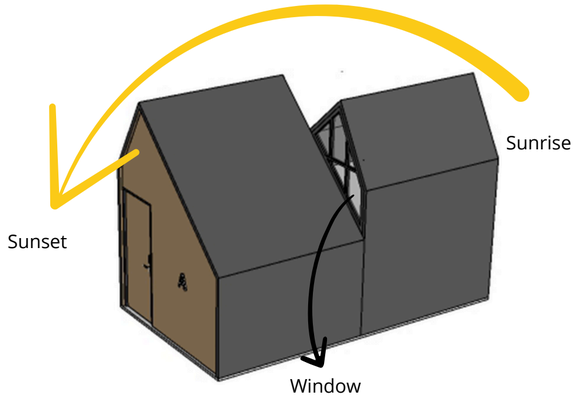
**Mass Alternative 2**

Alternative mass 2 is a representation of the joglo roof and also the two mountains Merbabu and Merapi which are the best views on the site. Shaping the mass like a mountain as a response to the superior view provided but not remove the strong regionalism context. So that elements of the joglo roof form are still exist. Dividing the two masses with the same shape by providing an opening in the middle to maximize Mount Merbabu as the top view on the site.



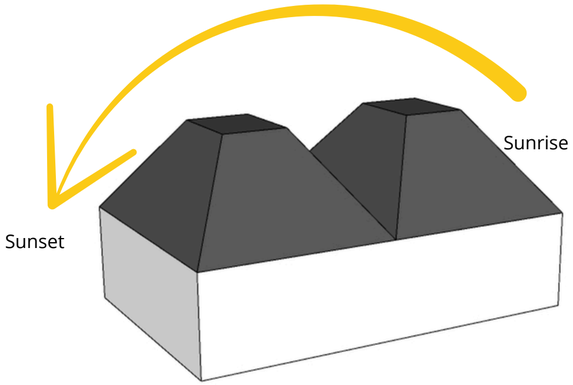



**Mass Selected**




**Cabin Mass Alternative 1**

Figure 3.18 Cabin Mass Exploration Selected
Source: Author. 2025




**Mass Alternative 2**

Figure 3.19 Other Mass Exploration Selected
Source: Author. 2025

**The Reason**

The selection of alternative mass 1 for the cabin and alternative mass 2 for the building with restaurant, office, and lobby functions is based on contextual considerations of the site as well as a design approach that relates to local values (regionalism).

The cabin mass in alternative 1 was chosen because of its simple and compact form, with glass openings that are not too large so as to maintain privacy but still allow visitors to enjoy the surrounding natural scenery. This mass also does not interfere with the visual top view of Mount Merapi and Mount Merbabu, which are the main strengths of the site context. In form, the triangular roof resembles the basic form of traditional architecture, and can be interpreted as a simple representation of the Joglo roof symbolically, thus strengthening the connection with the regionalism approach.

Meanwhile, alternative mass 2, which is planned for the restaurant, office and lobby functions, was chosen with the consideration of having a harmonious form with the cabin mass. Both masses have visual similarities and roof geometries that support each other, thus not creating a contrast that disrupts the visual harmony of the area. The shape of the roof that resembles a stack or terraced height also interprets the shape of the Joglo roof in a more modern version, still emphasizing local values without losing the contemporary impression. Thus, both masses-both cabins and public facility buildings-can visually respond to the context of the site.

## 3.5 Site Response

### Cabin Pathway

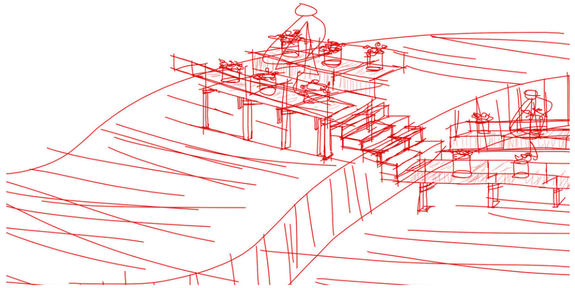


Figure 3.20 Path Design Sketch
Source: Author. 2025

The main access to the cabin area is by creating an open corridor on a stage structure that responds to the existing land contours. So that the existence of this resort does not damage the existing conditions. In addition, the left and right sides of the corridor are planted with strawberry plants as active landscape elements as well as educational and productive. Strawberry plants provide a strong local identity and are one of the supporters of the ecotourism concept. Visitors not only enjoy the visuals of Mount Merapi and Merbabu, they can also enjoy the visuals of plants as a form of direct interaction by picking and learning about Strawberry. With this approach, the corridor does not only function as a circulation path. But also as a form of interactive space by combining function and recreation.

### Cabin Concept

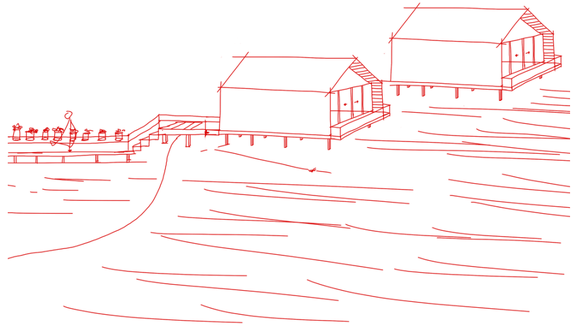


Figure 3.21 Cabin Design Sketch
Source: Author. 2025

In this concept, each cabin stands on a stage structure that follows the natural contours of the site, so as not to damage the landscape and allow each unit to still get an optimal view even though it is in a hilly area, with a balcony in the front area of the cabin oriented directly towards Mount Merbabu, this orientation is to optimize the visual experience and become the main element that can be enjoyed from inside the cabin and outside the cabin.

Access between cabins is connected by an open corridor that serves as a pathway to each area with strawberry plants planted on each side to strengthen the concept of ecotourism by providing an interactive experience for users.





Figure 3.22 Joglo House
Source: Author. 2025



Figure 3.23 Analysis Forms Joglo House
Source: Author. 2025

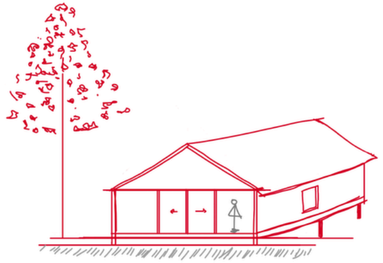


Figure 3.24 Cabin Design Concept
Source: Author. 2025

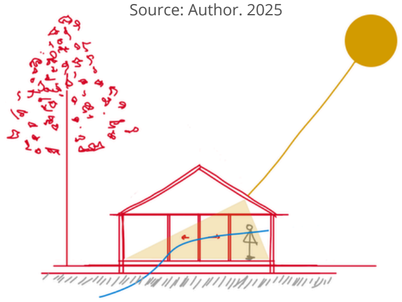


Figure 3.25 Cabin Design Response
Source: Author. 2025

The design concept of this cabin carries a contextual regionalism approach, where local architecture and site conditions become the basis for processing forms, spaces and materials. The cabin is designed with wide openings dominated by textured wood materials and some glass to optimize the potential vista of the Wonolelo landscape, especially the direct view of Mount Merbabu and Merapi. Glass not only serves as a visual element, but also supports energy efficiency through the utilization of natural lighting throughout the day. Natural air circulation is maximized through the use of sliding doors and cross ventilation systems, which reduces reliance on artificial air-conditioning systems. This strategy is a tangible form of passive architecture that is both energy efficient and in tune with Wonolelo's tropical mountain climate. The basic form of the cabin adapts the character of the joglo house as a symbol of Javanese vernacular architecture, especially in the raised roof structure to create breathing space and allow natural ventilation of heat. The stepped elements and open structure of the joglo are transformed into a more concise composition that still reflects local values. Local materials such as wood are used to create visual integration with the surrounding landscape, while additional modern materials such as roof insulation are applied to maintain thermal comfort within the space without compromising sustainability. The design of this cabin is not just a temporary residence, but a space born from the dialog between local culture and nature. By combining the principles of tropical architecture, passive technology, and the richness of traditional architecture, the cabin comes as an architectural solution that is sensitive, adaptive, and deeply rooted in the character of the Wonolelo area.

## Lobby Design Concept



Figure 3.26 Merbabu View
Source: Author. 2025



Figure 3.27 Merapi View
Source: Author. 2025

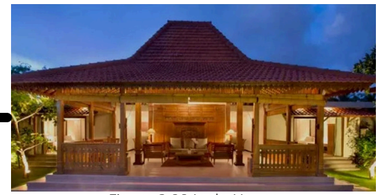


Figure 3.28 Joglo House
Source: Author. 2025

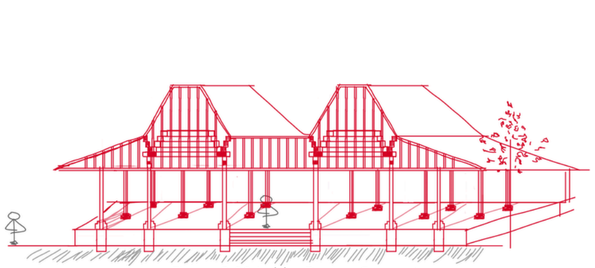


Figure 3.29 Lobby Design Concept
Source: Author. 2025

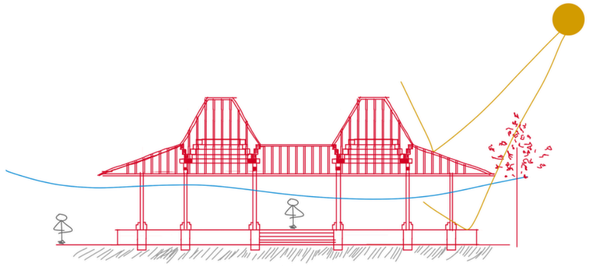


Figure 3.30 Lobby Design Response
Source: Author. 2025

The lobby roof design was inspired by the basic shape of a traditional joglo roof, which has a triangular main roof composition at the top and 'wing' structures on all four sides. This triangular shape is then transformed into an equilateral trapezoidal shape, creating two roof planes that face each other while still maintaining the distinctive visual essence of the joglo roof. This transformation is not merely aesthetic, but rather a response to the contextual conditions of the site, particularly the potential for extraordinary vista views: Mount Merbabu and Mount Merapi. Therefore, the two planes of the trapezoidal roof are strategically opened to frame the view to the two mountains, creating a strong and memorable visual experience for visitors. Mount Merbabu, which is directly visible from the central lobby area, becomes the center of visual orientation and the main element in the space treatment. The open roof design in the center also strengthens the connection between the interior and the surrounding landscape. The concept of regionalism is presented through the application of joglo house architectural principles, such as an open space system to optimize natural ventilation and a stepped structure that represents the hierarchy of traditional spaces. These elements are reinterpreted in the lobby design as a form of adaptation to the current context, while remaining firmly rooted in local wisdom. By combining form, function and meaning, the design not only provides a comfortable and thermally efficient spatial experience, but also fosters a sense of attachment to Wonolelo's local culture and landscape.



## Restaurant Design Concept



Figure 3.31 Restaurant Design Concept
Source: Author. 2025



Figure 3.33 Joglo House
Source: jogjaaja.com

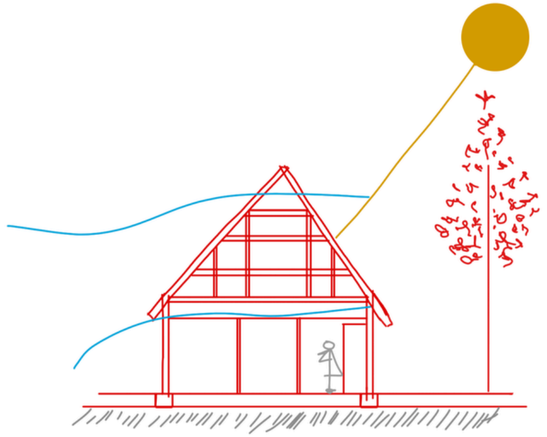


Figure 3.32 Restaurant Design Response
Source: Author. 2025

The restaurant's design concept takes inspiration from tropical architecture with a regionalism approach, where the joglo-like shape of the high roof is modified to optimally support air circulation and natural lighting. The soaring gable roof allows hot air to rise and escape through the top openings, creating cross ventilation that enhances thermal comfort without the aid of artificial cooling systems.

The facade is dominated by wide glass openings that not only provide natural lighting into the space, but also frame the surrounding views and create a strong visual connection between the interior and the outside landscape.

On the east or west side (depending on site orientation), shade trees are strategically planted to filter direct sunlight, reduce overheating and create natural shadows for users inside the restaurant. These vegetation elements also reinforce the natural feel and give ecological value to the site.

The lightweight stilt structure raised from the ground helps to retain moisture from below, as well as being a response to the contours of the land and the potential for a humid climate in the Wonolelo area. The use of local materials such as wood, bamboo and glass keeps the building contextual, sustainable and in harmony with the surrounding environment.

**Swara Design Concept**

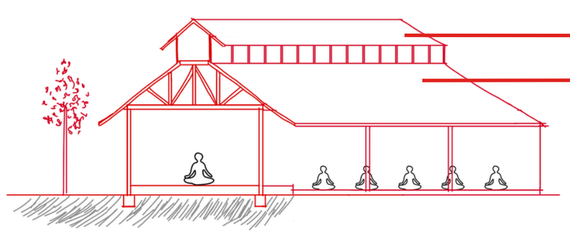


Figure 3.34 Swara Design Concept
Source: Author. 2025



Figure 3.36 Joglo House
Source: jogjaaja.com

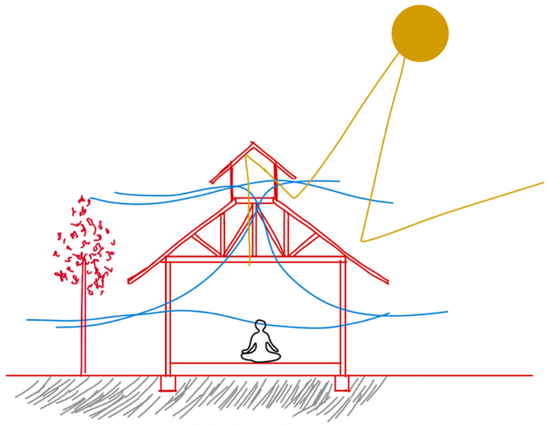


Figure 3.35 Swara Design Response
Source: Author. 2025

Swara is a building inspired by the traditional joglo house, which is known for its unique roof shape and its ability to create thermal comfort through natural ventilation. The Swara concept adopts the principles of joglo architecture, especially the terraced pyramid roof form, which is then transformed into a new form that is more contextual and responsive to site conditions, such as lighting direction and airflow.

The building is designed with large openings on several sides, just like a traditional joglo house, to maximize air circulation and support cross ventilation. On the roof, louvre elements are added that function as top ventilation as well as natural light catchers. With this strategy, Swara is able to function passively without the need for artificial lighting and air conditioning systems, creating a space that is energy efficient and in harmony with nature.



Cabin Orientation

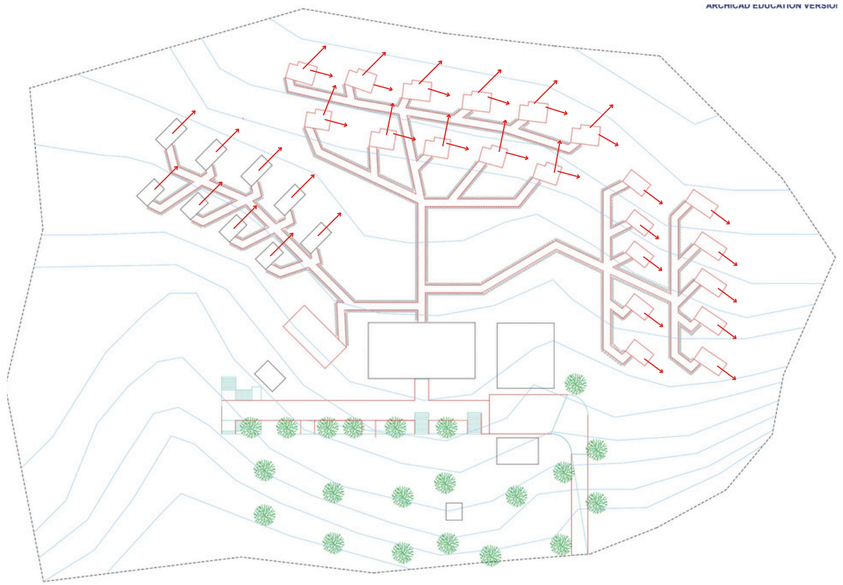


Figure 3.37 Cabin Orientation
Source: Author. 2025

The orientation of the cabin resort leads to Mount Merapi and Mount Merbabu. Especially for the northern cabins which are deluxe type 2 and executive cabins have the advantage of getting both views. In addition, the cabin also has a balcony that is wide enough to enjoy the view. On the east side of the cabins consisting of standard and deluxe types get a view of Mount Merapi, and the west side consisting of standard and deluxe types only get a view of Mount Merbabu. Thus, all cabin zones have their own advantages.

# CHAPTER 04

## Schematic Design

## 4.1 Schematic Design

**Site Area**

The concept of zoning in the cabin resort area is adapted from the layout of a noble Joglo house, which is traditionally divided into three main zones: public, semi-public and private. This division of zones is applied in the resort design as a form of regionalism contextual approach to traditional Javanese architectural values.

The public zone is located at the front of the site and includes a vehicle parking area, security room, and laundry. The semi-public zone serves as the initial interaction area between visitors and managers, consisting of the main lobby, restaurant, and office space. Meanwhile, the private zone is a lodging area designed to provide comfort and relaxation for guests, consisting of three types of cabins, namely: Standard, Deluxe, and Executive.

This zoning approach not only creates a clear and efficient circulation flow, but also presents a spatial experience that is layered according to the level of privacy, in line with traditional architectural principles adapted in the context of regionalism design.

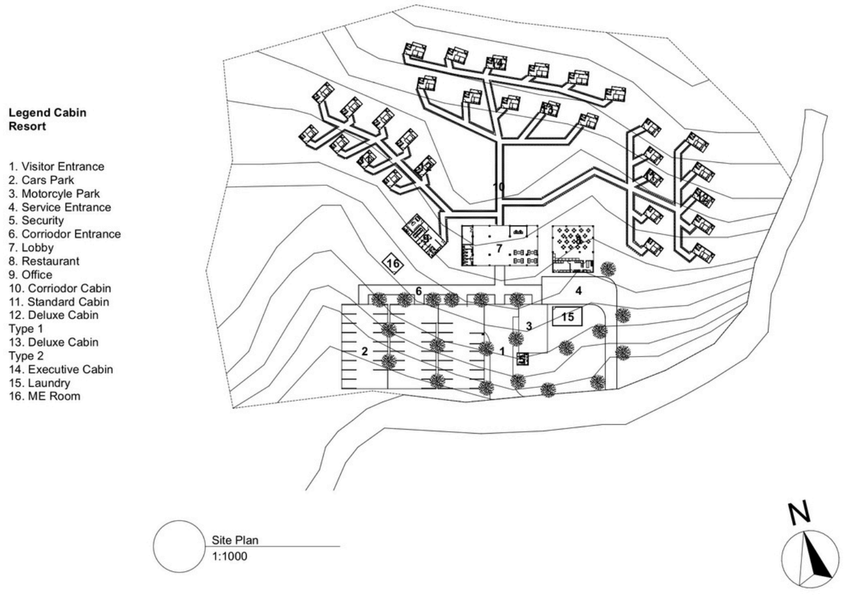



Figure 4.1 Site Plan
Source: Author. 2025

**Architectural Design Approach**

The shape of the cabin mass is transformed from the joglo roof shape, by providing a curtain wall on the roof that functions as natural lighting. Thus, it has a modern shape but does not eliminate the natural shape of the joglo roof.

The lobby roof is inspired by the joglo roof as a form of application of the concept of regionalism, by adapting from the contextual advantages of the site, namely Mount Merapi and Mount Merbabu. In addition, this roof also has two masses that divide as a form of response to the condition of the site. So that visitors who enter the area can see Merbabu from the gap between the two masses.

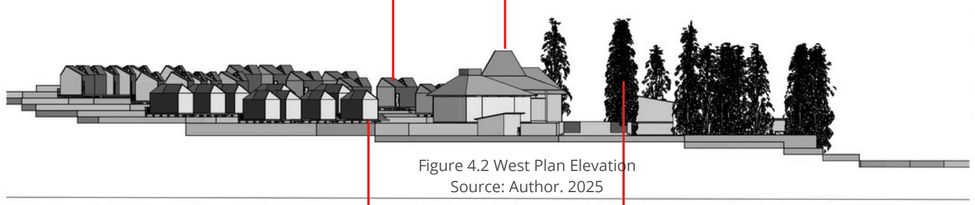


Figure 4.2 West Plan Elevation
Source: Author. 2025

Each building mass that follows the contour conditions so that the mass can adapt to the contour, without damaging the existing existing

Pine trees as a response to the context of the site where the site is at the foot of Mount Merbabu which is experiencing deforestation. The pine tree aims to preserve nature that was previously converted to agricultural land.









Lobby - Cabin Resort

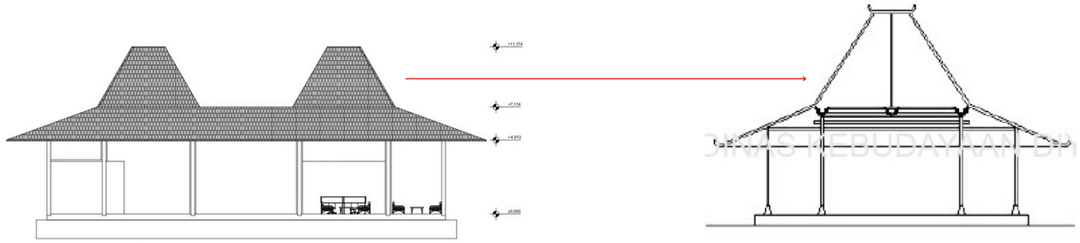


Figure 4.3 Lobby Cabin South Elevation
Source: Author. 2025

The lobby of the cabin resort has a Regionalism concept from the joglo roof and a response from the contextual site that has the advantage of Merbabu and Merapi mountains.

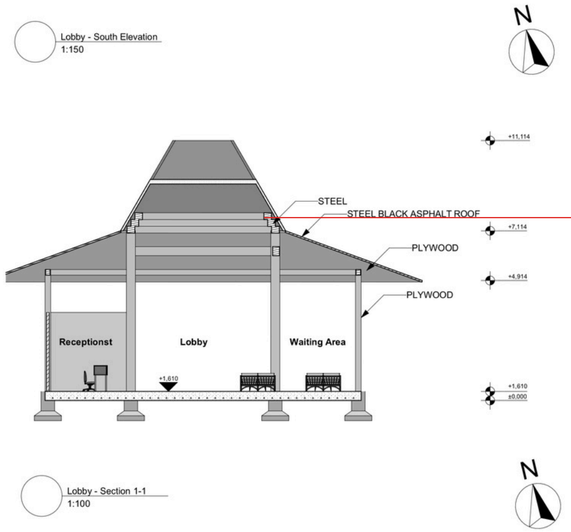



Figure 4.4 Lobby Cabin Section
Source: Author. 2025

Tumpang sari which is characteristic of joglo buildings is also applied to the structural elements in the lobby, but by using different materials. In joglo using wood, while in this design using steel covered with plywood so that the impression of the traditional on the tumpang sari element is not gone.

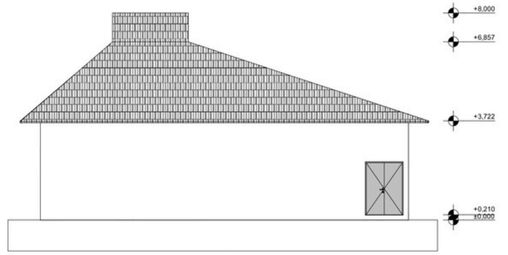



Figure 4.3 Office Cabin East Elevation
Source: Author. 2025

Office - East Elevation
1:100

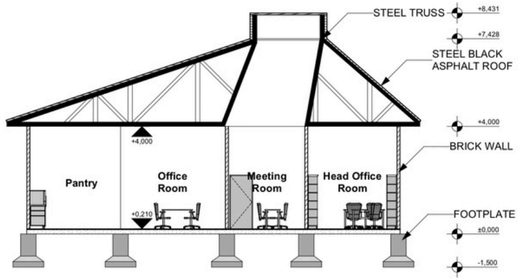



Figure 4.4 Office Cabin Section
Source: Author. 2025

Office - Section 1-1
1:100

The roofing material on the office building uses steel asphalt roof. This material was chosen because it has high resistance to extreme weather, is lightweight in structure, and provides a modern and elegant appearance. In addition, steel asphalt roof also has soundproof and rust-resistant properties, making it ideal for use in areas with high rain intensity such as Magelang. Meanwhile, the walls of the building use a layer of andesite stone as the main element. Andesite stone is a local material typical of Magelang, the use of andesite stone material to strengthen the concept of regionalism, but also to improve the performance of the building in terms of moisture resistance. The combination of these two materials creates a visual expression that is modern, functional, yet still rooted in the local character and climate.

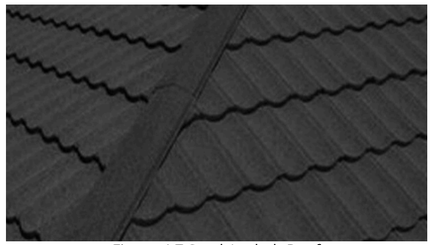


Figure 4.7 Steel Asphalt Roof
Source: Google Image



Figure 4.8 Andesit Stone
Source: Google Image



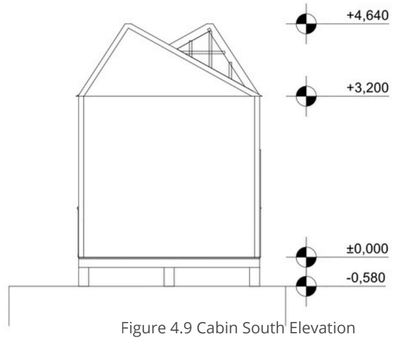



Figure 4.9 Cabin South Elevation
Source: Author. 2025

Deluxe Type 1 - South Elevation
1:50

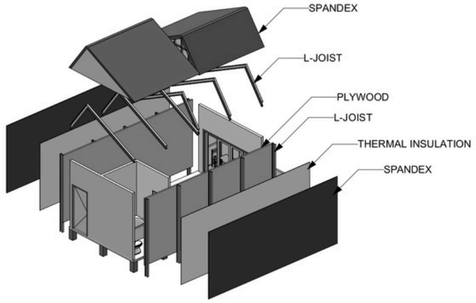



Figure 4.10 Cabin Axonometric Structure
Source: Author. 2025

Axonometric
1:100

The cabin design uses a modular system, which allows the cabin units to be moved around or rearranged according to the needs of the site and future functional developments. On the roof, spandex material is used which has durability, anti-rust, and is able to withstand high loads and rainfall. To improve thermal comfort inside the cabin, the entire roof surface and inner walls are coated with thermal insulation material, which serves to retain heat from outside and keep the room temperature stable. The combination of the modular structure system, spandex roof, and thermal insulation layer makes this cabin not only functional and efficient, but also comfortable and adaptive to the climatic conditions in Magelang.

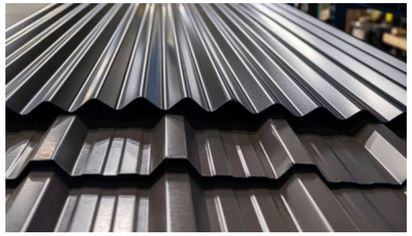


Figure 4.11 Spandex Roof
Source: Google Image



Figure 4.12 Thermal Insulation
Source: Google Image

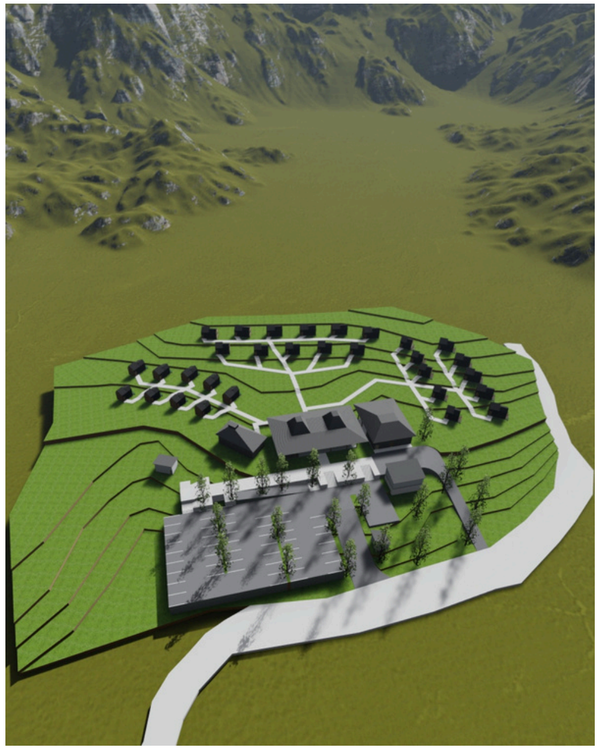


Figure 4.12 Bird Eye Cabin Area
Source: Author. 2025



Figure 4.13 3D Render Lobby
Source: Author. 2025



Figure 4.14 3D Render Perspective Area
Source: Author. 2025





Figure 4.15 3D Render Executive Cabin Interior
Source: Author. 2025

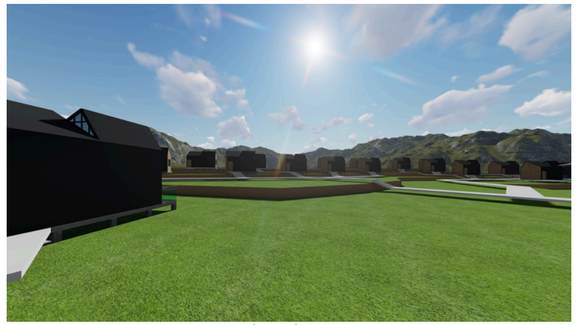


Figure 4.14 3D Render Cabin Perspective Exterior
Source: Author. 2025

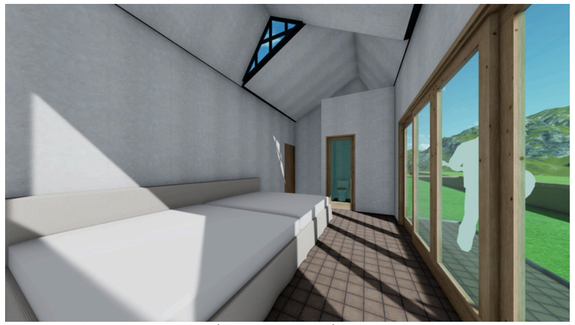


Figure 4.15 3D Render Executive Cabin Perspective Interior
Source: Author. 2025