

# Application of Radakng House Design in Bus Terminal at Malinau North Kalimantan with Neo-Vernacular Approach

Rocky Amba<sup>1</sup>, Muhammad Sega Sufia Purnama<sup>2</sup>

University of Indraprasta PGRI<sup>1,2</sup>

**Abstract.** Malinau Regency is an expansion of Bulungan Regency. Over time, the economic growth of the Malinau community has accelerated and mobility movements have also increased. Various plans have been established by the local government. The position of Malinau City is very strategic to connect the surrounding regencies and areas around Malinau whose territory is directly adjacent to Malaysia. The required terminal is a type-A terminal. With the diversity of cultures and customs in Malinau Regency, the questions in this research are (1) How to design a terminal that can represent the culture of the Malinau people and (2) How to approach the application of these cultures into the design. This research has never been raised before, which is to raise the culture and wisdom of Malinau Regency into a building with an urban context. The method used is Literature Review, which is by collecting local cultural sources related to the design of traditional community buildings, then with Neo-vernacular theory will be applied to new building elements in the terminal design. The result achieved in this research is a new terminal design with a Neo-vernacular Architecture approach seen from the urban context, facade appearance and proper zoning.

**Keywords:** Architecture; Neo-vernacular; Terminal; Design; Local culture

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**Correspondence author:** Muhammad Sega Sufia Purnama, ages125@gmail.com, Jakarta, Indonesia



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## Introduction

Malinau Regency is the result of the expansion of Bulungan Regency based on Law Number 47 of 1999. Bulungan Regency was originally a simple region in East

Kalimantan Province. Over time, the economic growth of the Malinau community has accelerated and mobility movements have also increased. Various plans have been established by the local government, one of which is an integrated transportation network system plan that has been included in the regional spatial plan (RTRW) of North Kalimantan Province. This also plays a role in the development of community mobility in the Malinau area and the need for a terminal.

With the existence of a land transportation network system, people have more choices. Geographically, Malinau City is strategically positioned to connect the surrounding regencies and areas around Malinau, which is directly adjacent to Malaysia. The terminal needed is a type-A Terminal, which is a terminal equipped with qualified facilities and can support the needs of users and managers and can accommodate large bus routes, medium buses and city transportation.

The problem that can be identified is the need for a terminal, then what kind of design can represent the culture of the Malinau people and how the approach is done in applying the culture. The purpose of this study is to produce a terminal design that is able to represent the local culture with a theoretical approach to design.

### Terminal

The Terminal is a temporary stop for public transportation to raise and lower passengers and goods to the final destination of a trip, as well as a place of control, supervision, regulation and operation (Department of Transportation, 1996). According to the Directorate General of Land Transportation Infrastructure System Development (Department of Transportation, 1996) the function of the terminal can basically be seen from 3 (three) elements related to the terminal, namely for passengers is for the convenience of waiting, ease of moving from one mode or vehicle to another, for the government is in terms of traffic planning and management, regulating traffic and avoiding congestion, as a source of levy collection and as a controller of public transport flows and for public transport operators is to regulate public transport services, provide rest and information facilities for public transport crews and base facilities. According to the Decree of the Minister of Transportation Number: 31 of 1995 concerning Road Transport Terminals. Types of passenger terminals consist of Type A Passenger Terminals, Type A passenger terminals serve public transportation for Inter-Provincial City Transportation (AKAP) and / or Cross-Border Transportation, Inter-Provincial City Transportation (AKDP), City Transportation, and Rural Transportation. Type B Passenger Terminal is a terminal that serves public transportation for Inner Province City Transportation (AKDP), City Transportation and Rural Transportation. Type C Passenger Terminal is a terminal that serves public transportation for City and Rural Transportation.

### Rumah Radakng

Radakng house was born from Dayak culture in Kalimantan. Apart from being a symbol of identity, Radakng houses also have semiotics that reflect the identity of the Dayak people (Prihantink, 2021). In Pontianak, the Radakng house symbolizes the romance of Dayak life, especially Dayak Kanayatn, in carrying out all its cultural activities (Dinata, 2014). Radakng house is not only a place to live and shelter. This Dayak building also has noble values that should be emulated. This long building with dozens of rooms is inhabited by several families with different backgrounds, both in social status and income (Johansen, 2014). This shows that the noble value that is trying to be achieved is harmony and upholding unity. This is also what makes Dayak people do not discriminate so that there is a very strong sense of sharing both in joy and sorrow. Due to its long size, and stage-shaped, access into the house is using a ladder called Hejot. The stairs must be odd in number and the larger the Radangkng house, the more stairs are used. The stairs are made of ironwood, which the local community believes can last for hundreds of years. The Radangkng house is oriented towards the sunrise, and the back of the house follows the sunset, this teaches that life is full of hard work until the day ends. That is why the Dayak people have never been lazy and idle. And finally, a characteristic that can be found in traditional Kalimantan houses is the pillars that are quite large and decorated with carvings or paintings typical of the Dayak tribe. The motifs vary, some are hornbill motifs, dragons, dogs and others. But it is also common to find motifs in the form of flowers, shields and human faces. The hornbill and dragon motifs themselves symbolize power while the shield symbolizes the solid defense of the Dayak tribe.



Fig 1 Radangkng House



Fig 2 Decorative Variety of Dayak Tribe

### Arsitektur Neo Vernakular

Buildings are cultural art consisting of the repetition of a limited number of types and in their adaptation to local climate, materials, and customs (Krier, 1970). Neo Vernacular architecture was born in the 1960s. It consists of the words neo which means new and vernacular which in Latin means original. The word 'vernacular' refers to a time context in which there were no professional architects or non-formal architecture (Rogi, 2015), there were limited materials and still pay attention to the local climate (Rajpu, 2020) in building so that the authenticity of a building in an area will reflect locality or regionalism. Then, with the addition of the word 'new', this refers to a situation where the authenticity becomes new in terms of materials, construction technology or the values contained in it so that it can keep up with the times (Widi, 2020).

According to Sukada, there are ten characteristics of post-modern buildings. Five of them are localization, evoking historical memories, application of ornamentation techniques, representational and metaphorical (Sukada, 1988). Localization is something that must be present because it only exists in that place and becomes a character. Evoking memories when viewed is important in neo vernacular architecture. Ornamentation is a method that can evoke memories of a building or culture. Its representative nature of a culture or regional value is placed on building elements such as roofs or building facades. In the scale of the building, metaphoric becomes a visual feature that has the same nature as its origin but different forms.

## Methods

The method to be used is a literature review. Collecting local cultural resources related to the design of traditional community buildings, then with neo-vernacular theory will be applied neo-vernacular building characteristics into new building elements in the terminal design.

### Discussion Method

#### *Collection of information and literature data*

In this literature study, we try to find information from various media, be it the internet, researches, and research results related to the proposed title, which consists of::

- 1)Neo vernacular architecture theory
- 2)A review of the main facilities and supporting facilities of a terminal.
- 3)Circulation and relationships between spaces that exist and occur in a terminal

#### *Analysis of planning and design approaches and concepts*

At this stage, the analysis is carried out using the Descriptive Analysis method, namely the description of data and images that already have SNI standards, then will be grouped based on functional, permormation, and architectural programming.

Functional programming aims to identify the use ofKegiatan pengguna

- 1)Manager activities
- 2)Visitor activities
- 3)Number of visitors, etc.

Pemograman Performance programming systematically translates the needs of potential users, potential visitors and their relationship with circulation and requirements in site selection, space requirements, space size requirements, and space programs.

Architectural analysis is the merging stage of the identification results of the two previous analyses (functional and performance). In this process will analyze the problem of mass, space, appearance, site processing, utilities, and building structures that unite the demands of user needs with existing requirements.

## Result And Discussion

### Urban Context

The site is located on Jl. Jend. Ahmad Yani, Malinau Regency, North Kalimantan. Visible urban context:

- Northeast: Malinau district stadium
- Southeast: ATR/BPN Malinau Land Office
- West Housing and local business shophouses

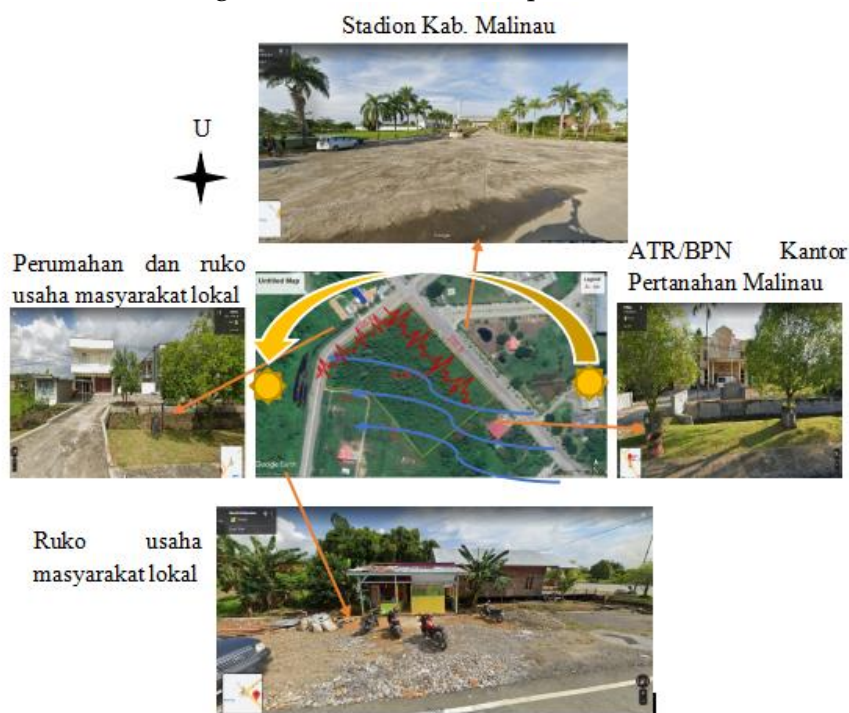


Fig 3 Urban Context



From its position, Malinau terminal is in a commercial area. This area is the meeting point for people to earn a living. The north and west sides have community businesses in the form of shophouses. The existence of the terminal will make it easier for entrepreneurs to mobilize and buy and sell. At the front of the land is the Malinau Regency Stadium. Access to the stadium can be reached through the terminal by bus. There are also government offices where the presence of the terminal will make it easier for employees to go to the office

## View

The view from the outside has several factors that can become a design output such as a typical gable roof shape and then there are ornaments on the terminal wall that can evoke memories.

### • View dari luar

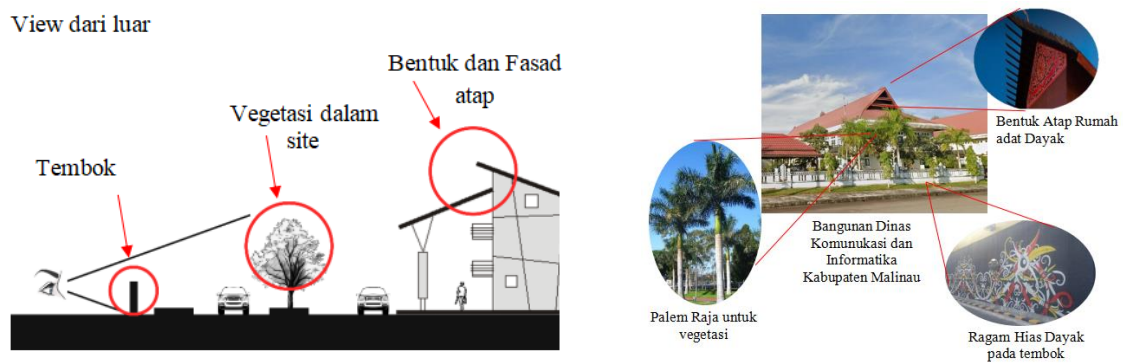


Fig 4 view from the outside

## Zoning

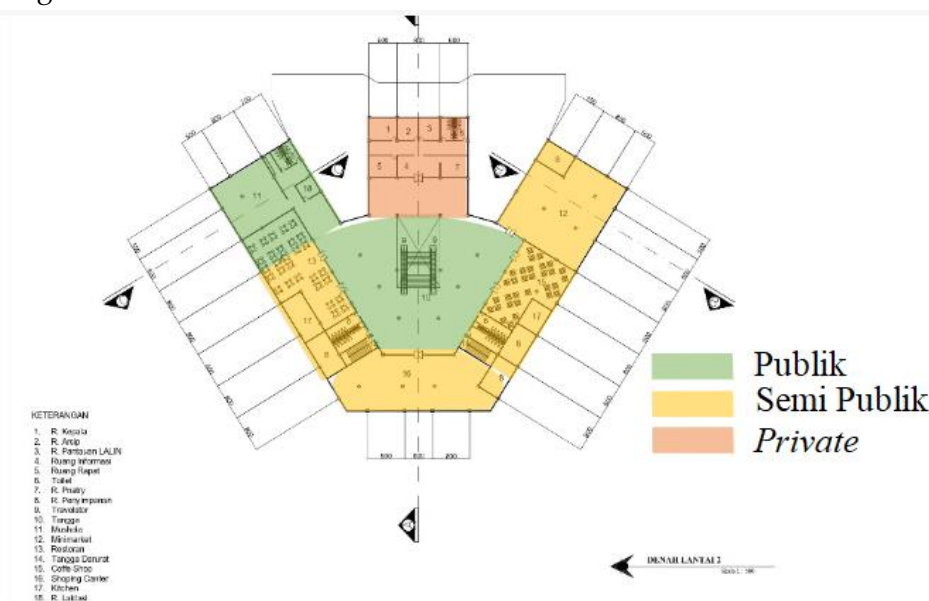


Fig 5 Building Zoning

Zoning on the site is made based on the needs of user comfort and public order. The public zone is in the center of the meeting of the 3 rectangular shapes which will be used for the hall and plaza. The right and left parts are used to wait for the arrival of the bus. The rectangular shape in the center is private. This is to control the arrival of buses and for the management office so that only authorized parties can enter.

### Application of Concept

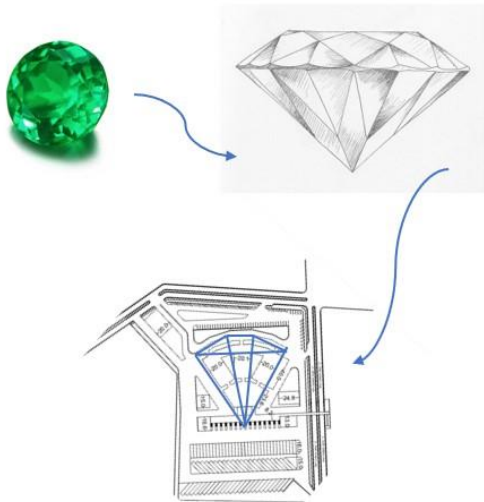


Fig 6 Site Concept



Fig 7 Terminal Design Results, Front View



Fig 8 Terminal design results, waiting room interior

As mentioned in the method, Rumah Radakng is the source of the terminal concept and neo vernacular theory is the tool or theory used to translate the source. It has also been mentioned that five of the ten characteristics of neo vernacular buildings are visually related. The first concept used is to contain a communicative element that is local or popular. For this, the term Emerald of the Equator is used as the site concept. Emeralds can be diamond-shaped and then the elongated Radakng house is used as the stem of the diamond (see Figure 7). The second concept revives historical memories. This concept can be seen from the shape of the terminal building which is very similar to the Radakng house. This can be seen in the use of stilts, gable roofs, elongated shapes and the extension of the roof trusses (see Figure 8). The use of ornamentation techniques as the third feature is clearly visible in Figure 8. The walls and columns of the building are ornamented (see Figure 9). The representational nature is applied by the shape of the building that represents the Radakng house, and the interior columns that replace the wooden columns and are ornamented. Metaphoric as the fifth characteristic is in the terminal building itself. The original Radakng house is a dwelling with an elongated configuration and has rooms inside. Visually, it is as if the terminal is a Radakng house.

## Conclusion

From the design process, it can be concluded that vernacular theory can be used as a tool to translate Rumah Radakng into a terminal in Malinau. Elements such as



columns, walls and facades are the elements that are most likely to communicate through ornamentation. The type of circulation in Rumah Radakng and Malinau terminal have similarities, namely linear circulation.

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