

# The Morphology of Vernacular Architecture in Medan City and Its Surroundings: Case Study - Malay Architecture

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**Abstract:** This study intends to examine the development of vernacular architecture in North Sumatra, Indonesia. Malay Architecture is an existing and developing architecture in coastal areas and Medan city. The development is signed by the existence of modern architecture / posmodern which develops today. Therefore, this study aims to see the development of Malay vernacular architecture and how the shape changes that exist in society recently. The object of research is vernacular building with Malay architectural characteristic. The location of research is located in the city of Medan and its surroundings because this area has buildings that characterize Malay for a long time. The method used is a qualitative-descriptive approach in order to describe the facts that exist in the field and review it with the theory used. The result obtained is the overall form of the building which still retains the porch and ornament form that is found around the house.

## 1 INTRODUCTION

Indonesia has various cultures that representation of human activities. The results of this culture can be things that are important for aspects of human life. Results of culture are often referred to as artifacts. Artifacts that arise from a particular culture have their own characteristics. These traits that distinguish between one culture and another.

The development of architecture is a development that along and in line with historical development (Rapoport, 1969). The development of history covers all aspects of human life including culture. Architecture is an integral part of the journey of human life. From the period before Christ to Modern times and Posmodern, humans have known the shelter to keep his life alive. This shelter became the backdrop of humans to form architecture. The term architecture has not been known in the period before Christ but the people involved in this development were regarded as the person who contributed to the development.

Architectural development in Indonesia is dominated by traditional architecture. This architecture develops in line with the process of cultural activation conducted by the ancestors up to now.

In the past, the development of traditional architecture was colored by the beliefs held by the ancestors, while at this time the development of architecture more towards the universal. The process of development is colored with changes in accordance with changing customs and beliefs.

Along with the period, the change to Malay architecture is colored by the times that have changed today into the modern / posmodern. Malay architecture that developed in the east coast of Sumatra is not the same anymore as Malay architecture in the past. This change indicates that there has been a modification to the Malay house in accordance with the functions and activities that increase from the past.

The identity of the culture can arise from its architectural formation (Abel, 1997). Malay architecture with a distinctive formation, especially the curved roof shape and ornamentation around the building is a figure of a building with a strong identity. The development of Malay traditional architecture is not same with the present, but identity is still shown from the various ornaments displayed. Its development is now replaced by architecture that still refers to Malay but it is no one hundred percent same as in the past.

Vernacular architecture is an architecture that comes from local influences with a local touch but not

one hundred percent using tradition like the old traditional building. Malay architecture which is full of Islamic influence becomes the main theme of the study. The study of architectural morphology is intended to see how much the influence of this form on the development of the period. This research was conducted to find out the development of Malay architecture at this time in the surrounding area of Medan city and to find the morphology of this architectural development in order to know the change of its shape until now. While the benefits that can be taken is to understand the development of Malay architecture are useful to enrich the science of architecture.

In the development of research in the field of architecture, theoretical exploration is needed to draw the common thread of cultural development. The culture has a unified physical form and has ideas (Koentjaraningrat, 1990). The development of this culture is examined by the theory of form or morphology within the architecture. This theory explains that the form may change according to the circumstances that lie behind it.

Architectural morphology is related to the shape of the building. Traditional forms of architecture represent the meaning contained therein. This meaning at the present shifts into a meaning whose function as a container of daily activities. This shift of this meaning relates to changing times and changing the interests of society. The architectural form has an order (Krier, 2001). This form is the basic forms that have an arrangement that produces an expressive form.

The architectural form consists of regular, irregular or combined form of both. This form is also called the geometry and the shape of this geometry has elements in its form. These elements are dots, lines, planes and spaces (Ching, 2000). The existence of this element will color the shape of the overall architecture.

Malay Architecture is an architecture that has the shape of a typical stage house and roof shape. The development is not separated from the social conditions of society so that the current architecture is still in the form and shape of Malay architecture. Social cohesion is required to reinforce and strengthen the logging of cultures that support the development of architecture (Carrà, 2016). In the research process will be done the searching of Malay vernacular architecture existency in Medan City.

Vernacular architecture with Malay architecture is still found in the city of Medan. This architectural form like other traditional buildings, has a stage and the floor of the house which is above the ground. Physically, these traditional buildings use wood as its structure and construction. They have roof shape with certain types. There are several existing types; Type

of Long Ridge; Five Ridge; Silver Ridge and Pyramid Ridge (Yuan, 1987) (Figure 1).

There are also another 2 (two) types of roof that are Long Tipped Type and Elephant Sit Type. At the end of the roof there is a carving that serves as a roof covering. This roof shape type is to make easy for classifying and configuring based on its characteristics. In general, the form of sketch is square and there is a front porch inside it that serves to receive guests.

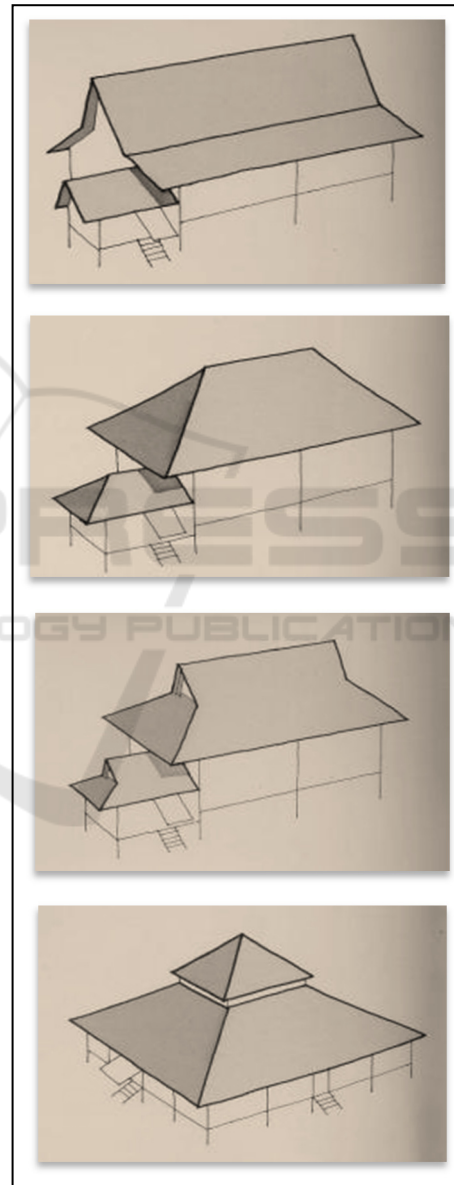


Figure 1: Malay Roof Types (Source: Yuan, 1987)

## 2 METHOD

The method used in this research is using qualitative-descriptive method (Sugiyono, 2009). Research carried out for one year, by looking at the phenomenon of existing vernacular architecture in the field. This method is considered effective because the facts which are contained in the field studied by an inductive approach (Moleong, 2004). Inductive analysis is used by collecting facts that exist in the field such data of literature and field data that come from some vernacular Malay architecture in Medan and its surroundings.

The vernacular architecture developed in Medan City and its surrounding is dominated by traditional Malay architecture. These developments have an impact on the existence of Malay architecture as a whole. The original view of this architecture is replaced by modifications in accordance with the times. This research tries to trace the development of morphology or form of Malay architecture to find its development process.

Things that are considered necessary to be raised and directly contribute to this research will be the main capital in conducting the research. For this research process is divided into 3 (three) stages:

### 2.1 Data Collection

This stage is the preparation stage and the survey phase with direct spaciousness to see architectural objects. Direct and indirect observation is a way of observing field conditions (Sudradjat, 2004). Primary data collection and to collect data in the form of architectural drawings of research objects which are Malay traditional houses in Medan. While the secondary data in the form of relevant photographs including the literature used for this study.

The criteria of the object of research is the house located in the city of Medan and its surroundings, the age of the house has reached +/-50 years or more, has a figure as Malay architecture with a stage and roof shape and ornaments typical of Malay and the house is in good condition and still done daily activities in it.

### 2.2 Data Compilation

At the compilation stage, the data have started to be compiled and sorted from the data that have been obtained and grouped to validate the data in accordance with historical facts. The data of Malay traditional house that has been collected and then

selected by its type of roof. The 6 (six) types of roofs show the difference to the overall shape of this Malay traditional building.

Literature review is done by using the theory of building morphology to study the form changes that occurred. The results of this literature review is the research variable as a reference in implementing it. In this variable there are also research indicators so that the research can focus on the variables used.

### 2.3 Data Analysis

Data analysis is the most important stage in this research because this stages will be studied by the theory used in research with case study in this research that is building which has characteristic of Malay traditional architecture.

Inductive analysis is done by collecting possibilities with field phenomena and drawing conclusions based on built theory. After this stage of analysis, conclusions and useful recommendations for the development of science in the field of architecture are drawn. This recommendation is an appeal to continue this research to a deeper level to assess the existence of the Malay Architecture as a whole.

From the results of literature review then to determine the morphology of the vernacular Malay architecture change is taken the research variables which are *building form* and *ornamentation*. This variable is studied with the theoretical approach about form, especially the geometry of the building and the theory of architectural transformation.

## 3 RESULT AND DISCUSSION

The results show that the overall shape of the building has changed to the traditional Malay building form. The thing that causes this change is the space requirement for the activity that causes the shape of the building change according to the desired needs.

Malay Architecture in its establishment always refers to 3 (three) things that are *Resam Customs*, *Islamic law* and *Local Climate*. Resam customs is a rule or good guidance to individuals or the general public so as to live harmoniously and respect nature. *Islamic Law* signifies that the Malay people generally adhere to the religion of Islam and daily activities related to Islam as a whole. The local climate indicates that the Malay people highly appreciate the existence of nature and construct buildings with actions that do not destroy nature (Pane, 2018).

The case study took 3 (three) buildings located in the area of Medan City and surrounding areas namely Malay House-Tanjung Pura, Malay House-Serdang Bedagai-1 and Malay House-Serdang Bedagai-2. In the first case study of Malay House-Tanjung Pura, fundamental changes seen under the building that changed into a car garage and there are rooms and bathrooms on the underside of the building. While the ornamentation in this building is still using Malay carved objects combined with glass windows (Figure 2).



Figure 2: Malay House-Tanjung Pura

In the second case study, the house was built with reference to Malay architecture which has poles with wooden material. Fundamental changes seen on the poles made of concrete which replaced by wood as a support of buildings, under the house is still maintained but there are rooms made under the building. Roof material has also been using zinc and no longer using fibers, the shape of the roof is a form

of saddle (long-ridge) extending from front to back. The window uses two leaves on the perimeter of the building while the door leaves do not use a wood which serves as a door barrier (Figure 3).



Figure 3: Malay House-Serdang Bedagai-1

For the third case study, the Malay house is in Serdang Bedagai-2, still in the style of the Malay Architecture. This house is about 70 years old and the condition of the house in some parts looks rotten and need revamping. Malay architectural features seen on the stairs made of brick and wood material as the support of the building which still looks solid. Some Malay ornaments are still clearly visible; one of them is above the door. Roof material has already used zinc and fascia board it still looks the form of Malay carving (Figure 4).



Figure 4: Malay House-Serdang Bedagai-2

## 4 CONCLUSION

The conclusion that can be drawn from this study is the unavoidable change of the times. The existence of Malay architecture is still preserved up to now but in different ways. Implementation into a house to live is different from the previous generation.

The use of materials becomes an alternative when the building is built and no longer used the material as it once was. The use of the verandas is still preserved nowadays; the most noticeable feature of the overall shape of the building is a veranda with a concrete ladder. Some ornaments are still used though as decoration but it leads to forms of Malay ornamentation.

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