

Negotiations of Vernacular Shapes and Materials of Talang Mamak Tribal Houses, East Sumatra, Indonesia.

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Abstract

The Talang Mamak tribe is one of the ethnic groups in Indonesia, which still maintains their traditional way of life. Vernacular houses of the Talang Mamak Tribe possess shapes, elements, and procedures derived from local materials and constructions. This paper describes how the characteristics of the form and use of materials that exist in the Talang Mamak houses today adapt and negotiate with the modern developments and the new knowledge from the outside world.

The research reported here used grounded theory, based on open coding, axial coding, and selective coding techniques, to find shapes adaptations and negotiations of materials used in the present day Talang Mamak houses. The paper presents the additions and subtractions of shapes and forms in the Talang Mamak houses. It demonstrates that the arrangement of rooms was according to their needs and local traditions. Moreover, the materials used in the Talang Mamak vernacular houses also changed, where the use of local materials such as bark adapted and negotiated into the use of boards, concrete, and renewable materials such as bark laminates with the intervention of advanced knowledge. The paper concludes that Talang Mamak people have negotiated with the modern world, the way they construct their houses to ensure that their traditions are not violated.

Keywords: Talang Mamak Tribe, Vernacular, Shape, Material, Negotiation.

Introduction

Vernacular architecture is identified as that which grows without the help of architects and is a way for local communities to adapt to their environments. If this method takes place repeatedly through teaching by word of mouth, it will become a tradition. Indigenous people who build vernacular architecture are creative communities. They learn from experience to build a building that can adapt to their environment.

The Talang Mamak tribe is a remote ethnic community and is classified as indigenous people in the Indragiri River. It is a group of isolated people who live remotely and traditionally in the upstream area of Indragiri River, in the province of Riau, Sumatra. Houses in the TalangMamak tribe can be categorized as vernacular, where the community uses local materials that originate from the forest where they live. Their houses are stilt houses with walls from barks, floors from bamboo, roofs from thatch or leaf barks and rattan as the binder of the house structure (Faisal and Wihardiyanto, 2014).

Recently however, the Talang Mamak houses have been transformed in terms of shapes and materials used because of the modern era. It is aggravated by the government interventions through assistance called 'Rumah Sehat Sederhana'. The use of materials, knowledge, and local

technology, which initially characterized the Talang Mamak houses have thus begun to change. Today, we can find new materials such as iron sheeting, nails, boards, and cement in the Talang Mamak houses. Government interventions add new knowledge to the community about building materials giving rise to shapes from the Talang Mamak houses becoming very diverse and increasingly complex.

One of the essential characteristics of the Talang Mamak houses is its shape, which is an indication of the identity of this community. These however are undergoing dramatic change. This paper will describe the negotiation and transformation of the shapes and materials of the houses as they occur today. However, government intervention and development of knowledge have not dissuaded or forced the community of Talang Mamak Tribe still maintains the configuration and function of the space. They still have the same sense of space even with different building materials.



Fig. 1: The Talang Mamak Houses
Source: Farli Sukanto, 2007

Theoretical Background:

Negotiation, Transformation, and Adaptation of Vernacular

Rapoport (1969) points out that vernacular architecture had developed from the architectural understanding, owned by local people with all kinds of traditional approaches. They optimize or utilize the building potentials in the local areas, such as materials, technologies and knowledge. Moreover, Oliver (1987) shows the basic concepts employed in vernacular architecture and rural settlements as types and processes, building from the ground, resources that grow, coping with the climate, living spaces, decorated dwellings, values, symbols, and meanings. Upton in Groth (1999) also re-assert that vernacular buildings although 'ugly ordinary buildings' do possess such characteristics. The meaning of 'plain' here has deep meanings. It is a simple mindset, low-cost budget, or built by a traditional group that uses eternal and unchanging local culture. Thus, vernacular architecture, which is the development of folk architecture can be seen as ecological, architectonic and natural as it refers to the conditions and climate potential, culture, society, and its surrounding.

Kotharkar and Deshpande (2012) stated that determining continuity in changes in traditional vernacular architecture from time to time is very important to maintain sustainability value in community. In line with Kotharkar and Deshpande (2012), Wahid (2012) states that modern technology is responsible for the erosion of traditional construction skills, based on sensitivity to the environment.

Literature: Talang Mamak People

The Talang Mamak Tribe is a group of isolated people who live remotely and traditionally in the upstream area of Indragiri River, in the province of Riau, Sumatra, Indonesia. There are subgroups called 'tribes' in the community of the Talang Mamak Tribe, divided into 'Tobo' and the smallest unit of the village is called 'Hinduk' or 'Perut' or also called 'Puak Anak'. Groups of their houses are called Banjar, which consist of several homes that the residents still have a consanguineous relationship with each other. The Talang Mamak people culturally

rotate and worship a king as a tradition. Their spiritual needs began to fade and they are generally autonomous in carrying out activities and formally resolving severe problems through the tribal chief.

Most of them still maintain their traditions and follow animism, which is called 'Orang Langkah Lama', but some residents are already embracing Islam and are therefore called 'Orang Langkah Baru' (Singleton, 1998). The Talang Mamak Tribe's knowledge of traditional medicine is extensive. According to a survey by the Biota Medica Expedition team in 1998, the Talang Mamak Tribe utilizes 110 species of medicinal plants to treat 56 types of diseases and identifies 22 types of medicinal fungus. In contrast, the Malay Tribe uses 182 species of medicinal plants to process 45 types of conditions and identifies eight types of medicinal mushrooms. Moreover, they also have ethno-botanical knowledge, and abilities to identify a variety of plants and animals.



Fig. 2: The Talang Mamak Children
Source: author

The TalangMamak people have many traditions which are part of the civic culture. They are Kelahiran, Gawai Gadang, Kumantan, Mendanau, and Kematian. Mendanau is a livelihood of the Talang Mamak people. Kelahiran is the birth ritual that consists of childbirth ceremony called Cuci Lantai helped by Kumantan (shaman), baby weighing ceremony, a tradition called Beranggul and Khinatan. Kumantan also led a service called Bulean, which is a ceremony of traditional medicine to treat illnesses. Gawai Gadang is a wedding ceremony that consists of Bertandang, Bertunangan, Hantaran, wedding, Sambung Ayam and closing. Moreover, Kematian is a death ceremony that includes of Menambak or Naik Tanah, Meratap or Merota, Hari Menuju, and Tambat Kubur (Mauludea et al., 2016).

Research Methodology: Morphology, Typology, and Negotiation

'Morfologi' comes from the word Morphology (English), which means shape (morph). According to the prevalent scientific dictionary, morphology is the study of form, its composition, and also its change. Morphology placed great emphasis on 'how' of architectural styles, and in the work of architecture, it is called 'formal articulation' where its boundaries determine the character of the form. Morphology involves figural quality in the context of shapes forming space that has read through patterns, hierarchies, and spatial relationships with one another (Schulz, 1980).

Zwicky (1969) says that morphology was once associated with the study of shape geometrically, material structure generally, and things that more abstract structural interrelation among phenomena, activity, concept and ideas. The study of morphology thus doesn't only see the physical changes in forms that occur, but more important is the recording of a series of processes of change and the reasons or meanings underlying the change. This change can describe a difference in ideas or meanings in history.

Studying morphology as described above is by looking and observing space and shape transformation from negotiation outcomes in architecture towards all changes in needs, lifestyles, availability of building materials and others. According to De Certeau (1984), it can explain how individuals fulfill their requirements of activities through a series of strategies and tactics. Bower

(2017) further explains that the negotiation process would lead to the fulfillment of new needs and identities, in which the identity architecture does not always indicate the existence of individual political interests, different from the arrangement of cities that are full of governmental affairs. Along with what has been expressed by Habraken (1988), humans communicate and control the environment through activities that require a spatial space as one of the stable fundamental benchmarks for conducting architectural studies, where is composed of 3 systems, namely spatial systems, physical systems, and stylistic systems. The spatial system in residence is related to a workspace, organizational space, and hierarchy space (Habraken, 1988). The spatial system can be seen through changes in three indicators; addition, reduction, and removal (Habraken, 1982), which can affect the layout and territory of spatial use. Therefore, it can be seen that one way to observe architectural transformations or negotiations is to identify typologies based on factors thought to underlie the alterations.

This study employed a qualitative descriptive method. Before going to the field, the researcher built background knowledge through primary and secondary information. The primary data was obtained through a field survey of the object (measurement, protraction, and re-modeling) and by interviews of actors within the scope of research activities. While secondary information was obtained by reviewing theories on vernacular architecture and traditional ethnic Talang Mamak as well as typo-morphology. After the primary data was received, using grounded theory to find variations of space in the Talang Mamak houses. Varieties were then grouped and interpreted with existing theories to see the characters and concepts of the Talang Mamak House, in the province of Riau, Sumatra.

For data collection, interviews and field observations were carried out. The representatives were made to understand the physical conditions and functions of the Talang Mamak houses as well as to describe the floor plans, elevations, and pieces of it. Photographs to picture the atmosphere and environment of the Talang Mamak houses to support technical drawings of the architecture mentioned above have been taken. After the observations were made, a structured in-depth interview with the owner or the user of the house was conducted. The discussion aimed to explore a spatial concept or basic idea of the Talang Mamak houses.





Fig. 3: Compilation of Study Objects: 50 Talang Mamak Houses in Talang Durian Cacar Village, Rakit Kulim, Inderagiri Hulu, Riau.

Source: author

Data analysis employed qualitative inductive analysis. First, typo-morphological architecture in spatial aspect based on the observations of the Talang Mamak houses were searched. Each object was then classified based on geometric variations as well the changes of additional functions in the building to find the spatial characteristics of the Talang Mamak houses.

Subsequent data analysis, characteristics emerging from the similarities, and variations that were shown in the rooms of the Talang Mamak houses were searched. For the data encoding, this method was utilized to reduce bias in the raw data as well as to simplify the findings of the categories that existed in the data (Corbin & Strauss, 1998).

Results and Discussion:

Shape and Room Negotiation Talang Mamak House

The Talang Mamak houses are categorized as vernacular, where the shape is generated from stilts to support, with walls from barks, floor from bamboo, roofs from thatch or leaf barks, and rattan as the binder of the house structure.



Fig. 4: Shape and Space Arrangement of the Talang Mamak House

Source: author

Talang Mamak House generally consists of one main building with a room that is open without any walls dividing the spaces inside. The public face has been divided into three parts; namely Haluan, Tengah, and Tampuan (Faisal and Wihardiyanto, 2014).

The construction of the Talang Mamak houses is called Managak Humah. In the process of Managak Humah, a ceremony is usually made, or known as the Palas Tawar. In the Palas Tawar process, various plants are used, such as Sitawar, Sidingin, Puleh, Bangun-bangun, and Sitajam plants, each of which has a different meaning.

All of those plants are prepared and spawned and then placed on the land where the houses are built. The process of Managak Humah involves cooperation, until the pillars and structure of the house has been built. Furthermore, this work is carried out by the owner of the house, who is assisted by relatives. The first pole to be erected was called Tiang Tuha and before planting the pole into the ground, coins are placed in the hole to be planted with this first pole. This is considered a source of fortune for the owner of the house. When the pillars have stood and the house has inhabited the poles are wrapped in leaves of tassel called Sirawai-rawai. That replaces the markers for occult things, and it is held and expected that mystical beings come to reside in the residence.

Tiang Tuha is a sacred pillar which only headman or a community leader may place. When the house stands built, all kinds of ceremonies are performed such as Begawai and so on. A Talang Mamak house functions not only as a residence, but also as a place to conduct traditional ceremonies, such as Begawai (wedding ceremony), Naik Tambak (death ceremony), Bedukun (medicinal ritual), and Cuci Lantai or Cuci Bidan (childbirth ceremony) (Faisal and Wihardiyanto, 2014).

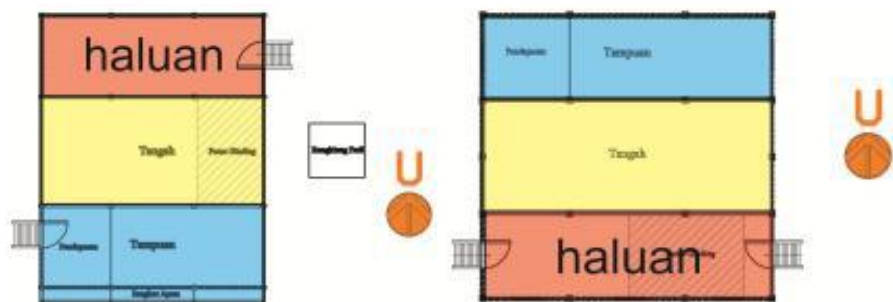


Fig. 5: Space Orientation of the Talang Mamak House
Source: author

The Talang Mamak houses are oriented to the road in laying out the Haluan room, which is made towards only the north or the south of the building. If the direction is in the northern part of the house, the position of the Haluan room will be on the north side. On the contrary, if the area of the road is on the south side, Haluan room will be in the south. Moreover, a Haluan room is always placed crosswise towards the direction of the building. Nevertheless, the orientation of the Talang Mamak house goes to sunrise called 'Matahari Hidup', due to their belief that sunrise is a source of goodness.

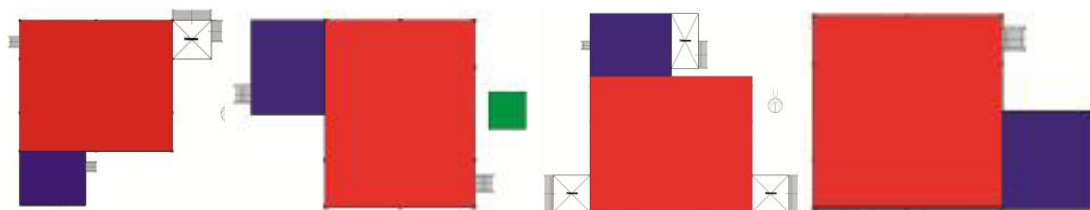


Fig. 6: Additions of Building Mass Pattern Marked with Blue Color
Source: author

The building mass in the Talang Mamak houses is always square or rectangular as a basic shape. It consists of Haluan, Tengah, and Tampuan room, as well as Pandapuran, which is located in the Tampuan room. Any additional building mass is also square and rectangular, consisting of a Pandapuran and Jungkar Ayam room. Such a building is related to the need for space, especially for a kitchen. We can see from the transformation patterns that the additional building mass is in all directions of the main building, in the north, south, west, and east—the kitchen beside the Tampuan room is valued as a place for women. Hence, negotiation of the need for space turned out not to violate the rules, because the additional mass was in the form of a kitchen room, which always increased the position of Tampuan room.



Fig. 7: An Additions of Building in a Talang Mamak House

Source: author

There is also a building located attached to or apart on the outside of the building called Barkas / Belubur / Rangkiang Padi. The building serves as a place to store rice and rice seeds.



Fig. 8: Barkas / Belubur / Rangkiang Padi.

Source: author

A *Rangkiang* is found only in houses whose owners have rice fields. Rice yields gained once a year are stored in Rangkiang for their needs during the next harvesting period. In homes which have Rangkiang, a Rangkiang is located in the front or the back of the building.

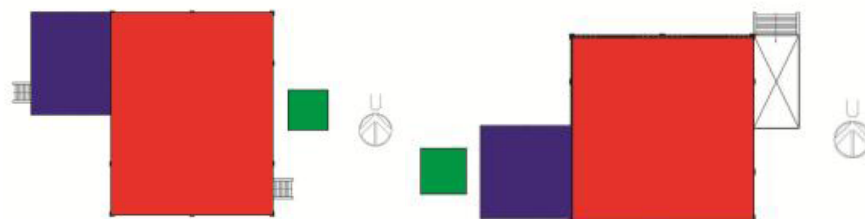


Fig. 9: Rangkiang Padi Placement Pattern Marked with Green Color

Source: author

Building Materials Negotiation and Transformation

The primary material in the construction of the Talang Mamak house is wood, which is used as pillars and the building structure. A substantial class of timber chosen such as Kulim, Kapinis, Meranti, Malabai, and Petaling. While the wall coverings come from bark, such as Tarap bark, Meranti bark, Ramih bark, and/or Durian Burung bark. The roof of the building is saddle-shaped, according to the tropical climate conditions with high rainfall. The roof cover is made of leaves, which uses Sikai leaves, Rumbia leaves, and Salak Klubi leaves (Figure 4).

The Talang Mamak people's knowledge about building materials has also developed since the development and exposure to information from outside. The wall coverings have changed; they have been adapted due to the difficulty of finding bark material because forests have been reduced. Moreover, they have been able to make boards with the technologies they have learned. It can be seen that the roof still has a leaf, although the house has a wall (Figure 7).

They began to replace roofs with iron sheeting because of its resistance to weather compared to leaf roofs, accompanied by the use of board walls. In addition to the use of wood, the local materials used is bamboo. It is used as a wall or floor. The use of bamboo materials as local materials also has begun to shift and adapt to the shape of the board.

The use of cement begins with the entry of housing assistance from the government. The housing assistance is a comfortable house that is not a stilt house-shaped, with walls and structure made of boards, but the floor and column structure is made of cement. The technology of cement has been brought by the craftsmen from the outside, through the exposure to government. They began to replace the house's pole material also into concrete castings, or just replace the swaddle into the concrete.



Fig. 10: The Housing Assistance from Government

Source: author

The housing assistance is board-walled houses with iron sheeting roofs, with cement floors. The Talang Mamak people began using cement to replace floors in the old houses and also when building new homes as a pole or Umpak. They eventually know that glue has better resistance. This material acceptance indicates that the Talang Mamak people are open to something new, albeit slowly.



Fig. 11: Concrete Utilization for Pillars and Umpaks

Source: author

The Talang Mamak house is a stilt house with poles made from wood, which are taken from the surrounding forests; durable wood as the foundation of the house. These poles are planted directly into the ground, and some use Sandi or Umpak. This change in Umpak material

is seen in the use of concrete for the Talang Mamak people. The material that forms the floor of the Talang Mamak house has changed to cement, as they previously used bamboo material that is chopped and developed into board. This process is also in line with changes in wall and roof material.



Fig. 12: Floor Materials Transformation from Bamboo, Board and Cement

Source: author

The bark is generally the main ingredient in building houses for the Talang Mamak people. They use various types of trees that have been taken as coverings for the walls of the houses, and the skin makes the tree, then processed into wall material (Frisda et al. 2016). In 2016, a study was carried out by Balai Litbang Perumahan Wilayah Medan on Lamination of Bark. Processed from the bark by the Talang Mamak people, they examined further and produced treatment by laminating the bark. Lamination of this bark has now become a new material, which is applied to the new Talang Mamak houses.



Fig. 13: Wall Lamination from Barks

Source: author

Architecture Negotiation of Symbols

The Talang Mamak people do not reject the development of knowledge, and they also do not receive it fully as given. Material changes related to the shape of the building, as well as interventions from the government and outside parties, do not make them protective. They still cling to customs and traditions. Transformation in spatial patterns that occur because of their needs and interventions do not mean they forget their culture. Instead, some things are negotiated.

In one of the houses of the Talang Mamak (Mr. Sarman's House), we will see the development of the existing space of the home. Transformation and additions of space do not make the house change culturally, but it means that some rooms are still maintained while some rooms are added.



Fig. 14: Mr. Sarman's House Transformation in 2013, 2015, and 2017.

Source: author

It is visible that there are additions to a room and building mass in the house (Figure 14). The addition of building mass began with one weight into two mass, and finally, two masses moved forward. The addition of mass and space does not occur arbitrarily. The pattern of an additional building (Figure 6) can increase in every direction. But when viewed from the arrangement of space, the addition of the mass is only in Tampuan, the addition of weight in the form of a kitchen will only occur on the Tampaun side (Figure 5).

These three rooms will always be in any Talang Mamak house, so they will be able to conduct various kinds of ceremonies using these three rooms. They have their own rules for the additions of room and mass. For instance, the additions can only be made on the Tampaun side because the Haluan room is a sacred space, a reception area, where customs and customary laws are decided, and a place for conducting several ceremonies.



Fig. 15: Space Pattern Transformation of Mr. Saman's House in 2013, 2015, and 2017.

Source: author

It was previously explained that the function of the Talang Mamak house is a place to conduct traditional ceremonies, such as Begawai, Naik Tambak, Berdukun, and Cuci Lantai or Cuci Bidan. This regular activity is carried out inside the house so that the house must have those three rooms, and the Haluan room becomes the main room. There is a Tiang Tuha in the direction of the Haluan, which is the central pole and was first made when building a house. This pole is not just a structure, but is also a symbol. The Tiang Tuha is where the headmen rest while sitting on leading the ritual, or where the head of the household receives guests. Only men can occupy this room.

When the intervention from the government came in as housing assistance, which is a house without stilts and with a cement floor (Figure 10), the Talang Mamak people negotiated with the intervention and still make Bandul or Bantalak in the house. Bandul or Bantalak is a space divider that is characterized by a kind of stitched wood or bamboo placed on the floor of the building (Faisal and Wihardiyanto, 2014). Besides, Tiang Tuha was also positioned on these buildings, so those customary activities could be carried out.



Fig. 16: Tiang Tuha as a Place to Leaning in Haluan Room which is divided by Bandul

Source: author

Other symbols found in the Haluan room and Tiang Tuha, which is a square mat with a size of 60x60 cm, serve as a seat mat. This pandanus mat has been found in all houses. However,

this can exist only in a home whose home owners have position or throne such as the headmen, who have the right to have the cloth as a seat rests.



Fig. 17: Pandanus Mat was the Tribal Chief Sit
Source: author

Besides rooms and materials, knowledge of the new architectural forms also affected complete changes in the Talang Mamak houses. There is Talataian, which is ventilation and also functions as a window. Talataian is not the one that extends along the walls of the house. These openings are only a piece of board in size or about 10 cm in height, and the width depends on the size of the wall and the board (Faisal and Wihardiyo, 2016). The Talataian, which was initially a small hole, turned into a rectangle, then turned into a window again, and now by recognizing the glass material, it also turned into a glass window.



Fig. 18: Talataian Hole-Shape, Talatian Square-Shape, Talatian made from Board, and Window
Source: author

The house is important for the social status of the Talang Mamak people. The house is a sign of well-being, a sign that a husband is responsible to his wife. It acts as a sign that the wife's life needs are guaranteed by her husband, in the presence of the house. According to the statements of the Talang Mamak people, "Utang laki-laki kepada bini, dicarikan lauk, dicarikan asam garam, dibuatkan uma, utang bini kepada laki digulaikan ikan, disendokan dan disajikan makanan, tikar dibentangkan, kelambu digayutkan" (Isjoni, 2005). In the phrase, it is stated that the husband's debt to the wife is to make a house.

Another statement from the Talang Mamak people is "lebih baik mati Anak, dari pada mati adat" (Islamuddin, 2014). The Talang Mamak people strongly attached tenaciously to their customs. They are willing to lose their families rather than lose their traditions. Customs have to be carried out well; where the house is, is where the customs are held.

Conclusion

Indigenous houses or vernacular houses along the east coast of Sumatra consist of 3 (three) rooms, which have almost the same function but are different in terms. The Talang

Mamak house consists of three rooms called Haluan, Tengah, and Tampuan. Additions of another room have tailored to the needs and capacity of the house owner, and it can be limited only to the room, or the addition of the building. Whatever form of negotiating space, shape, or material, the three rooms must remain. These three rooms indicate that the house is not only a place to live but is a place for ceremonies and the implementation of customs.

In addition to not changing the characteristics of the space, the changes that occurred at the Talang Mamak house also did not change the basic shape characteristics. This is because the Talang Mamak tribe still preserves an understanding of how to build houses handed down by ancestors. As for the characteristics of the shape of the Talang Mamak house is a simple stilt house that has many similarities with the vernacular dwellings of the Austronesian tribe, including a square base, stilt floor, gable roof, and a closed frame structure with tie construction. Changes that occur are limited to the use of new materials, due to technological developments.

Traditionally, the material used as a roof covering, is a leaf. However along with the development of knowledge and technology, some people use iron sheeting roofs in combination with a leaf roof. Wall material that was initially from bark and bamboo, have changed to board material. Besides, the window of the Talang Mamak house called Telataian, which was only a hole in the wall, to let the wind in and act as viewing area, has turned into a window with glass. The current pillar and umpak material have also changed from the stones and wood into PC (portland cement).



Fig. 19: Adaptation Category of Talang Mamak Dwelling
Source: Author

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