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Remembering the Malay Settlement: A Case of Rumah Tiang Dua Belas Kelantan

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Received: 1st May 2021

Final version received: 3rd July 2021

Abstract: Kelantan Malay traditional architecture reflects a greater level of expertise amongst Malay builders. However, the greatest of the magnificent architectural buildings have been destroyed and abandoned. The purpose of this research is to investigate the splendour of the formerly Rumah Tiang Dua Belas Kelantan. A linear historical line is drawn against the three selected houses through historical documents from KALAM UTM Measured Drawing. Several site visits, photographic techniques, and visual observations were used to evaluate whether or not the houses still exist. A visual analysis integrating repertory and a pictorial grid was developed to evaluate the Rumah Tiang Dua Belas Kelantan. Although there are some similarities in the space layout, the research reveals some discrepancies in other characteristics. The architectural information of Rumah Tiang Dua Belas gathered from this research will preserve inventory documentation for the future. The loss of traditional Kelantan architecture greatly impacts the community towards the resilience of Malay culture.

Keywords: *Kelantan traditional Malay architecture, Rumah Tiang Dua Belas, culture*

1. INTRODUCTION

The age of globalization produces new linkages in the emergence of building images over the years. Previous scholars have extensively discussed the issue of the image in preserving the local identity (Wahid et al., 2010). Local culture used to play an important role in Malay human settlement. However, how can the local culture be so effectively portrayed in one place? Foreign cultures have constantly challenged local architectural identities, and they have been succeeded. The people will accept an interesting image of the building facade. However, the loss of the image of Malay architecture had a serious

influence on Malay identity and culture. The resilience of culture is decreasing. Finally, global culture has manipulated the local architectural style and inject it with a character that has nothing to do with the Malay community. As an outcome, the existing Malay settlement area is incompatible with the Malay community's basic needs. According to Rapoport (1990), various cultures highlight culture through health, recreation, humanism, or material habitation. Many debates regarding human settlement have taken place over a long period, from Plato to Botero to the city of Utopia in our day. The subject of traditional Malay houses dealing in the demise of Malay settlements in Malaysia has attracted great

attention because many are destroyed and left unprotected. If left uncontrolled, architectural, historical, and cultural heritage will suffer extinction and disappearance over time (Abdullah et al., 2020). Traditional Malay houses are various types and forms found in Malaysia, especially on the peninsula (Nasir, 1989).

1.1. The Influence of Culture in Malay Settlement

The community also has a long-held belief in myth and cosmology in the concept of space's existence. The belief is due to Hinduism's influence in Malaysia before the Islamic era. According to Harman Shah & Wahid (2010), the significance of myth in traditional Malay houses is to act as a 'soul' or 'spirit' of the people associated with it. Mythology in developing countries should not be ignored. Furthermore, it may be seen in the various customs and beliefs that still exist in Malaysia. The Main Puteri, Menora, and Ulik Mayang, for example, are still present in the life of traditional East Coast communities (Matusky, 2020). Even the book *Tajul Muluk* is utilized as a reference in the custom of house construction, according to (Lubis et al., 2020; Abd Rashid & Che Amat, 2014). According to (Harman Shah & Wahid, 2010), mythological records explain why Banjar houses have lofty ceilings and elevated floors on different floors.

The architecture states that human solutions are being used to fulfil the concepts of respect for parents and gender differentiation of activity spaces. The environment and culture have a major influence on the construction of residential or traditional Malay society (Aziz et al., 2008). Before the solution is implemented, the selected solution site is subjected to various ideas and processes (Ani et al., 2012; Saad, 2001). As the number of houses increases, a group of settlements and ranks known as villages or 'villages' will arise. The connection between culture and nature resulted in a diversity of Malay village patterns. Malay culture is not solely concerned with customs and traditions. The identity distinguishes the community: its people are talented in many aspects of art, including boat making. They end up becoming involved in the construction of traditional Malay settlements as a consequence of these competencies. (Hosseini et al., 2012; Khairuddin et al., 2018)

2. THE RUMAH TIANG DUA BELAS

The subject of this research is the Rumah Tiang 12 Kelantan Malay traditional house. According to Omar Din & Abdullah (1997), the history and development of Kelantan Malay traditional houses began before the nineteenth century. There are four types of houses in this era: Rumah Tiang 12, Rumah Bujang Selasar, Rumah Bujang, and people's houses. Five types of houses appeared in the mid-nineteenth century. Meanwhile, around the turn of the twentieth century, numerous houses were influenced by foreign architecture, including the Rumah Perabung Pecah Lima, Rumah Potong Perak, and Rumah Bujang Rumah Tiang 12, which not only represents the previous glory of Malay craftsmen. However, the house possesses aesthetic value as a reflection of art and beauty. Aesthetic thinking refers to a concept of aesthetic evaluation based on our ability to describe the quality of the senses (Shuaib & Enoch, 2013). A Rumah Tiang 12 (Figure 1.0) or Rumah Bujang is a typology of house in Kelantan and Terengganu that belongs to the long-roofed residential group. The roof design is of the Long Roof style.



Figure 1.0: Rumah Meleh Hajjah Wan Mek 1880, Tumpat Kelantan (Source: Surat, 2020)

Simultaneously, the side walls are Tebar Layar, which have the same local motif characteristics and aesthetic value; however, they differ in name or pronunciation (Nasir, 1986). The Rumah Tiang 12's style is categorized based on the partition of house space. Most peoples houses are usually divided into two internal spaces. In contrast, aristocratic houses are divided into three interior spaces. As an outcome, the house contains three sections: Rumah Bujang, Rumah Bujang Selangsar, and Rumah Bujang Berserambi. Traditional Malay architecture in Kelantan is only one and also has a high aesthetic value. However, the most of

existing houses have been abandoned or destroyed. This devastation is caused by a variety of factors, including the pace of urbanization and natural calamities.

The Rumah Tiang Dua Belas is a twelve-pillared architectural form. In traditional terminology, these pillars are located in the living area, commonly known as the 'Rumah Ibu'. The house includes a gable roof or 'Tebar Layar'. In order to determine typology settlement, the design is constructed with two layers of roof. A fascia board featuring traditional characteristics is erected at the end of the roof. At the same time, the main material used for the house's construction is local timber such as 'Cengal'. The design is elevated from the ground level to protect the settlement from floods and safety purposes. Especially wildlife that could be in the surroundings of the settlement. The space also serves as a storage place for owners' boats, livestock, or other day-to-day activities. This passive and sustainable design minimizes the need for settlements that depend on the electrical power infrastructure. This settlement also operates with only natural lighting and ventilation. The majority are constructed without the use of nails. For jointing, always use high-quality 'tangam' construction. This settlement is considered one of Kelantan's most prestigious dwellings.

2.1. Space Planning

The layout of the 'Rumah Tiang Dua Belas' is not specific. The settlement, on the other side, is divided into seven main areas

- i. Rumah Ibu (Living Area)
- ii. Rumah Balai (Guest Living)
- iii. Rumah Serambi (Guest Room)
- iv. Rumah Dapur (Kitchen)
- v. Selasar (Uncover Passage)
- vi. Jemuran (Yard)
- vii. Telaga Langit (Airwell)

The term 'Rumah' refers to a small house constructed separately in the expressions 'Rumah Ibu', 'Rumah Balai', and 'Rumah Dapur'. The combination of these 'Rumah' is then connected to another room by an uncovered corridor or 'Selasar.' As an outcome, the 'Rumah Tiang Dua Belas' incorporates several small 'Rumah' into a compound (Figure 2.0)

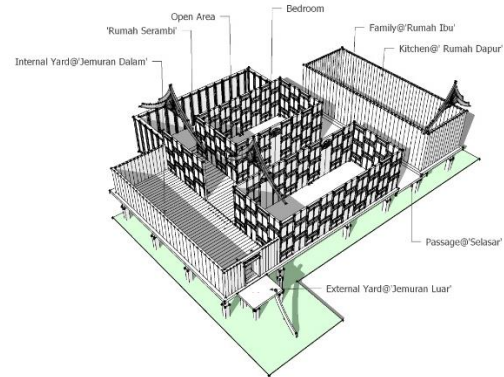


Figure 2.0: A space planning in 'Rumah Tiang Dua Belas'. (Source: Edited from Rumah Tradisional Melayu Kelantan, 1997)

2.1.1. Rumah Ibu (Family Area)

The core space in the design of the 'Rumah Tiang Dua Belas' is considered to be the family living space. This space has two layers of roof, offering it a prominent space in contrast to other spaces. The floor level varies as well. It is built higher than the rest of the space in the houses.

2.1.2. Rumah Balai (Guest Living)

This space is built adjacent to the living area. This area is known as a 'Rumah Serambi' in some areas. A 'Rumah Serambi' is typically a women's room containing walls. The passage element links this space to other spaces. Despite guest bedroom design, the structure comprises six main pillars and has only one roof. The size of the roof is smaller and lower than the living area.

2.1.3. Rumah Serambi (Family Living)

For women, Family Living is utilized. They perform household and daily activities such as weaving mats and weaving, among many other activities. The design is built without walls and is located next to the Family Area (Rumah Balai). The variation in floor level separates the two spaces. The ground floor is lower than the Family Area's floor level.

2.1.4. Ruang Dapur (Kitchen)

The kitchens were located at the back of the house and were connected to other areas by air well. The space is divided into two sections; one is for cooking and the other one for dining. Guests with similar social positions also utilize this

dining area. The dining area is located in the guest area for higher social status guests.

2.1.5. The Uncovered Passage (Selasar)

Elements that link the family area (Rumah Ibu) and the guest area (Rumah Balai). This non-roofed design serves as a natural catchment area as well. It also functions as the entrance to the kitchen. To prevent water from entering another area, the floor level is lower than in any other space. The majority of owners store catchment water for daily use.

2.1.6. Yard (Jemuran)

The yard (Jemuran) is an open space in front of the living room, which is not covered by a roof. It's split into two parts: the internal yard and the external yard. Outside the house, there are connections to the main staircase and the main entrance. The exterior yards are not surrounded by walls. Meanwhile, the interior yard is constructed by timber or bamboo walls in the living room.

2.1.7. Airwell (Telaga Langit)

The airwell (telaga langit) is a non-roofed space that captures rainwater from the kitchen area's roof. The external walls of the family room, living room, and kitchen are also used to construct the walls. A rear entrance connects to the kitchen area at the end of the airwell. It also provides the settlement's natural lighting and ventilation. This area is designed without roofs to allow for natural ventilation. The location next to the kitchen is also made to prevent smoke and odours out of the main area.

2.2. Roof Characteristics of Family Area (Rumah Ibu)

The main roof is two layers and incorporates connections on both the left and right sides. Because of the twelve pillar structures position supporting the roof at the bottom, the two-layer roof was constructed. The six main pillar structures support the entire rooftop load and are located in the family area. A batten on this roof is being used to install the 'Singgora' roof (Figure 3.0).

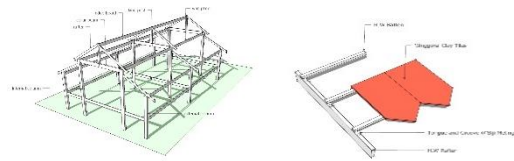


Figure 3.0: The main roof structure of the 'Rumah Tiang Dua Belas'.

2.3. The Hierarchy of Social Settlement

The 'Rumah Tiang Dua Belas' could only be owned by the royal family and were not owned by ordinary people. Thus, the house represents the social status of traditional administrations. With a two-layer roof design, the settlement has one of the most elegant architecture in Kelantan. Traditional builders' capabilities include construction practices that make use of the 'Tanggam' system. In terms of space organization, it represents the idea of hierarchy in a feudal society. According to Omar Din & Abdullah (1997), the builders' serves people on the highest level of the guest area or 'Rumah Balai' (Figure 4.0). This position corresponds to the status of those at the top of the government. While the lower hierarchy serves as a meeting place for different groups depending on social status. Meetings with ordinary people, for example, are only permissible in the Rumah Balai or Serambi Area.

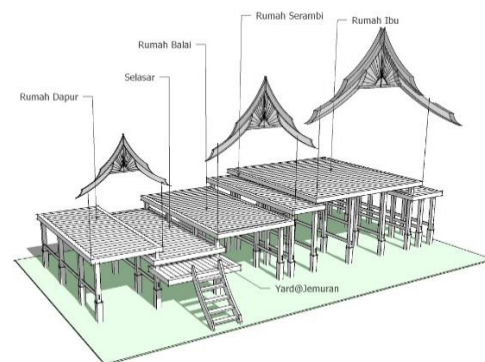


Figure 4.0: Floor level difference of 'Rumah Tiang Dua Belas'.

2.4. Architecture Element in Traditional Malay House

The Malay carving concept has a symbolic connection between nature and the Creator concept with an abstract approach. Repeated patterns are described as continuous worship and continuous human life from the realm of life to the

hereafter. A building built is not only needed for a better life. In addition to the functionality used, it should also have its aesthetic value. The role of carving is very important in shaping aesthetic value for the building. However, most Malay carvings can be seen in certain parts as follows:

- a. Papan Layang (papan pemeleh)
- b. Opening (jerejak, kerawang)
- c. Floor (papan cantik)
- d. External wall
- e. Internal wall
- f. Papan Kepala Cicak
- g. Papan Pator
- h. Papan Meleh'/ Fascia Board

2.4.1. Papan Layang (Papan Meleh)

The 'papan layang' or also known as 'papan meleh', is the part that covers the rafters. In Kelantan and Terengganu, this element is shaped like an Arabic letter (Lam-Alif). The board looks very significant as one of the main features of the traditional building, especially on the houses of the East Coast (Figure 5.0). The word 'pemeles' means 'penghias rumah' is addressed to the meaning of 'penghias rumah'. The board also serves as a home décor so that the home looks more attractive and has certain specific symbols such as a reverse 'Lam-Alif' letter which denies the nature of the creature which the homeowner and invites the "Almighty God". (Nakula, 2006).



Figure 5.0: The Pemeleh in abandoned Rumah Tiang Dua Belas Kelantan (Source: Abdullah, 2021)

2.4.2. Openings

Opening elements of the traditional building consist of several parts such as doors, windows and ventilation screens. This element is designed to meet the physical and physiological requirements—openings to provide good lighting and ventilation to homeowners so they are always comfortable. Similarly, the window element is intended for airflow into the house while providing exterior views. Ventilation screens used at the top of the doors and windows are usually

made wider from one space to another in order to allow airflow into the building. This part is more noticeable when viewed from the inside and outside the building (Figure 6.0)



Figure 6.0: The opening in Kelantan traditional house (Source: Abdullah, 2021)

2.4.3. Papan Cantik and Bendul for the Floor

The boards covering the floor jointing are known as a 'papan cantik', where this element adds beautiful jointing to the floor level. This part is also part of the transition from the space structure to the bottom, which is considered the final structure of a building. The boards higher from the eye-level surround the building to provide final finishes to buildings from the north. For buildings such as in Kelantan and Terengganu, most of the use of the 'bendul' is a semi-circular carved wood to cover the connection between the floor and the wall (Figure 7.0)



Figure 7.0: The 'Bendul' in Kelantan traditional house (Source: Abdullah, 2021)

2.4.4. The Wall

The interior and exterior walls of the building usually use high-quality carving, as is seen by the owner. The quality of the carving depends on the status of the owner in society. Owners who have a high position usually use high quality and fine carvings according to their social status (Zulkifli Hanafi, 2007). The walls of this carving are called the 'Janda Berhias' (Figure 8.0). There is also a decorated 'Janda Berhias' equipped with plant-based carving (Nakula, 2006)



Figure 8.0: The Janda Berhias wall in abandoned Kelantan traditional house
(Source: Abdullah, 2021)

3. METHODOLOGY

This study aims to determine the elements and functions of traditional Malay architecture Kelantan. The elements consist of Pemeleh, Tebar Layar, Gunungan, Ekor Itik, Tunjuk Langit, Buah Buton, Dinding Janda Berhias, Dinding Janda Ria, Dinding Kajang Sebidang, Dinding Kelarai, Bendul, Tetupai, and Pintu Gerbang. The study was also conducted on several house parts that had carved motifs such as door leaves, window leaves, handrails, ventilation screen, and staircase. This study analyzes the architectural elements in the traditional architecture of the three Rumah Tiang 12 Kelantan. This constructivist research was conducted through historical document analysis and archival involved visual analysis on the technical drawings of traditional Rumah Tiang 12 Kelantan. The analysis aims to identify and determine their visual attributes, including (1) layout and orientation of houses and (2) elemental and structural components of the houses.

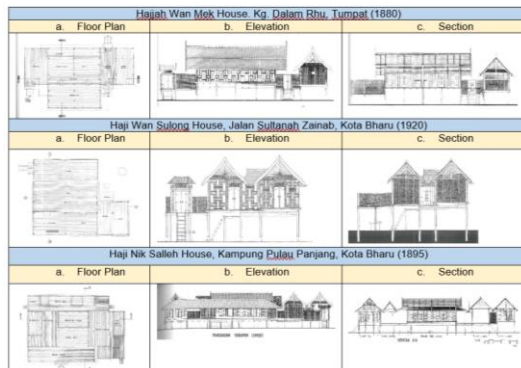
The drawings and related documents of selected 3 Kelantan houses studies are Hajjah Wan Mek House in Kampung Dalam Rhu, Tumpat, Wan Sulong House, located at Jalan Sultanah Zainab, Kota Bharu, and lastly Haji Nik Salleh House in Kampung Pulau Panjang, Kota Bharu were obtained from the Centre Study of Built Environment in the Malay World (KALAM) at the Department of Architecture in the Universiti Teknologi Malaysia. The houses existed in the periods between the 1800s to 1920s. The analysis examines the linear historical lines through the Rumah Tiang 12. Currently, these houses were all destroyed due to the pace of urbanization. The repertory grid and the pictorial grid on the documented material are performed. Finally, one-on-one informal interviews with active Conservators were conducted in February 2021.

4. ANALYSIS

Table 1.0 (a) shows the floor plan of the Rumah Tiang Dua Belas or also known as Rumah Perabung Panjang Berpeleh or Rumah Meleh (interview with Conservator, Azzaha Ibrahim on 27th December 2020). The analysis found that all the space arrangements in these houses have the same similarities with Rumah Ibu, Rumah Bujang, Rumah Dapur, Anjung (also known as Balai and Lahar), Selangsar or Serambi, Anak Kelung or Telaga Langit and also Jemuran or Lantai Basah. The construction of these houses is made of Cengal wood. According to Azzaha Ibrahim, there are also houses that use Nibong as a wood finish for the drying space. The construction method is done by installing Nibong wood according to a certain distance to make it easier for rainwater to come out. The layout of the rooms in the traditional Malay Kelantan house has its hierarchy. Rumah Ibu for the use of the head of the family or a married person. Later, the Rumah Bujang is used for girls, while the single boys sleep in the Anjung or Serambi space.

The Rumah Dapur serves as a place to cook. Instead, the Anjung serves as a place to entertain guests. Selangsar or Serambi space is a space that does not have walls. Its position is to entertain guests and a place of celebration or prayer. This space is also used as an area for women to sew, weave and do other daily activities. Telaga Langit or Anak Kelung is the space between the Rumah Ibu and the Rumah Dapur as a passage space and a place of preparation for feasts and cooperation. The function of this space is as a place to store water. Jemuran or Lantai Basah is attached to the main entrance. This space is also used as a place for drying materials such as rice, fish, etc. The analysis of the diagram above (Refer Table 1.0b and 1.0c) shows an elevation and section of the height of a twelve-pillar house. The analysis found that the main material of the house is Cengal wood. The Janda Berhias wall is on the front and sides of the Rumah Ibu and the Rumah Bujang. There is also a carving of Tebuk Tembus Bersilat on the wall. The use of the Kajang Sebidang Wall or the Kelarai Wall was implemented, especially in the Rumah Dapur and Telaga Langit or Anak Kelung. All three houses use the Singgora roof as a roof finish. The case study also found that all places have Pemeleh and Tebar Layar.

Table 1.0: Floor Plan, Elevation and Section Drawing on Rumah Tiang Dua Belas, Kelantan.



(Source: Measured Drawing KALAM, UTM)

Table 2.0: Schedule of Comparison on the architectural element in Rumah Tiang Dua Belas, Kelantan

Rumah Tiang Dua Belas, Kelantan					
No	Architectural Element	House A (Measured Drawing KALAM, UTM 1981)	House B (Measured Drawing KALAM, UTM 1997/1998)	House C (Measured Drawing KALAM, UTM 1976)	Total
1	Pemeleh	✓	✓	✓	3
2	Tebar Layar	✓	✓	✓	3
3	Gunungan	✓	✓	✓	3
4	Tingkap Labuh	X	✓	✓	2
5	Dinding Janda Berhias	✓	✓	✓	3
6	Dinding Janda Ria	✓	✓	✓	3
7	Dinding Kajang Sebidang	✓	X	X	1
8	Dinding Kelarai	✓	X	X	3
9	Pintu Gerbang (Gateway)	✓	✓	✓	3
10	Bendul	✓	✓	✓	3
11	Tetupai	✓	X	X	1
12	Tunjuk Langit	✓	✓	✓	3
13	Buah Buton	✓	✓	X	2
14	Ekor Itik	X	✓	X	1
	Total	12	12	10	

Note: ✓ = functional space, X = non-functional space

Table 2.0 shows the architectural elements for the three houses that have Pemeleh. The study also found that Tebar Layar is found in Houses A, B, and C. In addition, the analysis found that Gunungan is found in Houses A, B, and C. Long Windows are only found in Houses B and C, which serve as an element of beauty, scenery, maximum ventilation, and lighting. In House A, there is the Dinding Kajang Sebidang, which is the wall behind the house. Its height is up to half a pillar, and the top of it is the woodcarving panel of Awan Larat motif. There are three types of Dinding Kelarai, namely Kelarai Sesiku Keluang, Kelarai Buluh Pelupuh, and Kelarai Loseng Sasak at Rumah Dapur in House A, B, and C. In House A, B and C, a Gateway construction connects to the Ruang Jemuran. All Houses A, B, and C analyses had Bendul finishing at the end of the floor. Tetupai is only available in House A, where its function is to support Bendul and the floor frame. The analysis found that all Houses A, B, and C had Tunjuk Langit. There is a decorated

Tunjuk Langit structure to add beauty. Houses A and B have Buah Buton on the left and right of the Gateway. There is an Ekor Itik element for House B located at the end of the roof in the Rumah Dapur. The roof type of Rumah Dapur is the Limas Roof Style.

This research found that not all Rumah Tiang Dua Belas Kelantan have Telaga Langit and Selasar. The results of the study also found that House A did not have a Long Window. The research finding noticed that Houses B and C do not have Kajang Sebidang Walls. In addition, Houses A and C do not have Ekor Itik as they do not have a Limas Roof on the roof design. All space layouts had a similar space label. This space includes Rumah Ibu, Rumah Bujang, Rumah Dapur, Anjung / Balai / Lahar, Selangsar / Serambi, Anak Kelung / Telaga Langit, dan juga Jemuran / Lantai Basah. While the main material used is also the same material, namely Cengal wood. The study also found that the Gateway was placed at the main entrance as a sense of welcoming. While the number of steps is made based on an odd number, which is five steps.

5. DISCUSSION AND CONCLUSION

Rumah Tiang Dua Belas witness the magnificence of Malay carpentry. Malay society has been able to construct a great settlement using their skills. From humble beginnings, carpenter skills were finally mastered to an impressive level. Unfortunately, the architecture of Rumah Tiang Dua Belas has now been destroyed. Building maintenance is difficult to carry out due to the use of Cengal wood as a building material. The same may happen with Singgora roofing material. Singgora roof production is also suffering a decrease in public demand. We know that the Malay community does not only build their houses as residential structures. In reality, the house is a symbol of the locals' pride.

The architecture of the Rumah Tiang Dua Belas, and from the other part, has been forgotten. Remembering the glory of the past just wouldn't help bring back the image of Kelantan traditional architecture. The pace of urbanization has now taken over the skills of Malay craftsmanship. The dilemma is whether Kelantan's architecture will be capable of meeting the pressures of Industry Revolution 4.0. The pace of urbanization spreading around the world has a strong influence on developing countries. The same is applicable

for Kelantan. Do we want to respond to every future challenge while preserving nostalgia for the glory of the past? How far are efforts being made to build resilience in Kelantan traditional architecture? According to observations, most of Kelantan's traditional architecture has been destroyed. Only a few buildings survive in deplorable conditions (Figure 9.0).



Figure 9.0: Traditional Kelantan house in poor condition (Source: Abdullah, 2020)

Whether we noticed it or not, urbanization has absorbed the value of Kelantan traditional architecture. However, the desire to conserve Kelantan's architecture has failed in the past. Due to building conservation awareness and house ownership among family members who have passed away, the community's awareness of traditional building conservation has not responded positively. Due to these issues and natural calamities like floods and fires, most of Kelantan's traditional houses were eventually destroyed. In another view, building conservation is seen as a means of conserving Kelantan's architecture as a tool for the museumification of traditional architecture.

Consequently, it has become an artefact to be visited by minority groups of people who have appreciated traditional architecture. At the same time, the neighbouring communities remain underdeveloped, forcing them to migrate to the metropolis. As a result, the challenge of traditional building conservation is not attractive and beneficial to their lives. Therefore, a deliberate effort must be made to conserve Kelantan's traditional architecture. Concurrently, neighbourhoods and the Malay community should be conserved.

The goal is to preserve traditional architecture while also collaborating with the Malay community to continue expanding traditional carpentry skills through technology and socio-economic development for Malay settlements. However, the future of Kelantan's traditional culture and architecture is now jeopardized unless action is taken to address the concerns highlighted.

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