

The Islamic Influence in The Architectural Design of Rumah Gadang

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Abstract. Islam brings upon harmony and peace to humanity. From an architectural perspective, harmony is valued based on how a space designed to bring comfort, peace and protection to the occupants. A comfortable home is a necessity. The design of a house has to plan by taking into consideration the physical factors, environment and the major needs of the occupants. Unfortunately, nowadays the design of the modern Malay houses has neglected the factor of harmony. The design of the modern Malay houses no longer takes into consideration factors such as climate, the Malay culture, religious restrictions and the comfort of the occupants. This has consequently produced designs of buildings, which are not conducive to be occupants. The solution to this problem is the Malay heritage architecture. This research will look into the benefits of the Malay architecture, specifically the Minangkabau architecture in Negeri Sembilan. The main advantage of the Minangkabau architecture is the ability of the craftsmen in understanding the needs of the environment while designing the houses. The living culture that is Islamic based has blended well among the Malays and the craftsmen have successfully materialised it in designing the Malay houses. Generally, the Minangkabau architecture clearly follows the Islamic concept in providing harmony and comfort to the occupants. This research attempts to see how the Minangkabau architecture has practically applied the Islamic concept in the modern Malay houses to build harmony and comfortable houses in terms of ventilation, the usage of natural sunlight, the design of nature-friendly space and the usage of space to preserve the tradition and culture, which based on Islam. Research carried out by making comparisons between modern Malay architecture and Minangkabau heritage architecture in relation to the concept of harmony in Islam. The finding of the research become as guidelines in designing houses in Malaysia to provide harmony and comfort to the occupants.

Keywords: architecture, minangkabau heritage, islamic concept, harmony, comfort.

1. Introduction

Architecture is an art, which has a direct relationship with the arrangement of a certain space. Based on the Islamic concept, architecture aims at placing fellow humans to face Allah SWT by showing an arranged and well-designed space, which is applicable to various theories of architecture. There are many explanations in the Al-Quran about the meaning of architecture. The main foundation of architecture is harmony. In the Al-Quran, there are many explanations about the meaning of harmony. Harmony can be defined as tranquil, calm and undisturbed [1]. It therefore means safe, prosperous and peaceful. According to the Islamic concept, harmony is a condition that could fulfil humans' basic needs such as clothes, food and shelter and would improve the quality of life of an individual.

2. Issues and Problems

A home is one of the basic physical structures in the life of every society. Possessing a comfortable home is one of the humans' rights. A house is a fundamental need that possessed by everyone to provide shelter and personal dwellings. If we carefully observe, a house does not merely serve as a place for humans to seek shelter but a platform that moulds a human's life. As civilization progresses, the functions and designs of houses change according to modernization. To provide a nature-friendly home is to plan a holistic development. The awareness towards need requirements such as comfort, environment, individual's and society's needs took into consideration in designing a harmonious home. The building well planned by taking into account the physical structure, environment and the occupants in order to achieve a harmonious life.



3. Local Climate Factor

Malaysia is an equatorial country that experiences the tropical rainforest climate. Generally, there is no extreme hot or cold season like summer or winter. On the other hand, the climate is hot and humid throughout the year with heavy rain almost every evening. The common practice today in Malaysia is, the architecture is inclined towards certain styles or trends without proper guidelines and this has consequently resulted in the act of designing houses while neglecting local weather conditions and therefore houses do not match the local climate [2]. Due to this high humidity, hot air transfer rate is low.

This has subsequently increased the growth of mould inside and outside the buildings and henceforth brings adverse effects in the air quality in the building and will affect the occupant's health. The designs of roofs that do not consider the weather as a factor has caused excessive scorching sunlight into the interior of houses. Due to this, the usage of air conditioners is at the maximum level to ensure comfort to the occupants. This consequently increases the household expenses. Tun Dr Mahathir former prime minister of Malaysia told the ignorance towards the significance of the climate factor in the design process. He mentioned that the frequent heavy downpour in Malaysia does not suit the flat roof that used in the United States of America and Europe, without proper research on it. Therefore, leakage is a common problem in buildings in Malaysia. Another factor that neglected is the sprinkling of rain into the buildings. Glass and aluminium windows allow the rain to enter and wet the curtains and carpets [3].

4. Natural Ventilation

High air humidity and bright sunlight causes excessive sweating and skin discomfort. Air circulation could reduce the discomfort and speed up the evaporation process. Sufficient airflow needed to provide comfort. This process proves to be effective in providing comfort besides reducing the temperature. However to obtain the temperature that could provide comfort naturally is not easy without the help of mechanical appliances such the air-conditioners because the cross ventilation concept has been ignored in the modern house design nowadays. The effect of ignoring it has caused houses to be warm and uncomfortable to live in. The occupants would sweat easily despite switching on the fans at full speed. Not everyone is lucky to own a comfortable house [4]. The main factor that causes discomfort is the ventilation and the interior design of the house. Modern house designers try to provide comfort to the occupants by using fans and air-conditioners. However, the usage of air-conditioners would increase the electricity bills and would burden the low-income occupants even though the usage of air-conditioners is inevitable to provide comfort.

5. The Culture of The Society

Culture is an aspect that has vanished from the modern house design nowadays. For example, the Malays sit on the floor to have their meals. This requires a design for a spacious kitchen. However according to [5], kitchens in the modern house design are small and situated in the middle of the house, similar to those in the European countries. Tajuddin [5] also questions the problems that would arise when the Malays have to conduct feasts for wedding reception, 'marhaban' and circumcision that would involve a big crowd that consists of family members and other members of the society. The area to perform funeral rites neglected in designing modern houses [5]. Furthermore the design of the modern Malay houses no longer emphasizes on the custom and the tradition of the Malay society that passed down by the descendants. For example, there is a clear difference between the Malays and the Chinese ways of having their meals and the westerners are not bare-footed when they walk in their houses as if we do. The difference in the lifestyle reflects the culture of the Malays. Unfortunately, this no longer been observed in designing modern Malay houses. The design of the kitchen is a very good example to prove this. Traditionally, the kitchens in Malay houses situated at the back of the house. Currently, the houses somehow reflect the western society. If we observe the kitchens in the United States and United Kingdom, they are very different from ours, culturally. In a modern house, a kitchen situated in the middle of the house instead of at the back. The size is also small. It could only accommodate one person to cook with the state-of-the-art built-in equipment. A kitchen that situated in the middle of the house does not allow privacy for the guests. It also does not permit socializing with the neighbours neither it provides space for feasts to be carried out. A wet area for laundry work not provided and therefore the small kitchen has to be crammed for this purpose too. Islam encourages families who organize 'marhaban', circumcision and wedding feasts to invite the local people to celebrate it together so that it becomes merrier and therefore a spacious living room is required whereas a living room in a modern Malay house could only

accommodate a set of sofa and a television. Similarly, it is not possible to carry out funeral rites where the deceased has to be bathed, shrouded and prayed by his family members or neighbours in that small area. All these rites are part of the prophet's 'sunnah' whereby our beloved prophet was bathed and prayed at the place he passed away, in the room of Ummul Mukminin Sayadatina Aisyah r.a. Not all these are possible to be carrying out in a modern Malay house and this shows that the occupants cannot achieve harmony even after spending so much of money in buying their dream house. It is such a waste having a beautiful house but it is not comfortable and not conducive to live in. In other words, the occupants hindered from interacting actively and doing daily chores efficiently and therefore disrupts a good quality of life that would disrupt harmony continuously.

5.1. A Minangkabau House Brings Harmony to The Occupants

The answer to the problems that were mentioned earlier is the Minangkabau Heritage design, which is the best example whereby the craftsmen in the olden days understood the needs of the environment when they were designing the houses. For instance is the way of life of the Malays and their openness. According to Rappoport [6], there are three theories about the effects of the physical environment to human beings. The theories are *environmental determinism*, *environmental possibilism* and *environmental probabilism*. Even though they are different in terms of certainty, all the theories agreed that physical environment could bring about positive effects to social environment.

Therefore, the best way to achieve an ideal social environment is by creating a suitable physical environment [7]. This is because the designs created by the Malays had taken into consideration the relationship between human beings and the design world. In other words, the design world created by human beings could influence the life of the occupants. Churchill [8] has concluded that 'we shape our buildings, thereafter they shape us.' Similarly, Rene Dobos [9] stated, "*man shapes himself through decisions that shape his environment*". Hasan Fathy [10], a famous architect in Egypt compared this cause and effect relationship with the example of a snail and its shell (house). A snail produces limestone substance that hardens and turns into its shell (house) and conversely the shell forms the shape of the snail and determines the shape of the snail. It is clear that heritage architecture could play an important role or at least has a contribution in the process of creating a harmonious life. Human factor that portrayed by the olden Malays in designing their houses is obviously not an issue and should not be neglected.

For example, even though the Malays are going through changes in terms of the way of thinking, clothing and daily lifestyle compared to their ancestors, some necessities and important aspects in the value of life in their lives remain the same. If their ancestors required a comfortable life, today's society also long for the same quality of life [11]. The Minangkabau heritage architecture is the only one that could provide a good example in terms of technical materials, concept and social concept. The design of a Minangkabau house is the result of the influence of their daily lifestyle, beliefs, culture, history, environment and the usage of local materials [12]. The environment connected with the geographical structure of the earth or its topology is part of the elements that influenced the earlier designs. Every existing building is inseparable from the elements of the nature of its foundation and topography. This explains the Islamic concept that found in the heritage architecture, as Allah SWT mentioned: "*and it simplifies to your advantage and convenience, whatever that exists in the sky and on earth (as a blessing) from Him.*" (Al-Jathiah; 13)

The Minangkabau architecture is an excellent domestic design towards a hot and humid climate that consists of design elements that allow passive entry of sunlight, provide sufficient shades, many openings for good air ventilation, an open interior, with pillars, high ceilings and the usage of light materials that does not absorb heat. A heritage house applies the design of 'rumah berpanggung' or pillared houses, 'berkolong' whereby the floor is raised from the ground which is a way to reduce moisture from the soil and to allow good ventilation [13]. The construction of an open veranda and longish eaves is a good control towards sunlight and glare of the sun. This design could be adapted in the design and construction of present modern houses. The open concept could still be adapted in modern houses by constructing a veranda or this element used to replace a living room. Although modern houses are designed using modern materials, the open concept applied. In modern houses, the modern effect portrayed in the usage of new building materials such as concrete, glass, aluminium etc. A traditional touch still injected with the use of traditionally carved wooden elements. Building a house in a tropical country can be done well by understanding and observing the environment. Which is influenced by natural factors such as sufficient flow and transfer of air, the usage of natural lighting, the usage of rainfall, minimizing sunlight and sprinkling of rain into the house, a design that allows energy saving and the usage of nature-friendly materials. One of the characters of a Minangkabau- designed house is the

appreciation of community and family relations that is encouraged in Islam. The veranda with its open concept, allows the occupants to welcome guests into the house at any time. The structure applies the perforated- punch system and wooden stakes which does not require nails. The construction of Minangkabau architecture is actually a prefabrication whereby the house dismantled and re-built. Besides that, the nail-free structure makes the house more flexible that it lifted and transferred to another place. In general, this house is made of wood and pillared. The walls made of wood or weaved bamboo and the roofs are made of 'nipah' or wood. These materials contribute to the close relationship between the house and nature. Therefore, the house looks fresh and welcoming. Usually the windows dominate every corner of the house. Consequently provides good ventilation in the house. The interior is spacious and open with minimum separating walls. The style of the building closely related to their lifestyle, economy, climate etc. All these factors contribute to the creation of a harmonious home to live in.

5.2. The Concept of Minangkabau Heritage Architecture in The Design of The House

If we observe carefully, the Malay culture is beautifully arranged parallel with the Concept of Islam and the Sunnah of Prophet Muhammad SAW, especially in architecture. Our ancestors had successfully built their houses based on the Islamic concept. This shows that the Malays were the experts in producing harmonious houses for their occupants. The important role of the humanity factor in moulding a harmonious life saw in the olden day's architecture. The creation of every space and the architectural details noticeably reveals the close relationship with the occupants' harmonious life. However, why is the legacy of the beautiful and well-planned architectural heritage being neglect and rejected? Instead, it is replace by an architecture that is copied from other countries which does not have the element of harmony for people to live in. Hence, it would be wonderful if this architectural heritage practised in designing modern houses at present. This does not mean that it has to be 100% exactly like the ones they had in the olden days because some people may think that it is not suitable with our current situation. What it means here is, the adaptation of the approach could be applied while designing modern houses such as how the design of the traditional house encourages good ventilation, usage of natural light, energy-saving design, usage of nature-friendly materials, usage of space and preserving the tradition and culture to ensure that the occupants could live in harmony. We should be proud of our architectural heritage as it is one of the best in the world to achieve a harmonious life in almost all aspects of the elements. Therefore, if we preserve this architecture, the comfort and harmony of the occupants preserved compared to what being experienced in modern houses these days.

6. Conclusions

Since Islam is a yardstick towards harmony, disobeying it results in destroying one's own harmony and inviting misfortune. That is why today's architecture no longer provides comfort and becomes a choice because architects fail to follow the concept of harmony in Islam. As a whole, the heritage of architecture belongs to the Malays as it clearly follows the Islamic concept to achieve harmony as Allah SWT mentioned "*and it simplifies to your advantage and convenience, whatever that exists in the sky and on earth (as a blessing) from Him.*" (*Al-Jathiah; 13*). It hoped that a spark of ideas could start the transfer of knowledge especially about things that is relate to the Malay architectural heritage and improve the development of the usage of vernacular materials as an alternative to outside construction materials. This is the only way to improve towards producing high quality Malay architectural heritage identity and subsequently propose an approach or a set of guidelines in the design of houses so that they are comfortable and harmony to live in by Malaysians.

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