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CONNECTIVITY to MALAY HERITAGE

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ABSTRACT

A multi-disciplinary team of lecturers and students from various departments of the Kulliyah of Architecture and Environmental Design (KAED), International Islamic University Malaysia (IIUM) Gombak was given a project to conduct a study and proposed a masterplan to promote the Malay Enclave Teaching Lab (METL). The masterplan should comprise of 4 plots for the Cultural and Natural Heritage Living Laboratory (GCHL). The project aims to ensure that the laboratory offers plenty of learning opportunities for the future generation in appreciating Gombak Cultural Heritage through its surrounding, facilities and activities within site. The Malays have always been known for its unique traditional Malay houses. Each of the houses' architectural design and features vary according to each state in Malaysia. Despite the differences, these houses share the same basic characteristics and its underlying principles. The objectives of the project are, firstly to review and understand the architectural elements of traditional Malay houses and heritage in Malaysia; and secondly to propose the different types of the gazebo on the site. Methods of data collection for this project uses a qualitative approach through content analysis and case studies method by literature review on traditional Malay houses in Malaysia. The analysis is done on five of the traditional Malay houses of Johor, Kelantan, Terengganu, Pahang and Kedah. The outcome of the project study highlighted connectivity and similarities among traditional Malay houses from the five different states through architectural design, materials and features, including outdoor spaces structures such as wakaf. In conclusion, the end products are manifested in the forms of gazebo built in each plot with other street furniture (bench, table, streetlight, dustbin and signage) showing its connectivity to one another. This project covers works from masterplanning, design of the gazebo and other facilities from the inception to working drawings.

Keywords: *Malay Heritage, Traditional Malay Houses, Architecture, Culture*

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INTRODUCTION

According to Franchi (2014), "heritage" is a property, something that is inherited, passed down from previous generations. She further mentioned in the case of "cultural heritage," the heritage doesn't consist of money or property, but of culture, values and traditions. It also creates an identity that represents one's unique character, differentiating it from anything else. Culture and its heritage reflect and shape values, beliefs, and aspirations, thereby defining a people's national identity (AMF, 2014). Thus, it is very important for the preservation and conservation of nations' cultural heritage as it keeps its integrity to be transmitted through it from one generation to the next. In relation to architecture, Gottman (1978) outlined two aspects to be considered, which is tangible and intangible aspects. The tangible aspect refers to 'hardware' elements such as building and landscape, and intangible aspect refers to 'software' elements such as social pattern, activity, culture (Gottman, 1978). Thus, the combination of both concepts (time and heritage) creates an environment that reflects the 'genius loci' or spirit of place that can be felt by users. In the Islamic world view, Muslims are encouraged to design and shape the earth sustainably for future generation with the incorporation of nature. The Quran says, "It is He who has appointed you vicegerent on the earth..." (The Quran 6:165). And indeed, the Muslim's character is one that is to be inclined to moderation and conservation rather than excess and wastefulness (Bagnied, 2016).

Architecture is the manifestation of society and their cultural practice (Mohd Sabrizaa, 2014). As for traditional Malay houses, the design and forms of the houses are pretty much influenced by its cultural context, climatic factor and availability of resources during the prevalent time. The design and layout of a traditional Malay house can be divided into the front and rear portions

which are centred around the *Rumah Ibu* (core house) and the *dapur* (kitchen) respectively with the *anjung* located at the entrances (Mohd Shazmie, 2014). Shazmie further mentioned that wall of the traditional Malay house has many full-length fully openable openings that air can ventilate between spaces and from the outside. The different geometries of the roof shape in the traditional Malay houses are significant in relation to the tropical climate. The high sloped roofs with roof overhang work as a convenience device for users against hot, humid weather and seasonal rainfalls (Hosseini, Shahedi and Mursib, 2012).

In terms of construction, Sufian and Mohd Sabrizaa (2009) mentioned that traditional Malay houses are mostly timber post and beam construction that is lightweight and utilizes one of the earliest prefabrication methods in building construction. Consistent with Waterson (1997), the Malay house is held together using techniques of jointing and mortising entirely without the use of a single nail. The technique gives the advantage in that it is capable of being dismantled and reassembled in a new location as necessary. The technology strongly reflects its cultural kinship system. Most traditional Malay houses also can be seen built on stilts which have to do with its geographical setting. Since many early settlements were built along rivers and the coastline, the raised floor construction was an ideal solution for coping with ground dampness due to heavy rains that frequently resulted in flash floods (Kamarul, Lilawati and Asmalia, 2004).

Sufian et al. (2009) explained that the traditional Malay arts and architecture is also a reflection of beauty. The aesthetical elements or ornamentations adorned the built structure had more profound philosophical and sacred meanings in its usage. Decorations in the traditional Malay house are not

merely objects of beauty, but also as means to create an environment of peace and tranquillity; and this is portrayed in the functions and meanings attached to the traditional Malay culture and practices as seen in their timber carvings and ornamentations. In addition to facilitating ventilation, the carving ornaments of panels regulate the ventilation and penetration of the sun's ray through fenestrations of the external vertical plane rather than its visual interest (Yuan, 1987).

The achievement of visual harmony of traditional Malay house is done by creating interaction between architectural buildings forms and environmental characteristic which directs to the regionalism concept. According to Kamarul et. Al (2004), orienting a particular building towards the direction of the prevailing wind is important where the airflow can be increased by arranging houses in random order as opposed to the regular patterns seen in most housing estates which trap air and prevent adequate ventilation. A group of Malay settlements are called as kampong. For a linear pattern *kampong*, houses face the economic resources and transportation links such as roads, rivers or beaches; in a concentric pattern kampong, the *serambi* usually faces the public space located at the centre of the houses. (Mohd Firrhdhaus, 2012). For religious reasons, most traditional Malay houses are oriented to face Makkah (east-west direction), which indirectly minimizes the area of exposed walls to direct solar radiation during the day (Yuan, 2011).

The Proposed Development of IUM Gombak Cultural and Natural Heritage Living Laboratory (GCHL) for International Islamic University Malaysia, Gombak Campus, Gombak, Selangor' is the project that was conducted by IUM students and lecturers from various departments in multidisciplinary team, to promote the Malay Enclave Teaching Lab (METL). The project aims to ensure that the laboratory offers plenty of learning opportunities for the future generation in appreciating the Gombak cultural heritage through its surrounding, facilities and activities within site and restoring the environment of traditional Malay heritage in today's world. The given site consists of four different plots, with each plot representing different assigned typologies. A few types of Malay traditional house from five different states are selected as case studies which are Johor, Pahang, Terengganu, Kelantan and Kedah. The end products are manifested in the forms of gazebo built on each plot, whilst showing its connectivity to one another. This project focused on the construction of gazebo from the initial design to working drawing.

CONCEPTUAL PROCESS, PROCEDURE AND SCHEMATIC

The vision of the project of this paper is to create a continuous journey of Malay heritage that can bring the understanding and the awareness of its uniqueness to the IUM community. Through the concept of Master plan which is '**Connectivity to Malay Heritage**' (refer Figure 1), the visitors can experience and appreciate more about Malay heritage through traditional Malay house style developed on the design. From this master plan, it can maintain the aesthetic of the traditional Malay house throughout Malaysia. Master plan is divided into 4 plot with different sub concept to bring out the essence of Connectivity to Malay Heritage. Each plot of the site is influenced by the distinct types of Malay traditional house. The concept of each plot influenced by the distinct types of Malay traditional house is shown in Table 1.

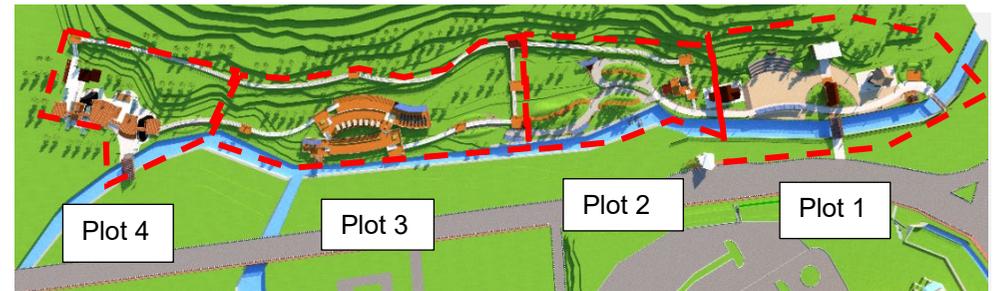


Figure 1: Master plan – Concept "Connectivity to Malay Heritage"

Table 1: Concept of each plot influenced by the distinct types of Malay traditional

PLOT	DESCRIPTION
Plot 1: Mass social space Concept: <i>Sayang</i>	The word " <i>Sayang</i> " is an affection that brings people closer and tightens the bonds between the societies. The concept for Plot 1 is integrated based on the traditional dance of <i>tarian zapin</i> Johor and <i>tarian joget</i> Pahang. Interestingly, dancing is an artistic expression intended to convey or express sentiments and emotions
Plot 2: Edible Garden Concept: <i>Layang</i>	The term " <i>Layang</i> " generally comes from the traditional Malaysian kite which is " <i>Wau</i> ". <i>Wau</i> is a well-known game till now as being the Terengganu's major traditional games. The powerful and influential colourful pattern on the <i>Wau</i> was used as inspiration to design Plot 2, the edible garden's landscape and space planning.
Plot 3: Urban Farming Concept: <i>Bayang</i>	The word " <i>Bayang</i> " was strongly influenced by the best-known performance art of Kelantan which is <i>Wayang Kulit</i> . <i>Wayang Kulit</i> is a distinctive type of theatre that employs the excellent talents act with the presence of light and shadow. Based on these artistic performance arts of <i>Wayang Kulit</i> , the team used it as design concept for Plot 3. Just like <i>Wayang Kulit</i> that uses puppet to produce shadow, traditional Kelantan ornamentation on the pergola is used through the walkway where the light of the sunlight will pass through the ornamentation that will eventually produce shadow motifs on the ground.
Plot 4: Local Fruit Heritage Concept: <i>Kayang</i>	The word " <i>kayang</i> " literally means " <i>Tanah milik orang</i> " or the land that belongs to an owner which connects the design of the Plot as it is inspired from " <i>bendang</i> ". The word " <i>bendng</i> " is taken from Kedah significant paddy fields. The objective of the plot is to locate the local heritage fruit, which relates to the interpretation of <i>Kayang</i> . Hence, various water features are being highlighted into the space planning with the gazebo that implement Kedah traditional house and ornamentations.

METHODOLOGY

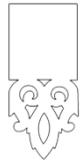
Methodology adopted for this project paper was a qualitative approach using content analysis and case studies through literature review on traditional Malay houses in Malaysia. Analysis was carried out on the five traditional Malay houses of Johor, Kelantan, Terengganu, Pahang and Kedah.

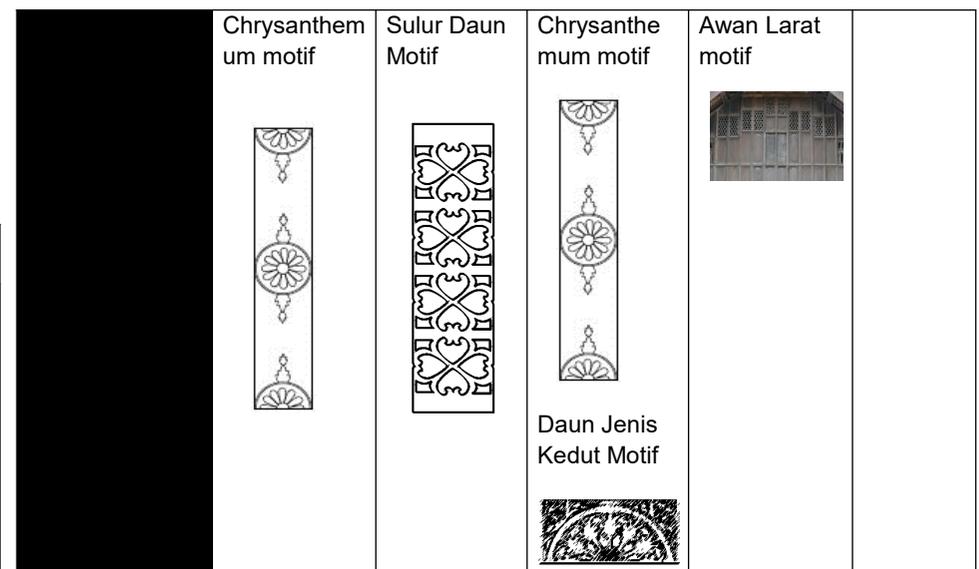
1. Content analysis - Literature review on Traditional Malay Houses from five different states is gathered from secondary data - books, journal articles, theses and internet that cited the original sources. Literature review is important to establish a foundation on Malay Heritage.
2. The design of gazebo that symbolises each state, is demonstrated by model-making using precise construction. The outcome of the project is the design of Gazebo with the different influence of Malay Heritage from the five chosen case studies.

FINDINGS

This project paper's findings on the connectivity of architectural element of traditional Malay houses from the five chosen case studies - Johor, Kelantan, Kedah, Terengganu & Pahang, are shown in Table 2.

Table 2 Connectivity of architectural element of traditional Malay houses from five chosen case studies

Architectural element	Johor	Kelantan	Kedah	Terengganu	Pahang
Building form (structure of building)	Roof "Rumah bumbung limas"	"tiang seri" is used as four big inner columns which functioned as the core structure to support the roof and building structures	Rumah Panjang Kedah	Rumah Tiang Dua Belas	Rumah Bumbung Panjang
Orientation	It was forbidden to have the front of a house facing west, toward the sunset	Faces the direction of <i>qiblah</i> , for the purpose of performing prayers	West orientation facing <i>Qiblah</i> , while reducing exposure from direct sunlight	<i>Tebar layar</i> (Gable end) is applied facing <i>qiblah</i> with flower and sun motif to represent nature and reflect Islamic value	House faces West (<i>Qiblat</i>) and washrooms facing the opposite (East)
Roof	Gabled hip roof (limas) roof form	Roof is constructed in three tiers and supported at the four corners by big wooden pillars, sixteen interior pillars and twenty-four veranda pillars thus making forty four pillars in all.	Long straight horizontal roof with <i>tebar layar</i> that made of triangular inverters or reverse 'V' letters	Roof is built with rectangular frame and king post trussed roof system	Simple pattern which are triangle and semicircle shape of <i>papan cantik</i> .
Ornamentation	<i>Pucuk Rebung Motif</i> 	<i>Bunga Ketumbit Motif</i> 	<i>Lebah Bergantung Motif</i> 	Sun Motif 	



The outcome of the studies highlighted connectivity and similarities among traditional Malay houses from the five different states through architectural design, materials and features including outdoor spaces such as *wakaf-pavilion*. Throughout this project paper, some elements of traditional Malay houses for each case studies were been adopted in the design of the proposed gazebos. These gazebos are placed in the masterplan of traditional Malay houses in IIUM with the concept of Connectivity to Malay Heritage.

Design 1: Gazebo Johor (Plot 1)

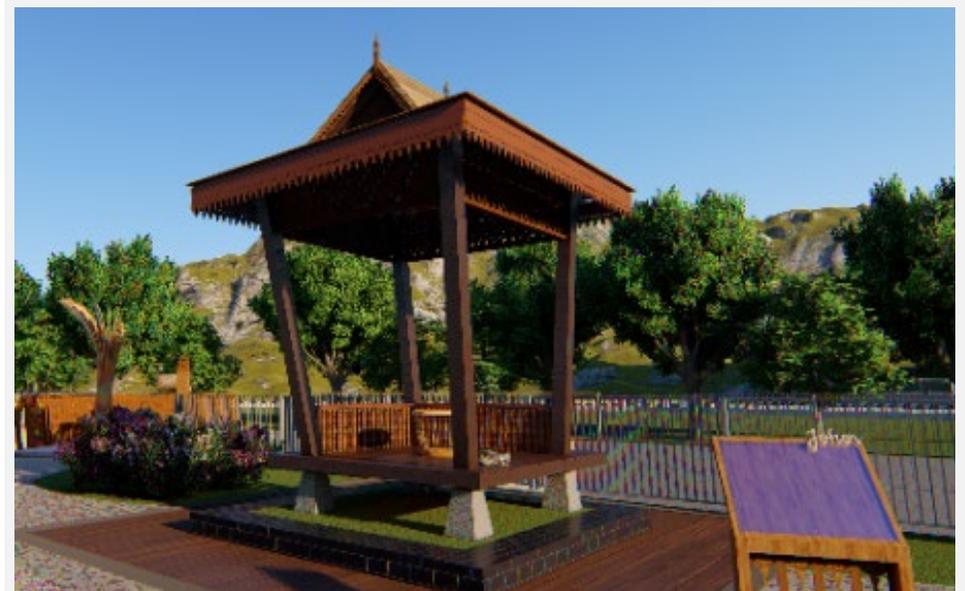


Figure 2: Gazebo Johor

Takzim - Inspired by *Rumah Bumbung Limas* from Johor. It is consisting of gabled hip roof with thumb-shaped roof ornaments (*tunjuk langit*), *papan cantik* with *Pucuk Rebung* motif, *tunjuk langit* is shaped like a headstone in showing element of Sufism.

Design 2: Gazebo Pahang (Plot 1)



Figure 3: Gazebo Pahang

Makmur - Inspired from *Rumah Bumbung Panjang* of Pahang. The elements that were applied at Makmur are traditional railing, long roof design, a combination of simple and motif pattern on *tebar layar*, *ande-ande* (*papan cantik*) as well as traditional stairs.



Figure 4 and 5: *Atur* furniture

Acts as an interactive games table for *congkak* and chess/*dam* board. The Malay traditional element is being implemented on the chosen materials which are rattan and chengal wood. These games are placed at Pahang and Johor gazebo.

Design 3: Gazebo Terengganu (Plot 2)



Figure 6: Gazebo Pahang

Iman - The design is inspired by *Rumah Tiang Dua Belas*, a traditional house from Terengganu. The gazebo consists of a rectangular frame roof structure, king post trussed roof system, fascia board (*papan pemeleh ibu*) and *serambi*.



Figure 7: *Wa-u* bench inspired by Wau

Kite flying is one of the popular traditional pastimes in Terengganu. It was once played by farmers on levelled ground after the harvesting season. Today, kite-flying attracts people from all walks of life. Kite or *Wau* (pronounce as 'wow') can appear in all shapes and sizes. Other than the joy of kite flying, the decorative traditional kite adorns the walls, making it the pride for the owner (Tourism Terengganu).

In gazebo Terengganu bench *Wa-u* is located at Plot 2. Inspired from *Wau Dodo Helang*, this bench is suitable with the element that the team brought to this plot in order to magnify the culture from Terengganu. Figure 7 show the design of *Wa-u* bench.

Design 4: Gazebo Kelantan (Plot 3)



Figure 8: Gazebo Kelantan

Naim - The design resembles a Kelantan Malay traditional architecture consisting of four layers of beam, king post as the roof design, traditional fascia board railing motif as well as custom made bench.



Figure 9: *Bangku* bench

Using the sense of simplicity in its design, *Bangku* portrays its own classic style through the using of basic polygon following the shape of the *Kelantan* gazebo. Adding to its distinctive feature, *Bangku* is designed as a bench with a *kerawang* at the bottom of it.

Design 5: Gazebo Kedah (Plot 4)



Figure 10: Gazebo Kedah

Aman – A long straight horizontal roof with triangular inverters or reverse 'V' letters of *tebar layar*.



Figure 11: *Lipat* table

Serves multi-purposes function, *Lipat* is designed as a hidden table implemented on the gazebo's flooring.

Design 6: *Layar* Bench



Figure 12: *Layar* bench

Scattered around the lawned areas, this unique multi-material benches are positioned in such a way to enhance the landscape of the proposed site. Using sampan as the subject matter, this bench is designed to highlight the Malay element, how it was once known to the world that Malays are great sailors.



Figure 13: *Pancha* street light

Light post and streetlight designed from the shape of bubu or fish trap.

Design 8: Dustbin



Figure 14: Dustbin

Chengal woods are used as the selected material to add the Malay touch.

Design 9: Signage

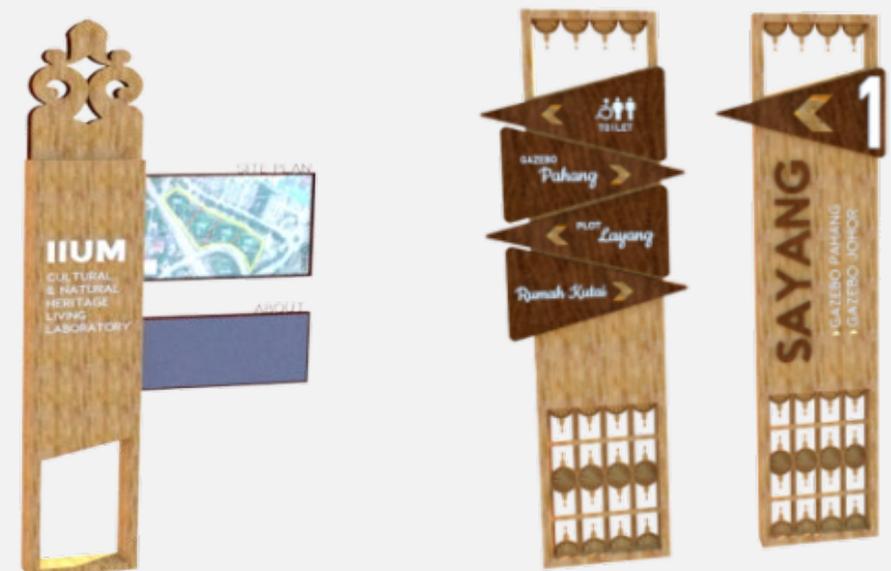


Figure 15: Entrance signage and Figure 16: Plot signage

This signage will be located at the entrance as the main guide for the visitors. The signage includes the name of the site which is 'IIUM Cultural and Natural Heritage Living Laboratory', site plan and explanation of the site. Figure 15 show the design of the signage which is inspired from the *pucuk rebung* of fascia board (*papan cantik*). The design of signage for every plot includes the motif of Chrysanthemum motif from railing (*kekisi*) in Johor and Kedah. The signage includes the indicator for toilets (male, female and people with disabilities), gazebo, plot and Rumah Kutai. Another signage indicate the plot and its concept which are *Sayang*, *Layang*, *Bayang* and *Kayang*.

CONCLUSION

In conclusion, the findings of this study are manifested in the forms of gazebo built in each plots, and other furniture (bench, table, streetlight, dustbin and signage) showing its connectivity to one another. This project paper covers the design and the construction drawings of gazebo from the initial stage until working drawing. The research concludes that a connectivity exists among the traditional Malay houses even if they come from different states. Cultural heritage implicit a shared bond, which belongs to the Malay community. It represents the history and identity; the bond to the past, to today's present, and the future. In the relation of the concept of 'Connectivity' in the proposed master plan of International Islamic University Malaysia (IIUM) Gombak Cultural and Natural Heritage Living Laboratory (GCHL), the real meaning of both heritage and culture are reflected and fused into the design. The master plan of this project has successfully merged all the manifestation of traditional Malay architecture in one development.

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