

Tabulation and Landscape Characters of Lenggong Valley's Malay Traditional Houses

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ABSTRACT

Lenggong Valley is famously known as an archaeological site due to UNESCO's World Heritage Site verification. Following this, the aspiration towards Global Geopark recognition comprising Lenggong's distinctive cultural heritage was initiated. Malay traditional house is one of the attributes of cultural heritage. It presents a character that symbolises uniqueness reflected in the states where they were built and the relation between historical events. This study aims to explore the distribution tabulation and landscape characters of Malay traditional houses in Lenggong Valley, Perak, Malaysia. The methodology includes site observation and evaluation, with the spatial location of the houses recorded using GPS. The collected samples of hundred eight (108) traditional houses were analysed using Kernel Density Analysis. Results showed that the tabulation of Lenggong traditional houses is concentrated approximately to caves and the Perak River concurrence with the historical evidence of Paleolithic human settlement and the Malay sultanate era. Two (2) significant types of traditional houses found are Rumah Limas Bumbung Perak (RLBP) with 79% and Rumah Kutai (RK) with 14%. Most of the houses are still preserved with vernacular architecture and semi-vernacular which points to their significant identity. The landscape of the traditional houses also points to the unique characters supported by the geographical setting of Lenggong as a valley. These findings support the aspiration of a Geo-Park in Lenggong in the context of the cultural heritage landscape and provide substantial information to authorities regarding conservation and preservation of Lenggong as a heritage cultural site in a broader sense. Future study is encouraged to provide a detailed assessment of the houses' condition towards heritage preservation and conservation efforts.

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INTRODUCTION

Lenggong Valley has been known as an archaeological heritage site through the civilisation evidence of the Palaeolithic period ranging close to two (2) million years. Located in the northern of Perak, Malaysia, Lenggong Valley is comprised of three districts; Lenggong, Temelong, and Durian Pipit (Jabatan Perancangan Bandar Desa & Environmental Planning Group, 2015). The United Nations Educational, Scientific, and Cultural Organisation (UNESCO) verified Lenggong as a World Heritage Site (WHS) in 2012 through the historical evidence found in open-air and cave sites such as Palaeolithic stone tools, Toba ashes, Perak Man's skeleton, and the intactness of sites around Lenggong reinforced the verification (UNESCO, 2012). Preceding this, the preservation and conservation of Lenggong Valley are enforced through the Malaysian government and non-government bodies to ensure that its archaeological characteristics are retained. The richness of Lenggong Valley with various unique physical and cultural features further justifies the need for preservation and conservation acts (Jaafar et al., 2015).

Along the course of that, the aspiration for Lenggong Valley to become GeoPark was initiated. According to Stoffelen (2020), Geoparks are defined by UNESCO as the territorial landscape protection and promotion institutions with the aims to conserve geo-heritage, geo-education, and sustainable regional development through the utilisation of products based on geo-tourism. One of the important aspects of GeoPark is the cultural heritage existed among locals (Ramsay, 2017; UNESCO, 2020). Sadry (2020) delineates that the purpose of Geopark through UNESCO sense, is to develop the links between geological heritage and other attributes of the area's cultural, natural, and intangible heritages. The categorisation of Geopark is usually based on the focus area they intend. Some geoparks are more conservation-focused, and some may focus on the tourism aspect (Ruban et al., 2023). There is also a categorisation of Geopark that was focused on geo-heritage and geo-conservation, geo-education and geo-tourism, and sustainable development (Stoffelen, 2020).

In the case of Lenggong Valley, the properties of archaeological evidence and historical formation of caves present the attributes of geo-heritage and geo-conservation. The character of Lenggong's cultural heritage is known for its limestone caves, tombs of dignitaries, and old buildings (Jaafar et al., 2015). In addition to that, Dewi (2017) includes village development presented in the community life structure as one of the components of cultural heritage. Among components in village development is the value of traditional house in terms of its characters and workmanship. The traditional house is a part of the cultural heritage (Dalkilic & Nabikoglu, 2020). Klinar & Gersic (2014) underlined that the name of a traditional house can be a part of the intangible cultural heritages.

Documentation on Malay traditional houses in Perak has been published by a few scholars and research groups. Rashid et al. (2019) reported the design evolution from the architectural perspective of Malay traditional houses along Sungai Perak. They covered the characters of Rumah Kutai and Rumah Limas Potong Perak as the major category of houses found along the Perak River. Following that, they also reported the poor condition of the houses due to age and occupation status. Khairudn et al., (2018) discussed the construction techniques of Rumah Kutai in Perak and discovered the distinguished components of Rumah Kutai that are different from other traditional Malay houses. These components include columns, beams, floor and bendul, roofing, walls, and staircase. Their study further reinforces the unique cultural identity of Kutai traditional house. A recent study by Rashid et al. (2021) explored the evolution of the Malay traditional house in Perak. They highlighted the three (3) major transformations; First is from Rumah Kutai to Rumah Limas Bumbung Perak during the traditional era, second is from Rumah Limas Bumbung Perak First Generation to Rumah Limas Bumbung Perak Second Generation, and lastly the evolution towards Government Quarters Housing during the colonial era to the independence and post-independence era.

In regard to Lenggong Valley, the properties of Malay traditional houses are supposedly well preserved due to archaeological recognition of the area as a World Heritage Site. In addition to that, the characters of the Malay cultural landscape around the traditional house also warranted preservation to retain the overall setting of the Malay traditional house. According to Salleh et al. (2016), there are three (3) main areas in traditional Malay house landscape compounds. These compounds are front compound, side compound, and rear compound. The function of these compounds is relative to the Malay's culture of daily life. For example, the front compound usually becomes a space for ceremony, thus the plants' characters are usually full of aesthetic elements. The side compound on the other hand functions as the social interaction space between family members, connecting routes between front and rear, and a space to dry clothes. The rear compound usually is treated as a private space for women to gather during feasts and kitchen activities, thus the planted plants are edible (Salleh et al., 2016). This manifests in the unique cultural identity of the landscape composition of Malay traditional house which is usually located in rural areas. According to Zakariya et al. (2019), the growth of rural areas shall be treated with their distinctive characters for sustainable future development for the local community. Therefore, the identification of its significant characters in terms of the traditional house tabulation and its landscape characters is warranted.

Perak Traditional Malay House: Evolution and Distribution

Perak Malay traditional house has evolved and transformed significantly over the one hundred fifty (150) years period (Rashid et al., 2021). In general, the Malay traditional house in Perak can be categorised into two (2); Rumah Kutai (RK) and Rumah Limas Bumbung Perak (RLBP). According to Saleh, Hashim, Mahat, and Navan (2018), RK was introduced around the year 1890 along the banks of the Perak River until its construction was stopped after the end of the First World War (1918). The name of RK or 'Kotai' is merged among locals due to the structure of the residence itself being unique compared to ordinary houses. The name 'Kotai' refers to something old or ancient in Perak (Rashid et al., 2019). This symbolises RK as a residence that is aged. Due to the 99 Law that was enforced during the ruling by the monarchy, the RK was built facing the riverbank which is the Perak River. (Azlan et al., 2022). Perak River was the main communication and transportation access for the community around the area. This impact of this caused the RK to be distributed and restrained towards specific areas such as the banks of the Perak River and Kuala Kangsar (which is the royal town of Perak).

Following the introduction of RK, the Perak Malay traditional house extends towards Rumah Limas Bumbung Perak (RLBP). The RLBP was built around the 19th century which has the unique feature of the style Bumbung Potong Perak (Rashid et al., 2019). Sourced from an old carpenter in Lenggong, Perak has identified the word 'Limas' originated from the word 'Lima' which points to the five (5) ridges of the limas roof (Nasir & Teh, 1996). The character of RLBP was mainly influenced by the colonialisation period, especially in the feature of 'Bumbung Limas' (Choo et al., 2020). The distinctive spatial design of the house also consists of rumah ibu, rumah anjung, rumah selang, and rumah dapur (Rashid et al., 2019). This represents the traditional architecture of the Malays in Perak.

In assessing the composition of Perak Malay traditional houses in Lenggong, it is critical to assess the current and past historic information. This includes the physical condition, intactness, and integrity informed by history information (Melnick, 2016). The recognition of Lenggong Valley as WHS provides a basis for greater valuation vis-à-vis to the composition and tabulation of Perak traditional houses. Landscape plays an important role to support the traditional composition of Perak Malay traditional houses. According to Harun et al. (2017), the traditional Malay landscape is the balanced interactions between man, nature, and culture in tandem with traditional houses which is critical to preserve as one of the cultural heritage sites.

Traditional Malay Landscape Characters

Traditional Malay landscape design underwent an evolution in accordance with the natural environment and the influence of the daily life of locals (Salleh et al., 2016). Preservation of heritage in Malaysia is weighted more on the architectural buildings than the support system provided by the environment where the building is located (Azizi et al., 2015). This subsequently caused the loss of the cultural landscape (Harun et al., 2017) especially taking into account the influence of historical information and the setting of locals' daily routine that can be reflected through the landscape. The traditional Malay landscape provides historic information and the reflection of daily life and the principle of the Islamic religion of Malay communities. For example, a traditional Malay house is built with the entrance facing the sun, the importance of the space spatial organisation in tangent with the activities carried out by the occupant, and the selection of the house within the village itself (Hussain et al., 2020; Harun, 2008).

Characters of the landscape are the tangible evidence of the activities and habits of the people who occupied, developed, used, and shaped the landscape which may be related to their beliefs, attitudes, traditions, and values (McClelland et al., 1999). The classification of these landscape characters is critical for the preservation of their origin character (Sari et al., 2020). The manifestation of how the landscape around traditional Malay houses evolved thus, might be attributed to the locals' cultural values and the setting adjacent as well.

In Lenggong Valley, the features of the traditional Malay landscape are supported by the abundant natural resources around the area, especially the limestone caves. While the landscape compound may be similar to other sites, the setting adjacent to the compound has a character that is unique to Lenggong. A study by Abdullah et al. (2014) reported that the landscape features in Lenggong are significant in terms of their characters, which may be visible physically, historically, socially, and intangibly. Local communities in Lenggong also are still practicing activities such as farming and fishing and has cultural heritage association reflected through their customs and cultural value (Mazehan et al., 2013). This shows a strong course of the link between the traditional Malay landscape in Lenggong in relation to their cultural values.

UNESCO (2000) gazetted that the value of cultural heritage should be included as one of the components of Geopark. The cultural heritage includes the composition of traditional Malay houses and landscape characters surrounding the houses. This study explores the distribution tabulation and landscape characters of Malay traditional houses in Lenggong Valley to understand the significance distinction they presented towards preservation and conservation efforts. The inclusion of Lenggong as a World Heritage Site (WHS) provides a basis for this study in supporting the aspiration to become a Global Geopark heritage site.

METHODOLOGY

This study enforced two (2) types of data collection: primary data and secondary data collection. For primary data, empirical study and qualitative data collection were conducted by enumerators with landscape architecture background from Universiti Teknologi Malaysia (UTM) to gather the information and real-image data on the composition of Perak traditional Malay houses and landscape characters of Lenggong (Figure 1). Site observation was conducted, and the spatial location of traditional houses was collected by using Global Positioning System (GPS) with the coordinates global coordinate system (WGS84 coordinate system).

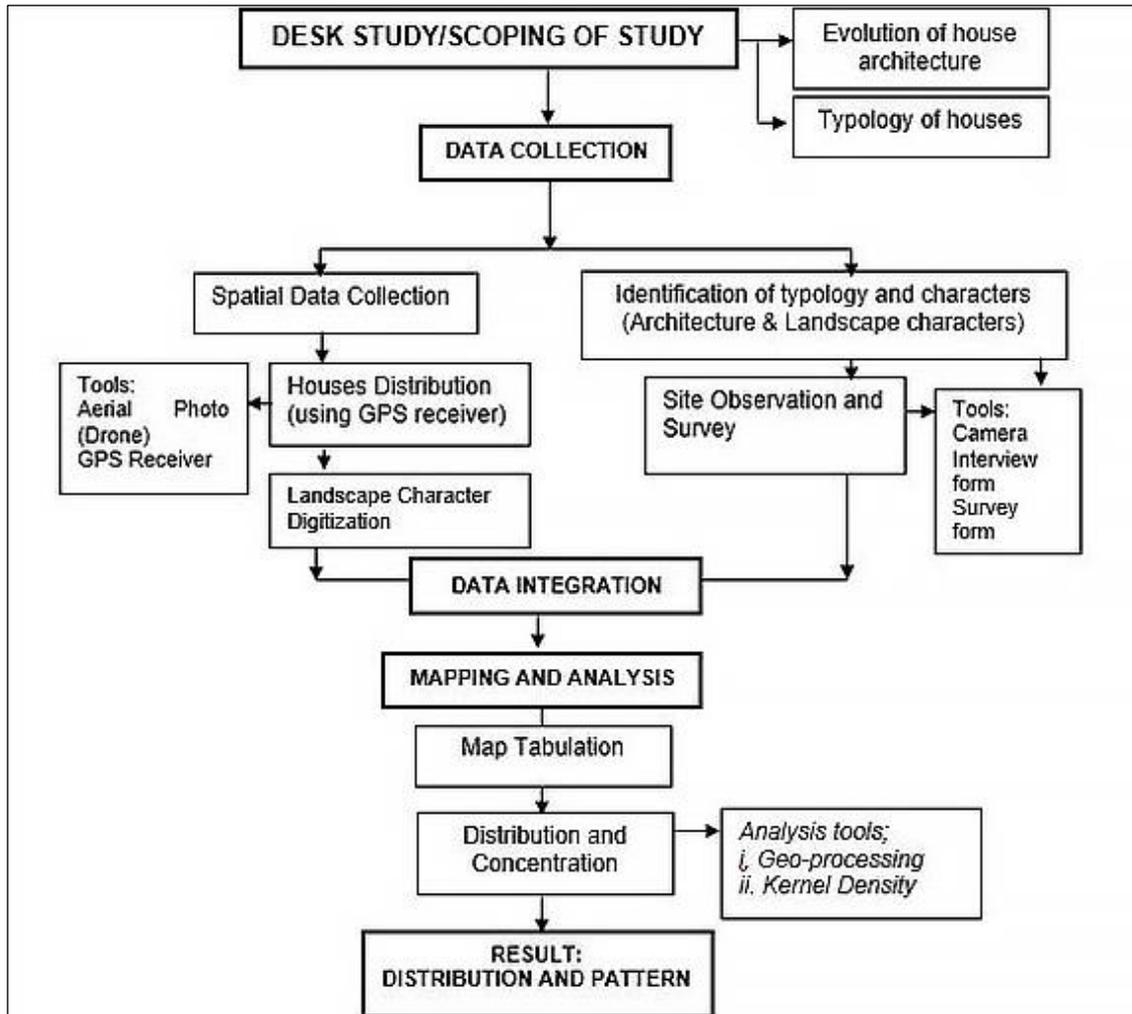


Fig. 1. The methodology of the study

Source: Authors, 2023

For landscape characters of the traditional house, site observation and visit along with interviews provided a base for analysis which was supported by secondary data on cultural landscape characters assessment. The use of world coordinate allows the study to tally with the image provided by GIS software. Then the data was converted to digital spatial data in Geographic Information System (GIS) and standardised with other geo-spatial information such as land use, archaeological sites, and topography. The spatial data is then embedded with the attributes of the traditional houses based on the site survey and interview. The distribution of the traditional houses was mapped out and the analysis of concentration and typology is conducted. In the analysis stage, the kernel density model was utilised to look at the concentration of the traditional houses in Lenggong Valley.

FINDINGS AND DISCUSSION

Finding and discussion of this study are divided into two (2) categories. First are the results from the tabulation of Perak traditional Malay houses in Lenggong Valley, and second is the findings from the assessment of the landscape characters of these houses.

Tabulation of Perak Traditional Malay House in Lenggong

Perak traditional Malay houses in Lenggong are categorised into four (4) categories; Rumah Kutai (RK), Rumah Bumbung Limas Perak First Generation (RBLP01), Rumah Bumbung Limas Perak Second Generation (RBLP02), and Rumah Limas Bumbung Perak Colonial (RLBPC). Figure 2 shows the overall tabulation of these houses in Lenggong Valley.

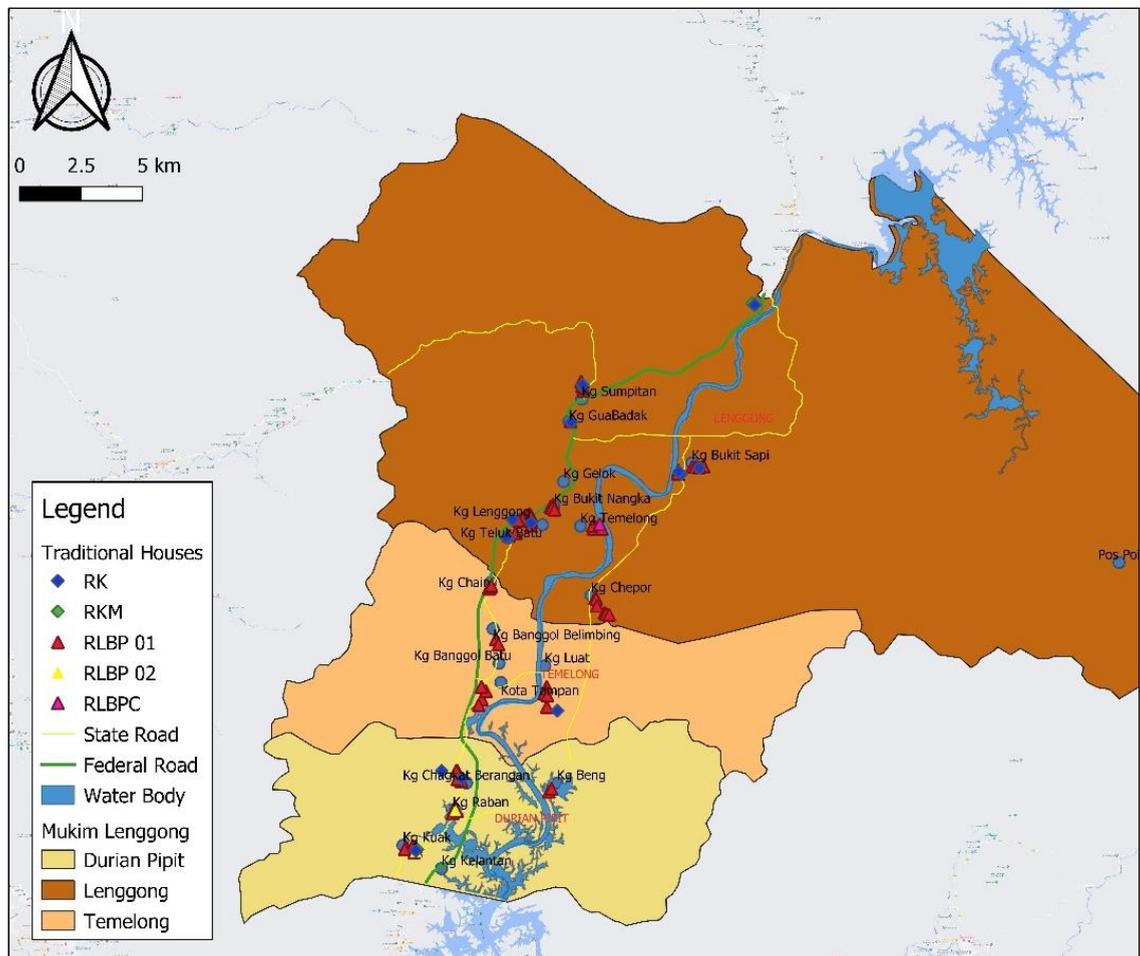


Fig. 2. Distribution of different typologies of traditional houses in Lenggong

Source: Authors, 2023

The study covered one hundred eight (108) traditional houses as a sample in Lenggong Valley. Those traditional houses are accessible and the information about the house is recorded during the site visit.

However, there are still traditional houses available that are not recorded in this study, which also have significance in their uniqueness. Data shows that the density of RLBP01 is higher than the other houses followed by RK, RKM, RLBP02, and lower density is recorded for RLBP01 (Table 1). Overall, the traditional houses in Lenggong are scattered in the Lenggong Valley alongside the main road and in rural areas. The typology of houses is also diverse in all areas and the findings show there are several categories of traditional houses exist in Lenggong. Based on the survey conducted, RLBP 01 is the most significant typology available of traditional houses in Lenggong. The eighty-five (85) units (70%) of houses altogether are RLBP and followed by RK which is fifteen (15) units (14%) out of one hundred eight (108) traditional houses. The finding shows forty-five (45) units of RLBP01 traditional houses are still in vernacular structure (Table 2). It indicates Lenggong Valley has kept a significant architectural value, which nowadays can be seen on site.

Table 1. Typology and number of traditional houses conducted in Lenggong

Type	Total	Percentage (%)
RK	15	14
RKM	5	5
RLBP 01	85	79
RLBP 02	2	2
RLBPC	1	1

Source: Authors, 2023

Table 2. Proportion of structure status of each category of traditional houses in Lenggong

Status	RK	RKM	RLBP 1	RLBP 2	RLBPC	Total
Vernacular	6		45	1		52
Semi Vernacular	7	4	38	1	1	51
Modified	2	1	2			5
Total						108

Source: Authors, 2023

Apart from that, the other categories of houses such as RLBP02 and RLBP01 have several units of 2 and 1 correspondingly. These types of houses are limited and unique, thus they should be conserved as the structure and architecture is unique. Fortunately, the architecture of the houses can be seen as it keeps the original facade of the houses with semi-vernacular. This provides opportunity to indicate and study the architecture of the houses.

On the spatial dimension, the location of houses is distributed in all sub-districts of Lenggong, Temelong, and Durian Pipit. Geospatial analysis however indicates the concentration of traditional houses located in surrounding Lenggong Town. There are numbers of traditional houses within 500 meters radius from the town centre. Those houses are accessible within walking distance and close to Geosite area of Gua Tok Giring. Indeed, the concentration of traditional houses with diverse architecture increases the variety of landscape resources at Lenggong Town. This shows the early settlement in Lenggong concentrated at that the distribution of houses and other heritage buildings such as mosques and institutions with vernacular architecture. Figure 3 shows the concentration of the traditional house in Lenggong.

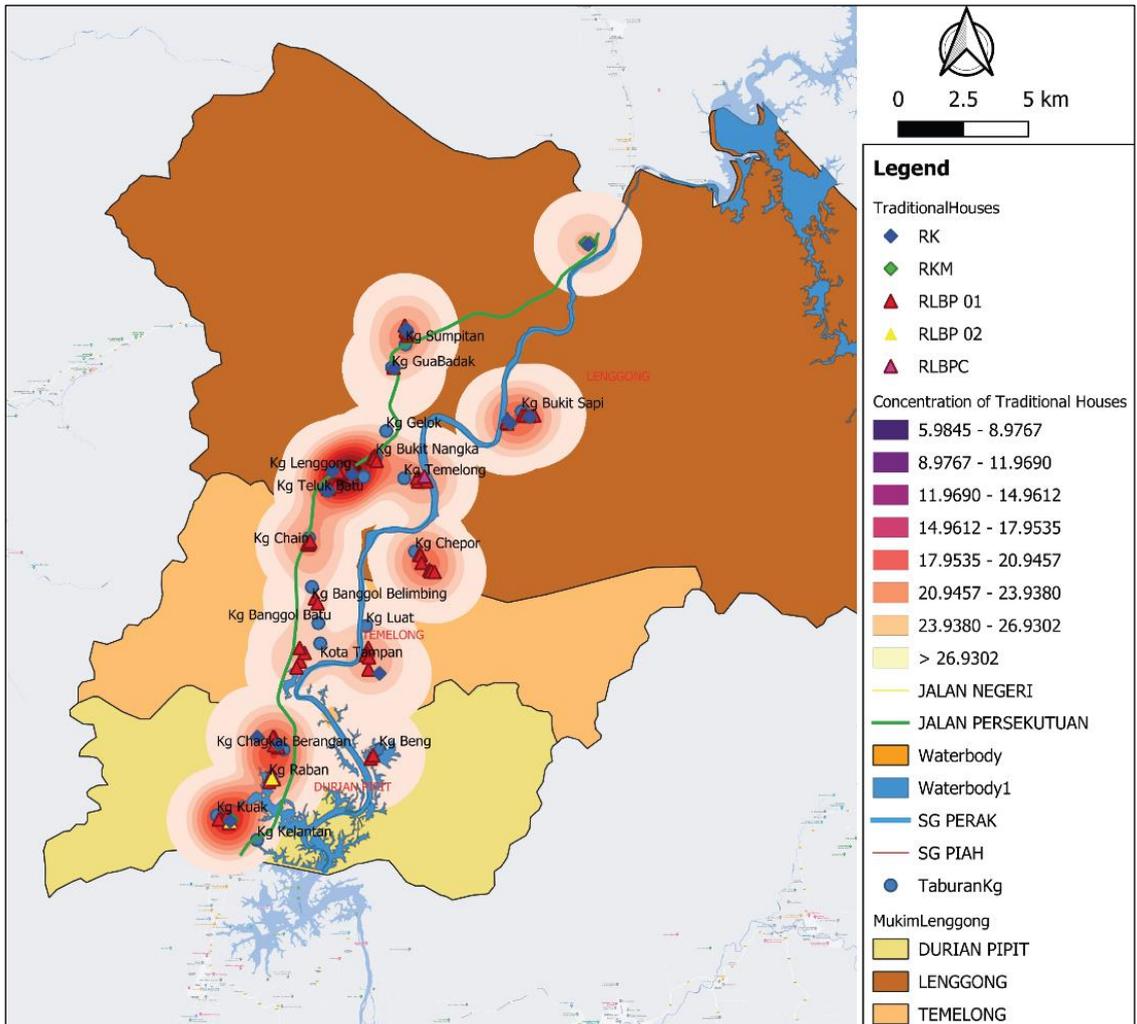


Fig. 3. Concentration and density analysis of traditional houses in Lenggong

Source: Authors, 2023

Table 3. Number of houses based on Mukim

Mukim	Total
Lenggong	61
Temelong	18
Durian Pipit	29

Source: Authors, 2023

The tabulated findings of Perak Malay traditional houses show that there are different types of houses across Lenggong Valley. The tabulation of RK is scattered across Lenggong Valley, but its highest density was found at Mukim Lenggong. For RKM, its location was found scattered at the south and north-south of Lenggong Valley with higher density at Mukim Durian Pipit. The tabulation of RLBP01 is linearly scattered

across Banjaran Bintang at all three (3) Mukim with the highest density of the houses found at Mukim Lenggong. For RLBP02, its tabulation is clustered in the south part of Lenggong which is in Mukim Durian Pipit. The tabulation of RLBP01 was concentrated at Mukim Lenggong near the town area. Figure 4 shows an example of the distribution of different typologies of traditional houses in Lenggong Town.

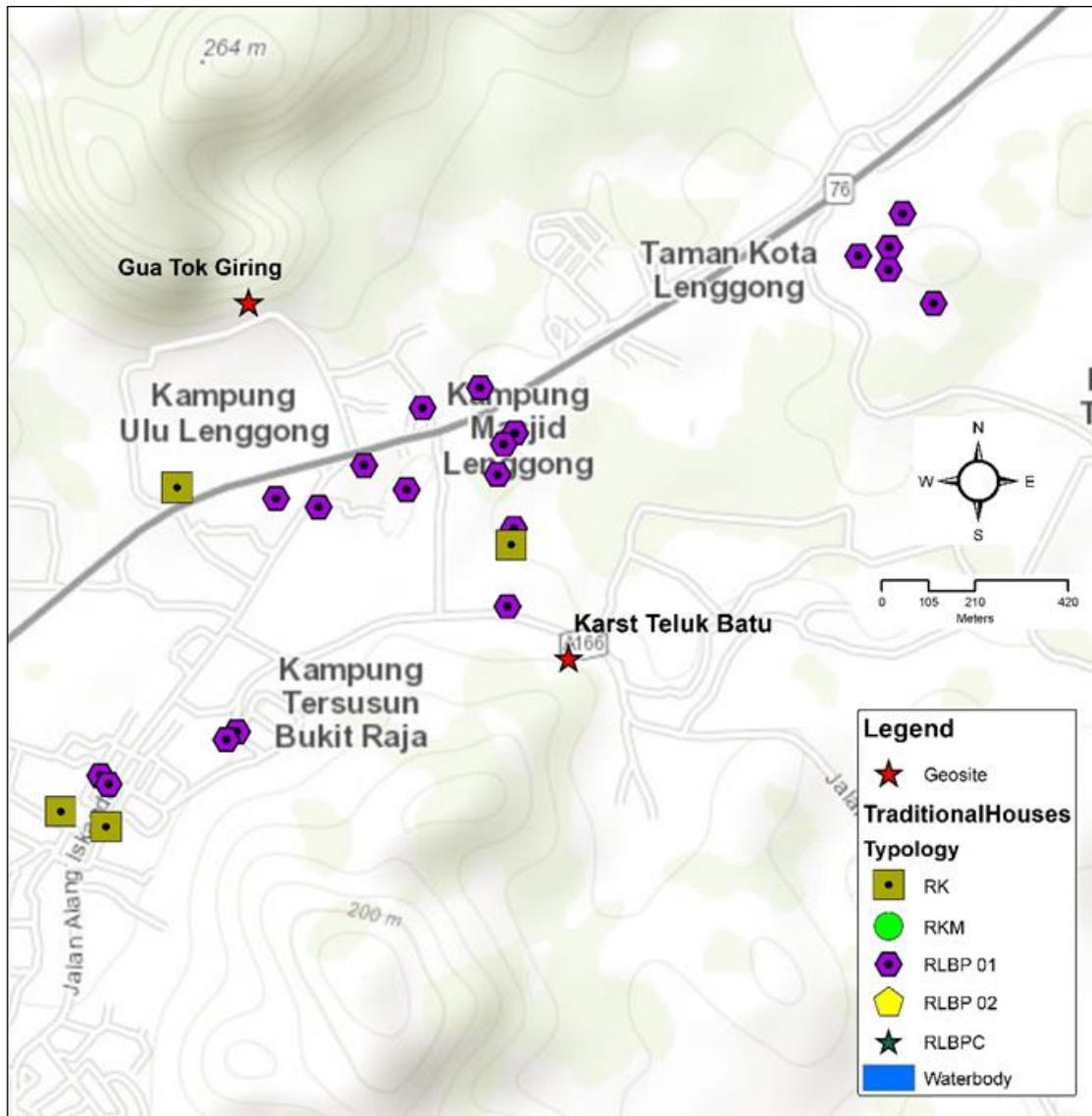


Fig. 4. The distribution of traditional houses based on the different typologies in Lenggong town.

Source: Authors, 2023

From Figure 4, the distribution of RLBP 01 is clustered mainly at the Kampung Masjid Lenggong and near to Geosite location of Gua Teluk Batu. The RK houses are scattered across the town with one of them located at Kampung Ulu Lenggong which is near to Geosite location of Gua Tok Giring. The analysis indicates the area that needs conservation to highlight the unique character of its landscape. It visualises the

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decision makers and community to act to protect and promote the area for a living museum. Conservation of the houses and improving the landscape surrounding them will create a rural ambiance of the area that promote a significant cultural landscape of those areas. It gives chance to all to get close to the architecture of the houses. Kernel density analysis shows Kampung Lenggong and Teluk Batu have a significant number of traditional houses with unique architecture. The typology of the houses is diverse and the distance of the houses from one to another is within walkability distances (< 500 meters). The location is close to Lenggong Town and Laman Budaya Lenggong. Thus, this area should be highlighted as a complex of traditional architecture. Figure 5 shows the village distribution in Lenggong Valley.

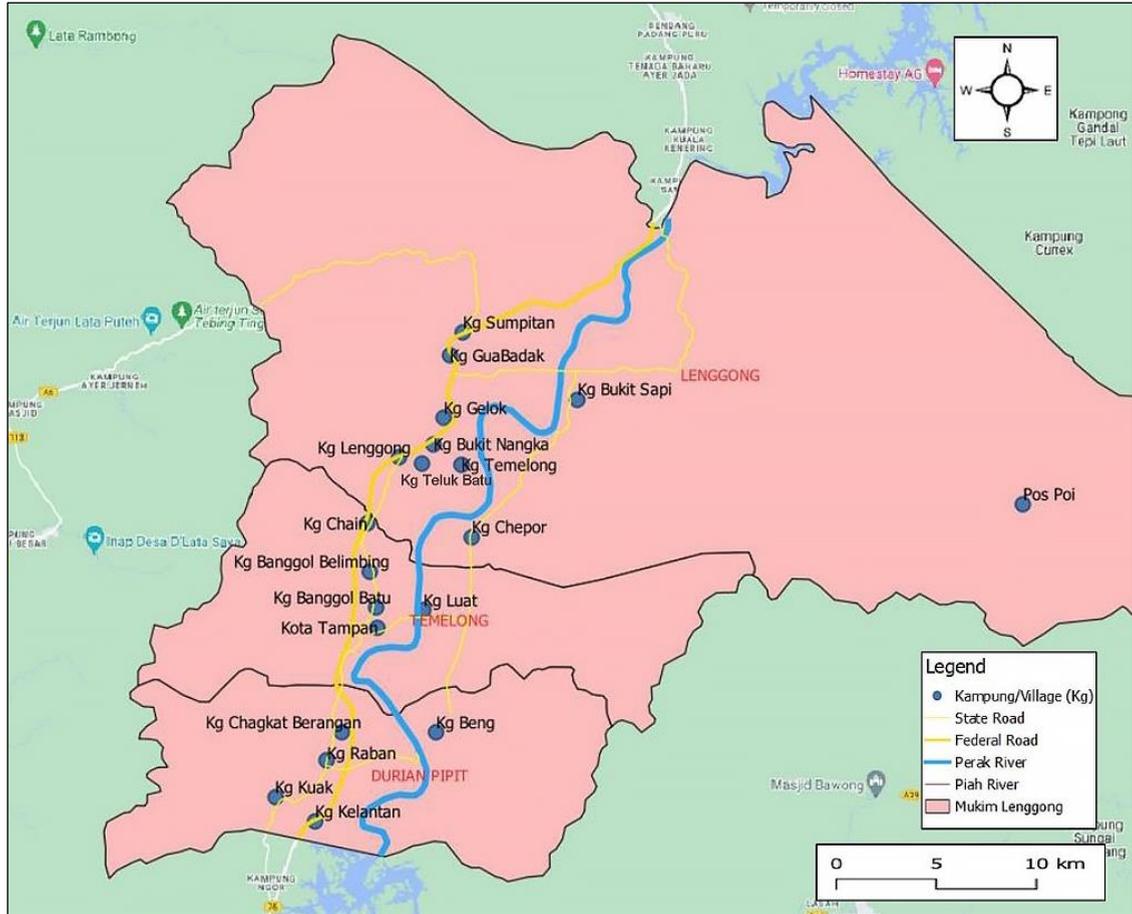


Fig. 5. Distribution of villages in Lenggong Valley

Source: Authors, 2023

The concentration of traditional houses was discovered at Kampung Kuak and Kampung Chagkat Berangan. These areas are adjacent to each other and have many traditional houses with various types of architectural styles. The surrounding landscape such as the Raban Lake with the background of the Bintang forest spine increases the uniqueness of the landscape at these two (2) villages. Moreover, these villages are famous with attractive destinations for ecotourism and cultural tourism. There are a lot of natural resources such as forest reserves, rivers, and outstanding natural landscape settings that create a good view of that area. Various cultural activities are also significant in these villages as they have their rural cultural

activities such as fishing, agriculture, and product from small and medium industries. With the unique architecture of traditional houses and unique landscapes, this area could be highlighted as another zone for conservation. The combination of natural and cultural landscapes increases the rural identity of this area and stimulates further tourism activities.

Other concentrated areas of traditional houses in the district are Kampung Sumpitan, Kampung Bukit Sapi, Kampung Chepor, Kampung Luat, and Kampung Beng. Those villages are located at the riverside of Perak River and Raban Lake. Those villages have several houses that are also significant in terms of architecture. Overall, the high of the house's floor is higher to adapt to the surrounding nature situation such as flood and protection from wildlife. Historically those areas are remote areas, and the distribution of the houses is closer to each other. This is due to the safety aspect in the past. Nowadays those areas are accessible by road and the interpretation of the unique architecture of traditional houses is more feasible. This scenario gives more opportunities to others to learn about the natural and cultural landscape of these areas.

Landscape Characters of Perak Traditional Malay House in Lenggong

The landscape characters of Lenggong's Perak traditional Malay house resemble the Malay Garden landscape design. Salleh et al. (2016) postulated the traditional Malay Garden design has three (3) main components of landscape compound – front, rear, and side compounds. The compound distribution is apparent with other types of Malay traditional houses as well. Figure 6 shows the typical distribution of compounds in the context of RBLP01.

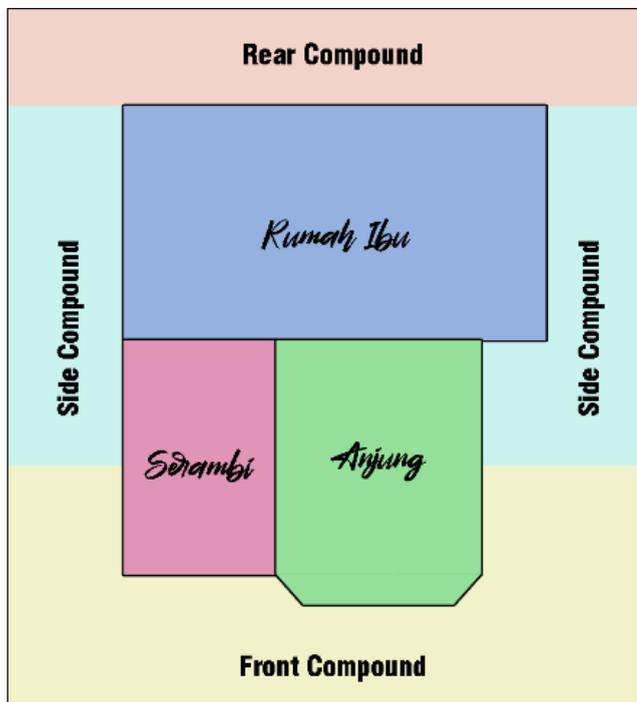


Fig. 6. Typical space composition in traditional Malay landscape

Source: Salleh et al., 2016

The assessment of landscape characters for Perak traditional Malay houses in Lenggong is based on two (2) major components. The first component is the identification of hardscape and softscape elements in the compound (Salleh et al., 2016) which may point to the identity, daily activities, and history of its inhabitants. The second component is by incorporating cultural landscape identification by McClelland et al. (1999) which underlines eleven (11) landscape elements consisting of land uses and activities, patterns of spatial organisation, responses to the natural environment, cultural traditions, circulation networks, boundary demarcations, vegetation related to land uses, buildings and structures, clusters, archaeological sites, and small-scale elements. Due to the context of the evaluation of landscape around the perimeter of Perak traditional Malay houses, this study only incorporates three (3) elements; boundary demarcations, vegetation related to landscape use, and small-scale elements. The evaluation of these three (3) elements is deemed suitable for a smaller context of a traditional house. Two (2) types of Perak traditional Malay houses are chosen for the landscape characters evaluation. The first house is Rumah Kutai (RK) Anjung which is located at Kampung Kuak. The identification of this house is based on the illustration and description of the type of Rumah Kutai by Khairudin et al. (2018). Figure 7 shows the photo of the house and its landscape compound.



Fig. 7. The existing condition of Rumah Kutai and its landscape

Source: Authors, 2023

This house is identified as Rumah Kutai Anjung due to the additional Anjung (frontage space) placed perpendicular and extended from the center front of rumah ibu (Khairudin et al., 2018). The landscape component of this house appears to be dominated by softscapes more than hardscape elements. The front compound is dominated by potted well-maintained shrubs which provide evidence of inhabitants. The rear compound is densely dominated by natural vegetation due to the location of this house. The left-side compound becomes the clear access to the rear compound usually intended as an herbs garden and private area. The boundary demarcation of this house is delineated through the open access and natural vegetation. Potted ornamental and native plants (e.g., *Colocasia Gigantea* (Keladi Gajah)) on the front compound presents a welcoming sign to visitors. On the rear compound, *Cocos Nucifera* (coconut tree) is visible

which signifies its usability to the owners. Small-scale elements related to daily uses such as roofing-pangkin, wheelbarrow, and dry-leave brooms are present which show evidence of their occupancy.

The second house that was evaluated is Rumah Limas Bumbung Perak 1st Generation (RLBP01) which is located at Kampung Teluk Batu. The identification of this house as RLBP01 is based on Rashid et al. (2021) who stated that RLBP01 has distinctive characters in terms of architectural elements and materials, and decorative elements. For example, RLBP01 has zinc roofing and a window door, supported by decorative elements of kepala cicak positioned on the roof eaves as shown in Figure 8.



Fig. 8. The existing condition of RLBP01 and its landscape

Source: Authors, 2023

For the current condition of this RLBP01, the components of softscapes are dominating the landscape compound more than the hardscapes. On the front compound, the open space character is preserved with potted plants, and shrubs are placed at the side compound. Both side compounds are narrow with few shrubs planted to preserve the circulation access between the front to the rear compounds. There is a dense combination of trees and shrubs in the rear compound. The boundary demarcation of this house appears to be bordered by the circulation access. From the figure, this RLBP01 is separated by the open space which might be the tertiary road access into the settlement areas. As mentioned, the domination of softscapes in the compound points to the usability of a variety of vegetation related to land use. The vegetations are mostly native and function as; an aesthetic welcoming sign shown through the potted plants placed on the front compound and daily usage shown through the dense plants on the rear compound. Unfortunately, there are minimal small-scale elements found within the compound of the RLBP01. This may be attributed to the type of occupant living in this house.

Overall, the properties of traditional Malay houses present a character that is distinct and closely related to the daily life of the Malays. The landscape characters of the RK and RLBP01 present a significant identity comprised of the types of softscapes relative to daily use, visible boundary demarcation between houses, native vegetation, and culturally attributed small-scale elements around the house's compound. The softscapes which are comprised of herbs, fruits, and ornamental plants point to the usability of the plants for elements such as edibility, medicine, and decoration purpose. High usability for plants in Malay house compounds is for edibility, followed by decorative, and medicinal (Ani et al., 2012). This is evidenced through the compound analysis of RLBP01, which utilised the front compound with an element of decoration for welcoming purposes and the rear compound for edibility and medicine, especially through the planted coconut palm tree (*Cocos Nucifera*). According to Hussain et al. (2020), coconut palm also functions as a security fence alongside providing a source of food and aesthetics.

There is no clear boundary demarcation between the traditional Malay houses in Lenggong Valley. This points to the visibility aspect to encourage social cohesion. According to Zakaria et al. (2017), the compound of the traditional Malay house functions as a space for socialisation. There is a strong emphasis on social cohesion in the identity of Malay traditional houses (Syed Mahdzar & Yahya, 2017). The visible path between the houses encourages clear accessibility between the house's occupants and neighbours. This reinforces the spirit of community among Malays. For example, the neighbour can freely help the occupants with daily activities or just for leisure activities. The man-made boundary between the houses may be perceived as non-approachable. Hints on socio-economic activities and historic information can be extracted from small-scale elements found on the site of the cultural landscape. For instance, at Jasin and Alor Gajah, the small-scale element of Kebuk Padi is a significant feature in the compound due to the history of these places as the location of paddy fields in the 1950s (Ani et al., 2012). Page et al. (1998) relate the small-scale elements with functional usage and aesthetic purpose which may complement the landscape. In Lenggong Valley, the example of RBLP01 given showed the minimal availability of small-scale elements due to the occupant status. The low occupancy status among Malay traditional houses points to the issue of abandonment of vernacular architecture (Sulaiman, 2017). However, there is a visible pot placed at the side of the staircase for aesthetic value commonly found in traditional Malay houses.

CONCLUSION

The tabulation distribution of Perak traditional Malay houses in Lenggong Valley reflects the influence of various factors; geographical, topography, history, cultural, and socioeconomic. The landscape characters of these houses point to the common character found within the perspective of the Malay Garden and encompass cultural landscape values as well. This study focuses to report on the distributional tabulation and landscape characters of Perak traditional houses to support the cultural heritage value of Lenggong which may not be highlighted in the WHO preservation and conservation assessment. The significances of this study contribute to the aspiration of Lenggong Valley to become Global Geopark, inform local authorities of significant cultural features, and increase the awareness of Lenggong cultural heritage thus pointing to the preservation and conservation efforts required to maintain them. Future study is recommended to emphasise on the preservation and conservation strategies of Perak traditional Malay houses and their landscape in Lenggong by incorporating detailed assessment, such as Building Condition Assessment (BCA) and cultural landscape assessment.

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AUTHORS' CONTRIBUTIONS

All authors involved in carried out the research, wrote and revised the article, conceptualised the central research idea and provided the theoretical framework, review and approved the article submission.

REFERENCES

- Abdullah, M., Shuib, K. B., Mazehan, M., & Hashim, H. (2014). Cultural landscape study for Malay middle landscape In Lenggong. <https://ir.uitm.edu.my/id/eprint/35494>
- Ani, A., Mohamed, N., & Rahman, N. A. (2012). Socio-cultural influences in the composition of traditional Malay house compounds in rural Melaka. *ALAM CIPTA, International Journal of Sustainable Tropical Design Research and Practice*, 5(1). <https://api.semanticscholar.org/CorpusID:56267490>
- Azizi, N. Z. M., Razak, A. A., Din, M. A. M., & Nasir, N. M. (2016). Recurring Issues in Historic Building Conservation. *Procedia - Social and Behavioral Sciences*, 222, 587-595. <https://doi.org/10.1016/j.sbspro.2016.05.217>
- Azlan, N. A., Shukri, S. M., Aziz, A., & Taib, I. (2022). Preserving Old Traditional Malay House: Case Study of Perak House of Rumah Kutai. *MAJ-Malaysia Architectural Journal*, 4(1), 22-28. <https://www.majournal.my/index.php/maj/article/view/94/59>
- Choo, I. A. H., Rashid, M. S. A., & Jamaluddin, N. H. (2020). The typology of Rumah Limas Bumbung Perak (RLBP). *PLANNING MALAYSIA*, 18. <https://doi.org/10.21837/pm.v18i12.740>
- Dalkılıç, N., & Nabikoğlu, A. (2020). Documentation and analysis of structural elements of traditional houses for conservation of cultural heritage in Siverek (Şanlıurfa, Turkey). *Frontiers of Architectural Research*, 9(2), 385-402. <https://doi.org/10.1016/j.foar.2019.11.003>
- Dewi, C. (2017). Rethinking architectural heritage conservation in post-disaster context. *International Journal of Heritage Studies*, 23(6), 587-600. <https://doi.org/10.1080/13527258.2017.1300927>
- Harun, N. Z., Ariffin, N. A. M., & Abdullah, F. (2017). Changes and threats in the preservation of the traditional Malay landscape. *Planning Malaysia*, 15. <https://doi.org/10.21837/pm.v15i4.318>
- Harun, R. (2008) Hikayat Tajul Muluk; Departemen Pendidikan dan Kebudayaan: Jakarta, Indonesia, Volume 2, Proyek Penerbitan Buku Sastra Indonesia dan Daerah.
- Hussain, M. A., Mohd Yunos, M. Y., Ismail, N. A., Ariffin, N. F. M., & Ismail, S. (2020). A review of the elements of nature and the Malay cultural landscape through Malay literature. *Sustainability*, 12(6), 2154. <https://doi.org/10.3390/su12062154>
- Jaafar, M., Noor, S. M., & Rasoolimanesh, S. M. (2015). Perception of young local residents toward sustainable conservation programmes: A case study of the Lenggong World Cultural Heritage Site. *Tourism Management*, 48, 154-163. <https://doi.org/10.1016/j.tourman.2014.10.018>
- Jabatan Perancangan Bandar Desa, Pejabat Projek Zon Tengah & Environmental Planning Group Sdn. Bhd. (2015). Laporan Analisis dan Strategi Pembangunan Rancangan Tempatan Daerah Hulu Perak 2030 (Penggantian).
- Khairudin, K. F., Salleh, N. H., & Aripin, S. (2018). An Overview of the Construction Techniques of Traditional Malay Houses: Rumah Kutai, Perak. *Environment-Behaviour Proceedings Journal*, 3(7), 255-264. <https://doi.org/10.21834/e-bpj.v3i7.1131>

- Klinar, K., & Geršič, M. (2014). Traditional house names as part of cultural heritage. *Acta geographica Slovenica*, 54(2), 411-420. <https://doi.org/10.3986/AGS54409>
- Mazehan, S. M., Shuib, B. K., & Hashim, H. (2013). Value of Rural Landscape from Public Perspectives. In *Proceedings of the International Conference on Social Science Research, ICSSR* (pp. 4-5). <https://api.semanticscholar.org/CorpusID:133164216>
- McClelland, L. F., Keller, J. T., Keller, G. P., & Melnick, R. Z. (1999). Guidelines for Evaluating and Documenting Rural Historic Landscapes: National Register Bulletin, *NPS United States Department of the Interior, National Register of Historic Places. Washington, DC.* (30), 1-33.
- Melnick, R. Z. (2016). Deciphering Cultural Landscape Heritage in the Time of Climate Change. *Landscape Journal*, 35(2), 287-302. <https://doi.org/10.3368/lj.35.2.287>
- Nasir, A. H., & Teh, H. H. W. (1996). The Traditional Malay House. Institut Terjemahan Negara Malaysia. https://books.google.com.my/books?hl=en&lr=&id=_1vb4mZU6dIC&oi=fnd&pg=PR1&dq=The+Traditional+Malay+House&ots=WB6hT6qKX3&sig=m03Tzzku9LoYSi8BI3spTS3mjco&redir_esc=y#v=onepage&q=The%20Traditional%20Malay%20House&f=false
- Page, R. R., Gilbert, C., & Dolan, S. (1998). A guide to cultural landscape reports: contents, process, and techniques. *US Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program.*
- Ramsay, T. (2017). Fforest Fawr Geopark—a UNESCO Global Geopark distinguished by its geological, industrial and cultural heritage. *Proceedings of the Geologists' Association*, 128(3), 500-509. <https://doi.org/10.1016/j.pgeola.2016.12.010>
- Rashid, S., Alauddin, K., Baharuddin, M. N., & Choo, I. (2019). Architectural Design Evolution of the Malay Traditional Houses Along Sungai Perak. *Borneo Journal of Social Sciences and Humanities*, 7(1), 1-10. <https://doi.org/10.35370/bjssh.2019.1.1-08>
- Rashid, S., Baharuddin, N., & Alauddin, K. (2021). The History and Transformation Of Perak Malay Traditional House. *Malaysian Journal of Sustainable Environment*, 8(3), 71-86. <https://doi.org/10.24191/myse.v8i1.12661>
- Ruban, D. A., Mikhailenko, A. V., Yashalova, N. N., & Scherbina, A. V. (2023). Global geoparks: Opportunity for developing or “toy” for developed? *International Journal of Geoheritage and Parks*, 11(1), 54-63. <https://doi.org/10.1016/j.ijgeop.2022.11.003>
- Sadry, B. N. (2020). *The Geotourism Industry in the 21st Century: The Origin, Principles, and Futuristic Approach* (1st ed.). Apple Academic Press. <https://doi.org/10.1201/9780429292798>
- Saleh, Y., Hashim, M., Mahat, H., & Nayan, N. (2018). The Traditional Malay Houses in the District of Muallim, Perak: A Lost Legacy. *International Journal of Academic Research in Business and Social Sciences*, 8(2), 684-697. <http://dx.doi.org/10.6007/IJARBS/v8-i2/3978>
- Salleh, I. H., Rashid, M. S. A., & Sakip, S. R. M. (2016). Malay garden concept from the traditional Malay landscape design. *Procedia-Social and Behavioral Sciences*, 222, 548-556. <https://doi.org/10.1016/j.sbspro.2016.05.213>
- Sari, K. P., Munandar, A., & Arifin, N. H. S. (2020). Study of cultural landscape character in Gampong Lubuk Sukon, Aceh. In *IOP Conference Series: Earth and Environmental Science* (Vol. 501, No. 1, p. 012042). IOP Publishing. <https://doi.org/10.1088/1755-1315/501/1/012042>
- Stoffelen, A. (2020). Where is the community in geoparks? A systematic literature review and call for

attention to the societal embedding of geoparks. *Area*, 52(1), 97-104. <https://doi.org/10.1111/area.12549>

Sulaiman, M. S. (2017). Challenges in the conservation of the Negeri Sembilan Traditional Malay House (NSTMH) and establishment of a conservation principles framework (Doctoral dissertation, University of Edinburgh). <http://hdl.handle.net/1842/23552>

Syed Mahdzar, S. S., & Yahya, A. S. (2017, March). The visual graph analysis of Malay traditional houses. In *Proceedings of the 8th International Science, Social Science, Engineering and Energy Conference*, 15th-17th March. <http://dx.doi.org/10.2139/ssrn.3565675>

UNESCO (2000) UNESCO Geoparks Programme Feasibility Study, UNESCO, Paris

UNESCO. (2012). Archaeological heritage of the Lenggong Valley. from <http://whc.unesco.org/en/list/1396>

Zakaria, A. Z., Rashid, M. S. A., & Ahmad, S. (2017). Hardscape and softscape elements of a Malay garden. *Pertanika Journals Social Sciences & Humanities*, 25, 109-118. [http://www.pertanika.upm.edu.my/resources/files/Pertanika%20PAPERS/JSSH%20Vol.%2025%20\(S\)%20Feb.%202017/12%20JSSH\(S\)-0351-2016-4thProof.pdf](http://www.pertanika.upm.edu.my/resources/files/Pertanika%20PAPERS/JSSH%20Vol.%2025%20(S)%20Feb.%202017/12%20JSSH(S)-0351-2016-4thProof.pdf)

Zakariya, K., Ibrahim, P. H., & Wahab, N. A. A. (2019). Conceptual framework of rural landscape character assessment to guide tourism development in rural areas. *Journal of Construction in Developing Countries*, 24(1), 85-99. <https://doi.org/10.21315/jcdc2019.24.1.5>



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