

# INVESTIGATING THE VISUAL PRIVACY OF HOUSE LAYOUTS IN NEGERI SEMBILAN TRADITIONAL MALAY HOUSES

Noor Hayati Ismail<sup>1</sup>, Azhani Abd. Manaf<sup>2</sup> & Syazwani Zamri<sup>3\*</sup>  
\*Corresponding Author

<sup>1,2,3</sup>Faculty of Engineering and Built Environment,  
Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

noorhayatiismail@usim.edu.my, azhani@usim.edu.my,  
\*syazwanizamri@raudah.usim.edu.my

Received: 3 January 2023

Accepted: 20 February 2023

Published: 31 August 2023

## ABSTRACT

*A house is one of the necessities in the life of every human being. It is more than simply a shelter or structure but also significant in providing privacy to its occupants. This study aims to investigate the visual privacy regulated in different types of Negeri Sembilan Traditional Malay House (TMH). Different types of house layouts based on the number of pillars were selected in order to investigate the visual privacy. The research methodology utilizes case studies which include observations and interviews. Both case study portrays that visual privacy is regulated in Negeri Sembilan TMH despite the size of the house. The houses provide the need for visual privacy while maintaining and preserving community intimacy, social interaction and hospitality. This study is expected to be an eye-opener on the visual privacy regulated by occupants in Negeri Sembilan TMH.*

**Keywords:** *Negeri Sembilan, Traditional Malay House, Visual Privacy, House layout, Community intimacy*



## **INTRODUCTION**

A house is one of the basic architectural structures that plays an important part in human lives. Every human being needs a personal shelter that has an element of peace and calm from external disturbances and environment (Musa, 2015). Houses were built based on people's culture, beliefs, climate, status and preferences. A house is a representation of its residents and local geographic conditions (Hasan et al., 2021). It is more than simply a shelter or a structure result of physical forces-it is an integral part of the social and cultural unit in its widest form and is an institution created to support a particular way of life (Manesh & Latifian, 2015; Rapoport, 1991).

The interest and issue of privacy are discussed in a variety of disciplines (Babangida & Katsina, 2018) namely psychology, sociology and architecture. Privacy is one of the important aspects of a house. Basically, past research has assumed and investigated privacy as "people try to be open or closed, they must avoid contact and maintain distance to interact with others at specific occasions and times" (Altman, 1975, Altman et al 1981, Altman & Chemers, 1984,). Visual privacy is one of the most important aspects of privacy in the design of houses. It is known as the ability to carry out daily activities free from fear of undue visual intrusion (Alkhazmi & Esin, 2017), and concealing interfamily affairs from the eyes of outsiders (Babangida & Katsina, 2018). A house should provide visual insulation from the outside; allows control of visual exposure and freedom from visual access.

The permeability of boundaries between oneself and others is a two-way process that affects privacy. It is the evolving process known as privacy regulation (Altman & Chemers, 1984). The need for privacy regulation to regulate visual privacy may be varied between individuals and cultures, but can be achieved through the usage of different mechanisms. Manesh and Latifian (2015) stated that the need for privacy is different in different cultures and there is a difference between individuals in particular cultures depending on the mode and social status. This shows that an individual's social status influences the privacy of their house. However, does the difference in house size and layout based on social status affect the visual privacy of the house? This paper aims to investigate the visual privacy regulated in different types of Negeri Sembilan Traditional Malay House

(TMH) based on different social status.

The objectives of the study are:

1. To examine how visual privacy is regulated based on spatial organization.
2. To study the application of architectural elements in the spaces to regulate visual privacy.
3. To compare the visual privacy layers based on spatial organization and usage of architectural elements.

## **LITERATURE REVIEW**

### **Traditional Malay House and The Aspects of Privacy**

Malaysia is home to a large number of Traditional Malay Houses (Mohd Isa et al. 2021) and one of them is the Negeri Sembilan Traditional Malay House (TMH). Generally, the public knows the uniqueness of Negeri Sembilan TMH can be seen through the long roof, which is slightly curved on the sides. According to Raja Shahminan (2007), the traditional house of Negeri Sembilan is also known as “Rumah Bumbung Panjang Negeri Sembilan”. This characteristic distinguished Negeri Sembilan TMH from others. According to Idrus (1996), Negeri Sembilan TMH is composed of a house with and without a patio namely Rumah Tidak Beranjung, Rumah Beranjung 1, Rumah Beranjung 2 and Rumah Beranjung 3. A house with a patio is basically a house that revolts from a previous house without a patio (Idrus, 1996). A traditional house without a patio is acknowledged as the original version of Negeri Sembilan TMH while a house with a patio is an additional modern version. On top of that, the size of Negeri Sembilan TMH is differentiated by the number of pillars; 12 pillars, 16 pillars and 20 pillars (Hardono & Ahmad Zakaria, 2016). However, regardless of all the varieties, these traditional houses have existed for centuries ago.

The uniqueness of this long-curved roof, or “bumbung Panjang lentik” traditional house is often associated with Adat Perpatih (Ismail et al., 2016; Ismail et al., 2021). Since hundreds of years ago, these houses are inhabited and inherited by the Minangkabau community. They are strong in practising their hereditary practices called “Adat Perpatih” and also hold strong and steadfast to Islam. The influence of Islam is very strong in the

Minangkabau adat, as noted in their proverb “Adat basandi syara’, syara’ basandi Kitabullah, which means, the traditional Minangkabau adat is correlated to the Islamic Law and Islamic law relates to the Quran (Fahmi & Aswirna, 2014). The unique culture of the Minangkabau community in Negeri Sembilan is reflected in the design of its architectural structure. The identity of a society can be maintained through its robust culture embodied through its physical form (Hardono et al, 2015). The TMH of Rembau, Negeri Sembilan is a sample of Malay Muslim Traditional House that demonstrates the continuity of the Malay cultural norms, religious beliefs and basic requirements of privacy in Islam. The design of the house can offer prosperity and harmony to every individual, family and society.

Rapoport (1969) explained the sense of shame, territoriality and individual separation in space associated with privacy needs. The traditional Malay House provides the need for family privacy, community intimacy, hospitality and social interaction with neighbours at a different level, both inside and outside the house (Manaf et al., 2019). Past studies agreed that in general, the concept of privacy in the traditional Malay culture is different as compared to the Western concept (Hashim et al., 2009; Hashim & Rahim, 2010). Privacy needs in the Malay Muslim culture were based on the beliefs and perceptions of the traditional Malay community itself. The spatial organization emphasizes the segregation between the public domain and private domain, (Rapoport, 1969; Mortada, 2003; Rahim, 2008) and gender segregation based on Islamic teachings which emphasize that men and women cannot mix freely (Hardono & Ahmad Zakaria, 2016).

## **METHODOLOGY**

The methodology undertaken for this research utilizes a case study method which includes observations, on-site spatial measurement of house layout plans for documentation, and interviews. Visual data such as photos and measurements of the Negeri Sembilan TMH were documented. Case studies involved two types of houses, one belongs to a noble and another one is a commoner located in Rembau, Negeri Sembilan. This research limitation focuses on the visual privacy of the Negeri Sembilan TMH in Rembau area only because it employs heritage houses of more than hundred years and was the early settlement of Minangkabau community in Negeri Sembilan

(Noor Hayati, 2016). Therefore, the findings of this research are based on the case study area only which may be different from other areas.

The selected sample for case studies represents the different statuses in the community with different sizes of house layouts based on the number of columns and privacy needs. On-site observation was conducted with a drawing plan of the houses to study the layout, spatial organization and architectural elements to regulate visual privacy. Next, the selection of respondents was made to gather information based on their demographic data, house profile and socio-cultural needs. Respondents are the house owner, and family members living in the traditional house which followed their availability and willingness to be interviewed. It is conducted at natural settings in the Negeri Sembilan TMH. Interview with respondents takes approximately 45 minutes and explored the visual privacy regulation, religious beliefs, cultural norms and daily activities based on simple open-ended questions. Interviews and drawing documentation of the Negeri Sembilan TMH are carried out simultaneously.

## **RESULTS AND DISCUSSION**

This research examines two types of houses that focus on the visual privacy in the Negeri Sembilan TMH to answer the research question. The figure shows the different types of house layouts based on different social statuses in the community the layout plan emphasizes zoning area, where it shows how the occupant regulates visual privacy within the space and daily activities. The zoning shows the area that is a domain of women and men. The public space is a men's domain (male/ non-mahram guests) while the semi-public and private spaces are a women's domain (family member/ female guests).

### **Spatial Organization**

Figure 1 shows the ordinary villager house with 9 pillars. The dwelling form follows the family needs, the number of children and the economy. The intimacy with the community in the village is still maintained.

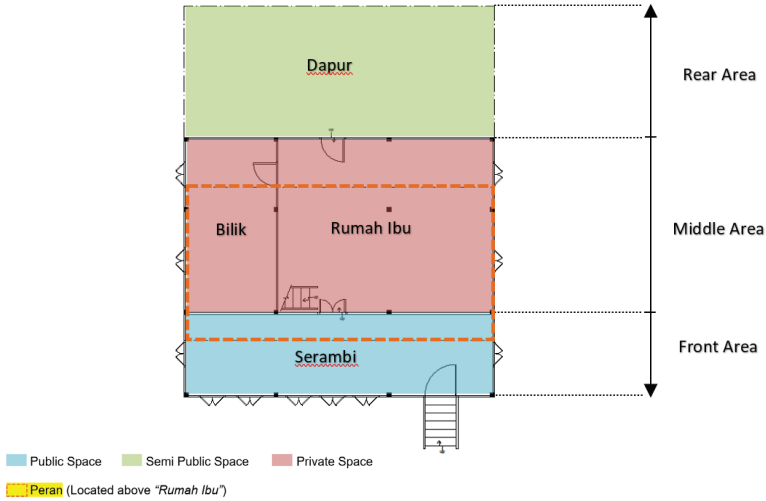


Figure 2. Interior Layout of Noble's House

Source: (Author)

According to custom, the men will enter the house through the front door while the women will enter the house through the back door. “Serambi” is built as an area to receive and welcome male visitors who are non-relatives or relatives. Male visitors who are non-mahram only permitted to enter the house up to “serambi” area only. This area is used by the males to perform daily activities such as prayers, resting and sleeping at night. Usually during the cultural event such as “akad nikah” or exchange of vows ceremony, the “serambi” is only specified for the men whereas the women will be seated at the “rumah ibu” area together with the bride. The serambi situated at the base location near the entrance is to discuss customary matters, such as engagement, marriage, circumcision and others, while the serambi end is a sacred space of the religious person (Ustaz), reciting prayers, the place of customary wedding ceremonies, funeral prayers (Mohd Nor et al. 2021).

Meanwhile, the main house known as “rumah ibu” area at the center is provided as the seating area for the female guests specifically the wives or the daughters to gather. Men and women cannot mix freely according to the custom and religion of Islam (Hardono & Ahmad Zakaria, 2016). Hence, their seating arrangements are separated in such a manner. This is a private area which is only opened for the family members and “mahram”. The level of the floor at the “rumah ibu” area is the highest as compared

to the others. This is to show respect to the womenfolk in the house. In the area, a ladder to the loft can also be found. There is also a room in this area. Different from the “serambi” area which is more open, the “rumah ibu” area only has two windows because this is a very private area for the women of the house. Only men who have close ties with the women are allowed to enter the “rumah ibu” area. Therefore, there is a door to separate between the “serambi” and “rumah ibu” or if not, there would be a curtain that covers the entrance to prevent the male visitors from looking in. The room is used by daughters to sleep while men sleep at “serambi”. Priority is given to newlywed daughters to use the room for keeping privacy.

**Table 1. Comparison Function of Spaces in Both Negeri Sembilan Traditional Malay House**

| No | Spaces    | Commoner's House  | Noble's House  |
|----|-----------|---|--|
| 1  | Serambi   | <ul style="list-style-type: none"> <li>•Male domain</li> <li>•Main entrance for male</li> <li>•To entertain male visitors</li> <li>•Performing daily activities such as praying, changing clothes, resting and sleeping at night</li> <li>•During Adat ceremonies, serambi is specified for men</li> </ul>  | <ul style="list-style-type: none"> <li>•Male domain</li> <li>•Main entrance for male</li> <li>•To entertain male visitors</li> <li>•Performing daily activities such as praying, changing clothes, resting and sleeping at night</li> <li>•During Adat ceremonies, serambi is specified for men</li> </ul> |
| 2  | Rumah Ibu | <ul style="list-style-type: none"> <li>•Women domain</li> <li>•For family members and mahram</li> <li>•Space to sleep for daughters</li> <li>•During Adat ceremonies, women will be seated in Rumah Ibu</li> <li>•Place for Ibu Soko to be seated</li> </ul>  | <ul style="list-style-type: none"> <li>•Women domain</li> <li>•For family members and mahram</li> <li>•Space to sleep for daughters</li> <li>•During Adat ceremonies, women will be seated in Rumah Ibu</li> <li>•Place for Ibu Soko to be seated</li> </ul>   |
| 3  | Bilik     | <ul style="list-style-type: none"> <li>•Sleeping area for parents or daughters</li> <li>•Performing daily activities for women</li> <li>Room for newly-wed daughters</li> </ul>   | <ul style="list-style-type: none"> <li>•Sleeping area for parents or daughters</li> <li>•Performing daily activities for women</li> <li>•Room for newly-wed daughters</li> </ul>   |
| 4  | Peran     | <ul style="list-style-type: none"> <li>•Not available</li> </ul>  | <ul style="list-style-type: none"> <li>•Space to sleep for daughters</li> <li>•During Adat ceremonies, daughters will be seated in peran</li> <li>•Hide out if there is an intrusion or outside of the house.</li> </ul>   |
| 5  | Dapur     | <ul style="list-style-type: none"> <li>•Women domain</li> <li>•For family members and mahram to spend time and relax</li> <li>•Entrance for women during Adat ceremonies</li> <li>•Prepare and cooking food, washing and eating</li> <li>•Entertain female visitors</li> <li>•Sleeping area for parents or daughters if there is not enough space in the house</li> </ul> | <ul style="list-style-type: none"> <li>•Women domain</li> <li>•For family members and mahram to spend time and relax</li> <li>•Entrance for women during Adat ceremonies</li> <li>•Prepare and cooking food, washing and eating</li> <li>•Entertain female visitor</li> </ul>                              |

Source: Author

The “peran” which is located on the upper part of the “rumah ibu” is used as a space to sleep and hideout for daughters if there is an intrusion outside of the house. Not all Negeri Sembilan TMH have “peran”, only those with status in the community have access to this space. As shown from the case study, the 9 pillars house of the commoner does not have “peran” however the 16 pillars house of a noble has “peran”. It is said that during adat ceremonies, daughters will be seated here. If there is not enough space to sleep in the “rumah ibu”, the daughters will sleep in the “peran”. However, for houses without peran, the parents or daughters will be sleeping in “dapur” because of lack of spaces in the house which usually is due to economic factors. Partitions are made to segregate areas in the kitchen for sleeping at night.

The “dapur” area where the main activity is preparing meals is considered and that completes the house. Based on the layout of the Negeri Sembilan Traditional Malay House, the front area of the house is specified only for men, while the back area is specified for women. When the women’s domain is located at the back part or area of the house, this enables them to conduct their activities easily. This space is used for get together and eating with family members. Female visitors will also be entertained here unofficially. In short, the “dapur” area has multiple functions and layouts. Idrus (1996) mentioned that of late, the kitchen area is mainly used as a family area because most of the family members like to spend time and relax in this area to meet and chat, and have breakfast or other meals. The outmost area of the house “serambi” becomes quiet and empty especially during the daytime because family members spend time in the kitchen.

### **Architectural Element to Regulate Visual Privacy**

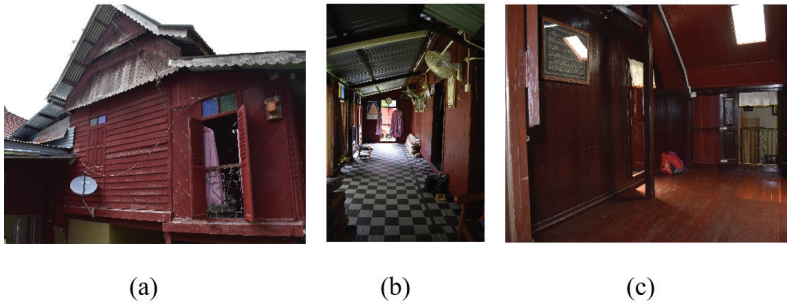
Architectural elements are important features to regulate the visual privacy of a house. Both Negeri Sembilan TMH applied architectural elements to regulate visual privacy which applied between public, semi-public and private spaces.

**Table 2. Comparison Application of Architectural Elements to Regulate Visual Privacy in Both Negeri Sembilan Traditional Malay House**

| Commoner's House                      |         |           |       |               |       |
|---------------------------------------|---------|-----------|-------|---------------|-------|
| Application of Architectural Elements | Serambi | Rumah Ibu | Bilik | Peran         | Dapur |
| Doors                                 | X       | X         | X     | Not available | X     |
| Windows                               | X       | X         | X     |               | X     |
| Louvers                               | X       |           |       |               |       |
| Openings                              | X       |           |       |               |       |
| Peep holes                            |         |           |       |               |       |
| Wall                                  | X       | X         | X     |               | X     |
| Noble's House                         |         |           |       |               |       |
| Application of Architectural Elements | Serambi | Rumah Ibu | Bilik | Peran         | Dapur |
| Doors                                 | X       | X         | X     |               | X     |
| Windows                               | X       | X         | X     | X             | X     |
| Louvers                               | X       |           |       |               |       |
| Openings                              | X       |           |       | X             |       |
| Peep holes                            |         |           |       | X             |       |
| Full height wall                      | X       | X         | X     | X             | X     |

Source: Author

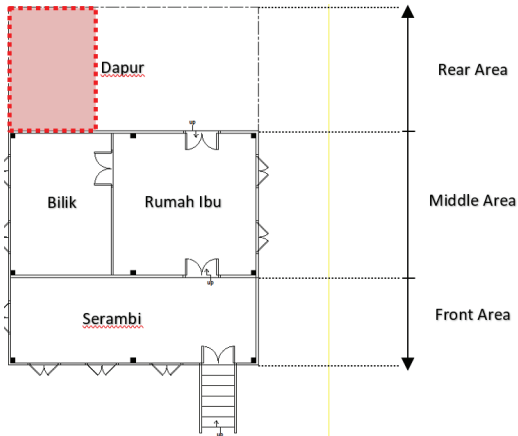
The findings show that doors, windows, louvers, openings, and walls can be found in “serambi” of both case study houses. “Rumah Ibu”, “bilik” and “dapur” of both houses consists of the usage of doors windows and full-height walls to regulate visual privacy. Whereas the “peran” which is only available in the noble’s house includes the usage of peepholes. Peepholes are included in the special design of Negeri Sembilan woodcarvings which allow female family members to see outside but still not be able to be seen from outside (Abidin et al. 2017).



**Figure 3. Windows and Full Height Wall to Regulate the Visual Privacy in Commoner’s House (a) Interior of “Serambi” with Door Going into “Rumah Ibu” (b) usage of Doors at “Rumah Ibu” which Includes “Bilik” and Doors to the “Dapur” Area (c)**

Source: Author

The finding indicates the usage of architectural elements to regulate privacy apply to public, private and semi-public areas. The commoners’ house uses windows with louvers detailing which can help the occupants to see outside without being viewed. Doors are available in every zone of the house and most importantly in the private space which helps to avoid direct visual intrusion to the individual using the space. The commoners’ house includes a full height wall for the exterior and interior of the house which helps to avoid direct visual intrusion.



**Figure 4. Usage of Partitions in “Dapur” as Temporary Sleeping Area at night**

Source: Author



(a) (b) (c)  
**Figure 5. Windows with Louvers (a) Small Openings at Peran (b) Full Height Wall to Regulate the Visual Privacy in Noble’s House**

Source: Author

Due to the lower socio-economic status, the commoner’s house needs to use a part of the “dapur” as a sleeping area at night as highlighted in figure 4. This happens when there is not enough space to sleep for the female in the house. Compared to the noble’s house which has an extra space which is called “peran” which can be used by females to sleep at night, the commoner’s house on the other hand utilizes the “dapur” area by using partitions made of bamboo to segregate the sleeping area. This shows that visual privacy can still be achieved in a house with less space by utilizing architectural elements.

The noble’s house uses windows with louvers detailing which can help the occupants to see outside without being viewed. There are small openings under the window area which can be used by occupants to view outside without being seen. Every space of the house includes usage of doors which serves to prevent direct visual intrusion to the individual using the spaces, especially in the private space. As the noble’s house includes a “peran”, the architectural elements used to regulate privacy in the space comprising small openings and peepholes which serve the function as a private space. Women using the area can view the outside without being seen.

**Table 3. Comparative Analysis of Privacy Layers based on Spatial Organization and Usage of Architectural Elements**

| No | Comparison   | Commoner’s House   | Noble’s House   |
|----|--------------|--|---|
| 1  | House size   | Based on the number of column (9 columns)                      | Based on the number of column (16 columns)                            |
| 2  | House layout | Has serambi tengah, serambi hujung, rumah ibu, bilik and dapur | Has serambi tengah, serambi hujung, rumah ibu, bilik, peran and dapur |

|   |  |   |   |
|---|--|---|---|
| 3 | Function of house                                | Sufficient to accommodate family members  | Sufficient to accommodate family members and visitors   |
| 4 | Entrance   | 2 entrance, front door for male and back door for female  | 2 entrance, front door for male and back door for female  |
| 5 | Privacy layers based on spatial organization     | Front area (serambi) is public, middle area (rumah ibu and bilik) is private and back area (dapur) is semi-public   | Front area (serambi) is public, middle area (rumah ibu, bilik and peran) is private and back area(dapur) is semi-public |
| 6 | Architectural elements regulating visual privacy | Application of doors, windows, balustrades and full height wall to regulate visual privacy. Uses partition as temporary bedroom in "dapur" at night time when there is not enough space for sleeping in the house | Application of doors, windows, openings, louvers, peepholes and full-height walls to regulate visual privacy            |

Source: Author

Both case study portrays that visual privacy is regulated in Negeri Sembilan Traditional Malay House. Although the house size is quite small, the commoner’s house demonstrates that visual privacy can still be achieved by using architectural elements such as partitions. Visual privacy can be regulated in both houses despite their sizes through spatial organization and usage of architectural elements. This shows that part of the Minangkabau culture in Negeri Sembilan which is steadfast to Islamic teachings is very concerned with visual privacy. The layout of Negeri Sembilan TMH can be used as a design reference for Muslim housings to achieve desired visual privacy level.

## CONCLUSION

The privacy in Negeri Sembilan TMH is intended to protect occupants, particularly women from the non-mahram. The Negeri Sembilan TMH provides the need for privacy while maintaining and preserving community intimacy, social interaction and hospitality. In other words, maintaining privacy is intended to receive and treat the guest decently without diminishing the secure feel of dwellers. Both case studies demonstrate that visual privacy is can be regulated despite the house size whether it is big or small. This is because a bigger house does not necessarily have more privacy. Visual privacy can still be maintained for smaller house sizes and layouts. Zoning, gender segregation and architectural elements in relation to privacy are values in order to protect visual privacy in Negeri Sembilan

TMH. Furthermore, the visual privacy embodied in Negeri Sembilan TMH was based on the beliefs and culture of the Minangkabau community that were steadfast to their hereditary practice of Adat Perpatih and Islam. It is hoped that such study will provide understanding and sharing of knowledge to community on the Malay architectural heritage. This study is expected to be an eye opener on the visual privacy value in the TMH of Negeri Sembilan. Lastly, further research on acoustics privacy in Negeri Sembilan TMH is needed to understand the auditory privacy regulation mechanisms.

## **ACKNOWLEDGEMENT**

The authors would like to express sincere gratitude to all those who participated and contributed in this paper's production.

## **FUNDING**

There is no funding for this research.

## **AUTHOR CONTRIBUTIONS**

All authors have participated in the design of the research, analysis and interpretation of the data, drafting the article or revising it critically for important intellectual content and approval of the final version.

## **REFERENCES**

- Rahim, A. A. (2008). *Housing from Islamic Perspective*. Kuala Lumpur: IIUM Press, International Islamic University Malaysia.
- Manaf, A. A., Rahim, Z. A., Majid, N. H. A., & Omer, S. (2019). A Relook at Visual Privacy: Definition and Factors Influencing Muslim Visual Privacy (MVP). *Pertanika J. Soc. Sci. & Hum*, 27(4), 2659–2670.
- Alkhazmi, H.M., & Esin, N. (2017). Investigating the Visual Privacy on Houses Layouts in Traditional Desert Settlement of Ghadames City-

- Libya-by Using Space Syntax Analysis. *International Journal of Applied Engineering Research*, 12(19), 8941-8951.
- Altman, I. (1975). *The Social Environment and Behavior; Privacy, Personal Space, Territory and Crowding*. Monterey, California: Brooks / Cole Publishing Company.
- Altman, I., Vinsel, A., & Brown, B. B. (1981). Dialectic Conceptions in Social Psychology: An Application and Privacy Regulation. *Advances in Experimental Social Psychology*, 14, 107-157.
- Altman, I., & Chemers, M. M. (1984). *Culture and Environment (basic concepts in environment and behavior series)*. New York: Cambridge University Press.
- Babangida, H., & Katsina, H. S. (2018). Integrating Islamic Design Principles for Achieving Family Privacy in Residential Architecture. *Journal of Islamic Architecture*, 5(1), 9–19.
- Hardono, S., Awang, A., & S.A. (2012). Negeri Sembilan Traditional House and Minangkabau House in Sumatera: The Assimilation of Matrilineal in the Architectural Sustainability. *Journal Online Jaringan Pengajian Seni Bina (JOJAPS)*, 2, 33–41.
- Hardono, S., & Ahmad Zakaria, S. B. (2016). Negeri Sembilan Traditional House and Western Sumatera Minangkabau House: A Comparison of the Interior Space in the Architecture Aspect. *Asian Journal of Technical Vocational Education And Training (AJTVET)*, 1, 1–9.
- Hasan, M. I, Prabowo, B. N., & Mohidin, H. H. B. (2021). An Architectural Review of Privacy Value in Traditional Indonesian Housings: Framework of Locality-Based on Islamic Architecture Design. *Journal of Design and Built Environment*, 21(1), 21–28.
- Hashim, A. H., Ali, H. M., & Samah, A. A. (2009). Urban Malays User-Behaviour and Perspective on Privacy and Spatial Organization. *International Journal of Architectural Research*, 3(1), 197–208.
- Hashim, A. H., & Rahim., Z.A. (2010). Privacy and Housing Modifications among Malay Urban Dwellers in Selangor. *Pertanika Journal of Social Science and Humanities*, 18(2), 259–269.

- Idrus, Y. (1996). *Rumah Tradisional Negeri Sembilan: Satu Analisis Seni Bina Melayu*. Shah Alam: Fajar Bakti.
- Ismail, N. H., Yunus, S. K., & Surat, M. (2016). Reka Bentuk Rumah Tradisional Negeri Sembilan Dipengaruhi oleh Adat dan Kedaerahan. *Wacana Seni Journal of Arts Discourse*, 15, 113–136.
- Ismail, N. H., Surat, M., & Yunus, S. K. (2021). Evolution of Architectural Heritage through Typology of Traditional Houses in Negeri Sembilan. *International Transaction Journal of Engineering, Management & Applied Sciences & Technologies*, 12(12), 12A12, 1-9.
- Manesh, F. M., & Latifian, S. (2015). Analysis of The Concept of Privacy and Its Feature in House Designing. *Journal of Applied Environmental and Biological Sciences*, 5(12S), 122–133.
- Mortada, H. (2003). *Traditional Islamic Principles of Built Environment* (1st Edition). New York: Routledge Curzon.
- Mohd Isa, H., Baharuddin, M. N., Mohd Nor, O., Ab Rashid, M., Sedhu, D. S., Abdul Manap, M. D., & Dzulkifly, N. A. (2021). Diagnosing timber defects in traditional Malay house: a case study of Tok Abu Bakar Alang Ketak (TABAK) nature of building defects in Tok Abu Bakar Alang Ketak House (TABAK). *Malaysian Journal of Sustainable Environment (MySE)*, 8(2), 35-53.
- Mohd Nor, O., Misnat, N., Mohd Isa, H., & Abd Karim, N. (2021). Space organization in Perak Malay traditional house analysis of space organization on Perak Malay traditional house. *Malaysian Journal of Sustainable Environment (MySE)*, 8(3), 103-124.
- Fahmi, R., & Aswirna, P. (2014). The Paradox of Islam and Culture (Tradition and Belief about Gender Perspective in West Sumatera). *Al-Turas*, 20(2), 313–323.
- Shahminan, R. N. R. (2007). *Senibina Rumah Bumbung Panjang Negeri Sembilan*. Adat Perpatih - Esei Pilihan, 191–197.
- Rapoport, A. (1969). *House Form and Culture*. Eaglewood Cliffs, New Jearsey, U.S.A: Prentice-Hall, Inc.

- Rapoport, A. (1991). Housing and culture. In L. Taylor (Ed.), *Housing: Symbol, structure, site* (pp. 14-15). New York: Rizzoli.
- Musa, Z. M. (2015). Privasi Rumah Kediaman dalam Islam sebagai Panduan kepada Pembangunan Perumahan. *Jurnal Pembangunan Sosial*, 18, 43–65.
- Abidin, N. Z., Shahminan, R. N. R., & Ibrahim, F. K. (2017). Factors Impacting Woodcarving Influences in Traditional Malay Houses of Negeri Sembilan, Malaysia: Understanding the Technology of Architectural Heritage. *The Social Sciences*, 12(3), 383–39.