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"Globalization and Local Wisdom: The Future is Now"

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بِسْمِ ٱللَّهِ ٱلرَّحْمَٰنِ ٱلرَّحِيمِ

Alhamdulillah, Bless to Almighty Allah SWT for His guidance in publishing the e-proceeding of 1st Bachok International Architecture and Ekistics Symposium 2022 (BIA&ES '22).

The e-proceeding will deliver to the readers the thoughts and research findings in Built Environment specifically the issues and innovative problem-solving regards to the architecture and globalisation. The symposium was committed to deliver the audience the message to appreciate the cultural surroundings and develop the sustainable built environment without losing the identity of the nation.

Thus, I would like to acknowledge all the authors and presenters of BIA&ES '22 for their participation in sharing their thoughts and research findings. The authors and contributors successfully elaborate the topics includes the issues such as Community and Cultural Resilience, Climate Change, Sustainable Design and Ekistics.

Nevertheless, highly appreciation to all secretariat of BIA&ES '22 for their commitment and work hard ensured the symposium went well and the e-proceeding successfully published.

Dr Siti Aisyah Muhammad

Chief of Editors

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بِسْمِ ٱللَّهِ ٱلرَّحْمَٰنِ ٱلرَّحِيمِ

Dilemma of Architecture Education in The Information Society

Prof Ar Dr Julaihi b Wahid

The rapidity of globalization generated by media along the technological advancement has a strong impact on Architectural education. The reflections and observation on architecture education in the post millennium became a new debate among the educators worldwide especially with the agreement of Bologna and Washington Accord. Digital technology available today for disseminating new knowledge became a core element of information society. The horizon of teaching in architecture discipline lies on the inquiry encounter with tradition. The future architect cannot rely on the system of practise via traditional skill apprenticeship. Olivo Ferari in Weiner (2005) *once said- "It is a reminder that no matter how much knowledge a teacher has, if there is no understanding of the pathos of teaching, then that knowledge will become ineffectual. It is clear that a teacher must have a philosophy, must know and believe in something. A teacher must teach what they know and act upon what they believe. It is not enough to have an idea: one must be able to teach that idea".* The information available in the social media today is much more informative and abundance than the message conveyed by the lecturer or teacher, however, how much of the new technology can differentiate the education and practice of architecture as some of the scholars argued or how effective is it applied in solving problem.

Architecture education problem is not faced by technology adjustment. The non-technological courses such as history and theory of architecture is fading away. The specialization of the teacher or lecturer at architecture school are not diverse as in the past. The phase out of theory and history courses started to appear in some school. The history of architecture as taught by the young lecturers are only focusing on the importance of buildings and architects but not on the context of how the history is developed. The gap between architecture education and profession needs to be aligned. The trend of pursuing architecture at doctorate level were also query by some scholars for its contribution to the architectural education, or else it deviates from the focus of architecture either in practice or pedagogy specifically on the challenge in problem solving among the students and the task architecture is expected to solve. The architecture school in Malaysia focussed on the accreditation whereas the training of the student almost similar judging from the content of the guided outline of the syllabus. Digital technology allows a transient transfer in academic standing and foster innovation, intellectual wonder and critical problem-solving, but how much it is being understood and utilized. The core of architectural education in Malaysia did not change much since the establishment of University Technology Malaysia in the early seventies.

Although we are still on earthbound in most of the student's project, however, the direction of architecture education in the future is still anonymous. It is not only in Malaysia, likewise in European and American school of architecture do not have a simple answer, no given approach to architecture pedagogy.

Place Identity In a Globalizing Era: Enhancing Local Features Through Sustainable Tourism

Prof. Ir. Nurlisa Ginting

As a complex entity, the modern urban paradigm has the greatest ability for promoting the growth of the tourism industry. Accordingly, tourism operations must carefully evaluate the environmental, economic, and sociocultural sustainability of the destination where tourism activities take place. The phenomenon of place identity is highlighted as a strategy for achieving success in sustainable tourism – tourism that is attentive to nature conservation, economic equality, and sociocultural protection. It is in this scope that I truly appreciate the 1st Bachok International Architecture and Ekistics Symposium 2022 '*Globalization and Local Identity: Now and Future*'.

Histories demonstrate that the urban tourism industry is expanding significantly. Global cities with significant historical and cultural significance have succeeded in becoming destinations. London, Paris, Barcelona, Hong Kong, Dubai, and Singapore have enormous appeal because they provide visitors a unique spatial experience that is unavailable elsewhere. This distinctiveness derives from the city's physical environment, which includes building typologies, road networks, neighbourhoods, public spaces, and supporting infrastructure. For example, Paris with its balconies and boulevards, London with its gardens and the finest museums, Barcelona with its Gaudí designs, and Singapore with its shopping malls. These cities' distinctiveness is a concrete representation of the concept of place identity. All of these are local characteristics.

Tourism is then understood as a global place-based phenomena whose product is *place identity*. A city with a strong sense of place identity fosters a sense of attachment and belonging and can therefore serve as a benchmark for tourism-driven economic development. By making cities into attractive tourism destinations, numerous concerns associated with the challenges of sustainable urban growth might be resolved. A well-maintained environment, an empowered economy with local potentials, the enhancement of a community's socio-cultural potential, and the management of the built environment that clearly shows respect for nature and communities are the key elements that can contribute to the development of a strong place identity and a very valuable tourism asset. Important to sustainable tourism will be a place identity that prioritizes local strengths, harmony between nature, the built environment, and humans. This signifies that sustainable tourism planning can be implemented precisely by enhancing characteristics of the identity of existing locations, which are reflections of the distinctiveness of local culture, through nature and environmental conservation measures. Ultimately, the establishment of a sustainable tourism system will enhance place identity and promotes globalization that embraces locality for the present and the future.

The Concept of Malay Royal Town Identity and Town Formation

Ts. Dr. Sharyzee Mohmad Shukri

The Malay Royal towns are the most significant town in the sultanate of Malay's administrative systems for the king or sultan-ruled states category. In addition, the Malay Royal town, which dates to the 16th century, has been designated as a historic town, reflecting the status and importance of the Malay sultanate hierarchy. The goal of this research is to describe the concept of a Malay Royal town in Malaysia, which has established its identity, as well as the tangible and intangible elements that support sustainability in the wake of the active rapid urban development in which nearly all of Malaysia's Royal towns are involved. The Malay Royal towns of Arau, Alor Setar, Kuala Kangsar, Jugra-Klang, Seri Menanti, Muar, Pekan, Kuala Terengganu-Chendering and Kota Bharu-Kubang Kerian have all been the subject of multiple case studies. Ite observation, historical map overlay, and semi-structured interviews are all the components of the study methodology used to comprehend and characterise the concept and structure of Malay Royal towns in Malaysia. The research findings suggested that the Malay Royal towns are rich in identity and cultural values, significantly impacting the town's history and development. Therefore, the concept of Malay Royal towns needs to be investigated and recognised by the nation to preserve all the unique characteristics and culture present within the Malay Royal towns for future generations to learn about.

INTRODUCTION

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Architecture plays a minor role in human affairs. Nonetheless, it brings together several critical aspects of civilization: shelter, social function, technology, art, economics, politics, science, and so on. As a result, architecture has the potential to function as a social mirror. Since the early twentieth century, architects have attempted to relate architecture symbolically to transmit a certain perspective of society and its future direction because architects are the medium of predicting the future through images. However, this vision may be inverted; it can modify society to reflect architecture. We can envision architecture as a natural reflection of social, political, and economic trends.

On the other hand, globalization refers to a set of social, political, and economic developments that impact everything from the nation-state functioning to daily life. Globalization is frequently misunderstood as a process by which multinational businesses control the world, but it is much more than that. The new millennium is confronting the tension between the forces of globalization, which has been widely debated as a distinguishing trend of the present moment, and its impact on local architecture and the efforts to ensure local identity and distinctiveness through architecture, where globalization is seen as a multidimensional phenomenon. Architects very often find themselves at the center of two opposing forces existing because of past or present contrasting cultures and architectures, along with their attendant values and methods of expression.

1st Bachok International Architecture and Ekistics Symposium (BIAES 2022) is indeed an exciting time for the Architecture Department, Faculty of Architecture and Ekistics. BIAES 2022 will allow for the publication of manuscripts immediately after rigorous peer review, free of charge to authors with open access, facilitating widespread dissemination and impact in the body of knowledge. These issues may include the focus of architecture and globalization challenges related to the communities and built environment.

THE SPATIAL DESIGN OF FOOD SHARING INITIATIVES: A CASE STUDY OF SELECTED SOUP KITCHENS IN KUALA LUMPUR

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Abstract

The goal of soup kitchens is to relieve the marginalized members of society of food insecurity by providing them with food and basic household necessities. There is limited information surrounding the spaces of soup kitchens and its ability to facilitate socialization; more so in Malaysia. This study aims to investigate the spaces that can promote socialization in soup kitchens and identify the effectiveness of the soup kitchen spaces present in select case studies in Kuala Lumpur. Through literature reviews, case studies, questionnaires and interviews, the Medan Tuanku Feeding Centre and Kechara Soup Kitchen were investigated. Out of the 15 soup kitchens reviewed, 11 of them were known to facilitate socialization, all of which have kitchens and dining areas. This contrasts with the two case studies which have only either one of those spaces. The findings revealed how the space responds to the unique functions of each study, be it oriented to the public or geared towards its external activities. An understanding of the roles and functions of the case studies leads to the suggestion of modifications which could potentially improve the functions of the buildings. As for one of the case studies, the suggestions were reviewed among the volunteers with mixed but mostly positive response. Despite having some overlap in their services, both case studies have spatial designs that are heavily dictated by their unique functions and tailored to effectively execute them.

Keywords: marginalized, necessities, soup kitchens, spatial designs.

1. INTRODUCTION

The word 'humanitarian' implies the act or desire to invest effort in the wellbeing of members of society and humanity in general (Barbosa, 2015). In the age of urbanization, the humanitarian scope has extended to social and financial welfare in cities. Feeding and distributing food and other forms of support to the needy is a gap in welfare service filled by various non-government organizations (NGOs) that run soup kitchens and food sharing programs (Yeoh, 2017). In Malaysia, some examples include Kechara, PERTIWI and Need to Feed the Need (NFN) (Penang Institute, 2015). Architects wear the social responsibility to have confidence in their ability to create better living environments and improve the quality of living (Jubany, 2011). This study believes that this social responsibility should extend to humanitarian efforts that deal with the marginalized groups present in many communities. Soup kitchens and food banks are among the building typologies that are dedicated to alleviate hunger in places where poverty is a big issue. Whether many are aware or not, food insecurity is a global issue and part of Malaysia's population is also at risk of hunger. As of 2014, homelessness in Kuala Lumpur (KL) involved approximately 1,500 individuals (Kechara, n.d.), who certainly lack the resources to provide adequate sustenance without support from others. This gives importance to the soup kitchens operating in Malaysia.

For architects to design effective spaces, there must be consideration of human behavior and the psychological needs (Akbari, 2016). When dealing with spaces as deeply embedded in community such as food sharing spaces (Morrow, 2018), there exists a need for designers to know the needs of the users and make them key considerations in the spaces they design. This study reviews the spatial and architectural aspects of existing soup kitchens in Malaysia that have fixed building space to unveil the initial design intentions of the spaces. It is hoped that the changes in the space by continuous use can be understood. More importantly, this study should shed light on how the design of these spaces responds to the needs of the users and service providers in the space.

2. PROBLEM STATEMENT

In 2014, Federal Territories Minister, Tengku Adnan, issued a ban on soup kitchen operations within a two kilometer radius of Lot 10, located in the city center of Kuala Lumpur (Yeoh, 2017). Tengku Adnan claimed that the problems related to the soup kitchens prior to the ban include worries of hygiene, diseases and public cleanliness (Penang Institute, 2015). He also raised concerns that the soup kitchen clients, namely the homeless and the poor, would not feel the need to find jobs and become lazy

(Mohd Adib et. al, 2018). This lack of understanding of the users of soup kitchen also led to some displeasure among people advocating support for the needy (Penang Institute, 2015). This ban was met with mixed reception, but initiated public participation on policies concerning the needy and urged the authorities to take careful action to remedy the supposed issues involved with food distribution to the poor (Penang Institute, 2015).

One of the resolutions that came out of the public stir and dispute this ban caused was to ban only mobile soup kitchens within the said radius (Penang Institute, 2015). This provides some indication that the problem lies in the state of the temporary soup kitchens set up on vacant parts of the urban scape. Of the few NGOs that can afford to have fixed soup kitchens, or have the luxury to use a dedicated building, little to no study has been done in terms of the architectural factors affecting the success of these spaces. To remove negative perceptions from this charitable act, the study believes that understanding the spatial aspects and environmental psychology to soup kitchens are important and will aid future soup kitchen set ups.

Soup kitchens in Malaysia

A recent study on the effectiveness of food sharing initiatives around the world shows that Malaysia, specifically Kuala Lumpur, ranks 29th among 100 other selected cities with the most ICT- mediated food sharing initiatives (Davies, et al., 2017).

A study by Mohd Adib et. al (2018) reviews some of the initiatives done in Malaysia to deal with homelessness. This includes a number of homeless shelters. However, the focus of the study is soup kitchens, which have also been discussed at length. In downtown Kuala Lumpur alone are about a dozen soup kitchens (Yeoh, 2017).

Operating in various locations in Kuala Lumpur on Sunday, Monday, Wednesday and Friday nights is Pertiwi Soup Kitchen (Mohd Adib, Hj. Hussin, & Ahmad, 2018). Their website writes that Pertiwi Soup Kitchen serves dishes containing vegetable, rice, and protein to between 550-750 people per night (PERTIWI, n.d.). Additionally, Pertiwi Soup Kitchen occasionally provides free medical and grooming services from their often-larger group of volunteers (Yeoh, 2017).

Kechara Soup Kitchen is also a soup kitchen operation that aims to alleviate the burden of food insecurity through the "Hunger Knows No Barriers" program. They distribute food to various areas in Kuala Lumpur and usually operate from Monday to Friday (Mohd Adib, Hj. Hussin, & Ahmad, 2018). Their soup kitchen space includes a mobile kitchen van from which food is distributed on weekdays (Kechara, n.d.). Being one of the top non-governmental organisations (NGOs) in the country (Mohd Adib, Hj. Hussin, & Ahmad, 2018), Kechara Soup Kitchen also operates a permanent

soup kitchen in a dedicated shoplot which began operation in September 2010. Beyond distributing food to the poor, the soup kitchen also includes laundry services, resting facilities and employment consultancy (Kechara, n.d.).

3. SIGNIFICANCE OF STUDY

Studying existing soup kitchens in Kuala Lumpur and the effectiveness of their spaces is an important step towards improving initiatives that serve the needy in Malaysia's communities. More importantly, it is a step towards understanding these rarely investigated typologies. Through a good understanding of the selected case studies, designers can make rational and informed design decisions that will hopefully produce holistic designs that bring measurable impact to the needy. It will also help establish an understanding of the needs and desires of the needy in architectural and design terms.

4. RESEARCH OBJECTIVE

This study reviews the architectural elements of soup kitchens in Malaysia from a spatial perspective. The following are the objectives of the study:
1. To determine if the spatial design of selected soup kitchens in this study can facilitate socialization and create a community atmosphere.
2. To review the effectiveness of the spaces and develop recommendations for improvement in the spatial design of the soup kitchens.

5. METHODOLOGY

To achieve the previously mentioned objectives of the study, an appropriate research methodology is crucial. In choosing between a qualitative or quantitative study approach, this study has opted to employ qualitative methods such as case studies and interviews as it appears to be more suited to the goals of this study.

To justify this reasoning, it is beneficial to discuss the objectives of a research. The study aims to gain an insight on the architectural component of food sharing spaces; something that is not heavily explored in previous literature, especially within the local context. Qualitative research is primarily concerned with understanding concepts, thoughts and experiences (Streefkerk, 2019). It is also a method for research that aim to produce ideas, provide insights on a problem, and reveal trends in thoughts and opinions (Snap Surveys, 2019). This method is used in favor of a quantative study, which is meant to be applied when examining and verifying theories or hypotheses. In the case of this study, no theory is being tested.
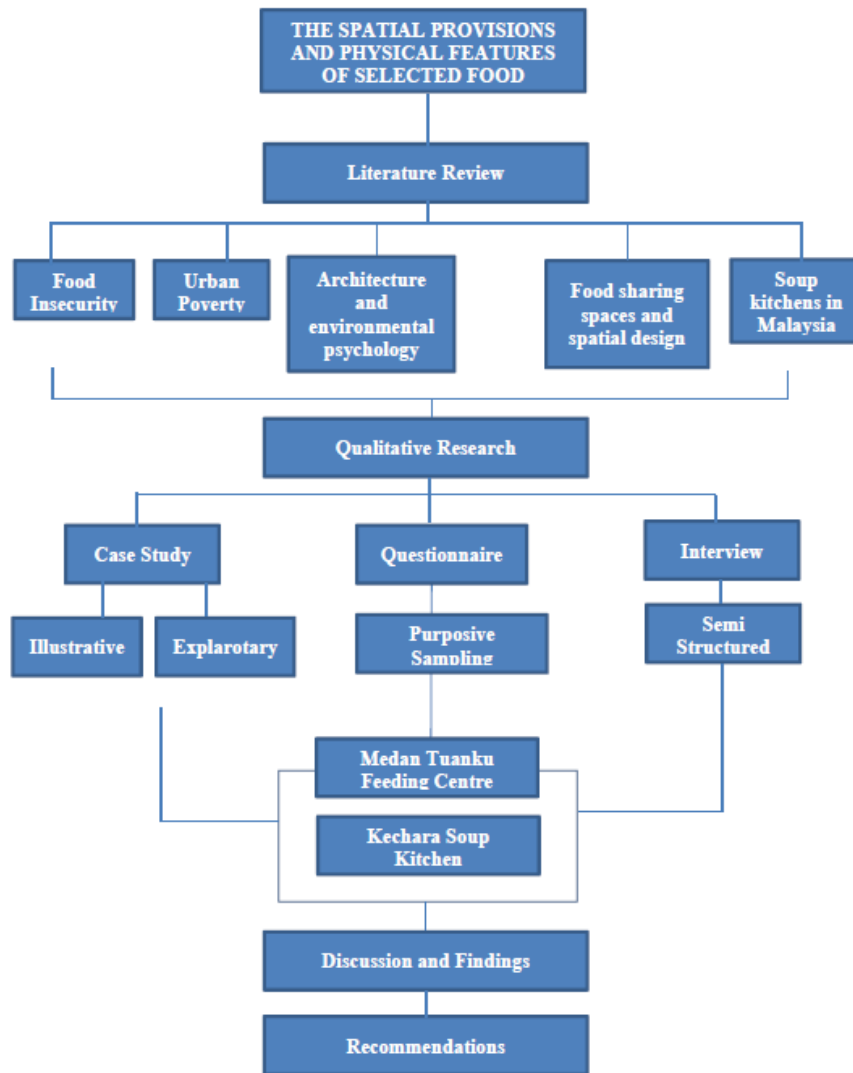
Figure 1: Flow of methodology applied in the study

6. RESULTS AND FINDINGS

Table 1: The distribution of all the spaces present in the soup kitchens

	S G K	B E	CS	G K	C C	GS K	JP	M J	BI		NR	A1	A 2	A3	A4	WC K	Tot al
Dining Area	/	/	/	/	/			/	/		/	/	/		/	/	12
Kitchen	/	/	/	/	/	/	/	/	/		/	/	/			/	13

																Total
Restroom	/				/	/	/	/								6
Beverage Counter			/	/							/					3
Storage		/	/		/	/		/			/					7
Meeting room		/			/	/	/									4
Food Pantry	/		/	/				/								5
Serving counter					/	/						/	/	/		6
Shops		/			/		/				/		/			5
Garden	/										/	/	/			4
Waiting/ Queuing area					/	/	/				/	/		/		7
Foyer			/										/		/	3
Office																1
Library/education space										/	/					2
Help desks										/						2
Lounge																0

Playgr ound													/			2
Laund ry										/						1
Facilit ates Sociali zation	/	/	/	/	/			/		/	/	/			/	9

The table above shows a distribution of all the spaces present in the soup kitchens in the reviewed literature. The space matrix illustrates what spaces each soup kitchen have in common and whether its social qualities are mentioned in the same study.
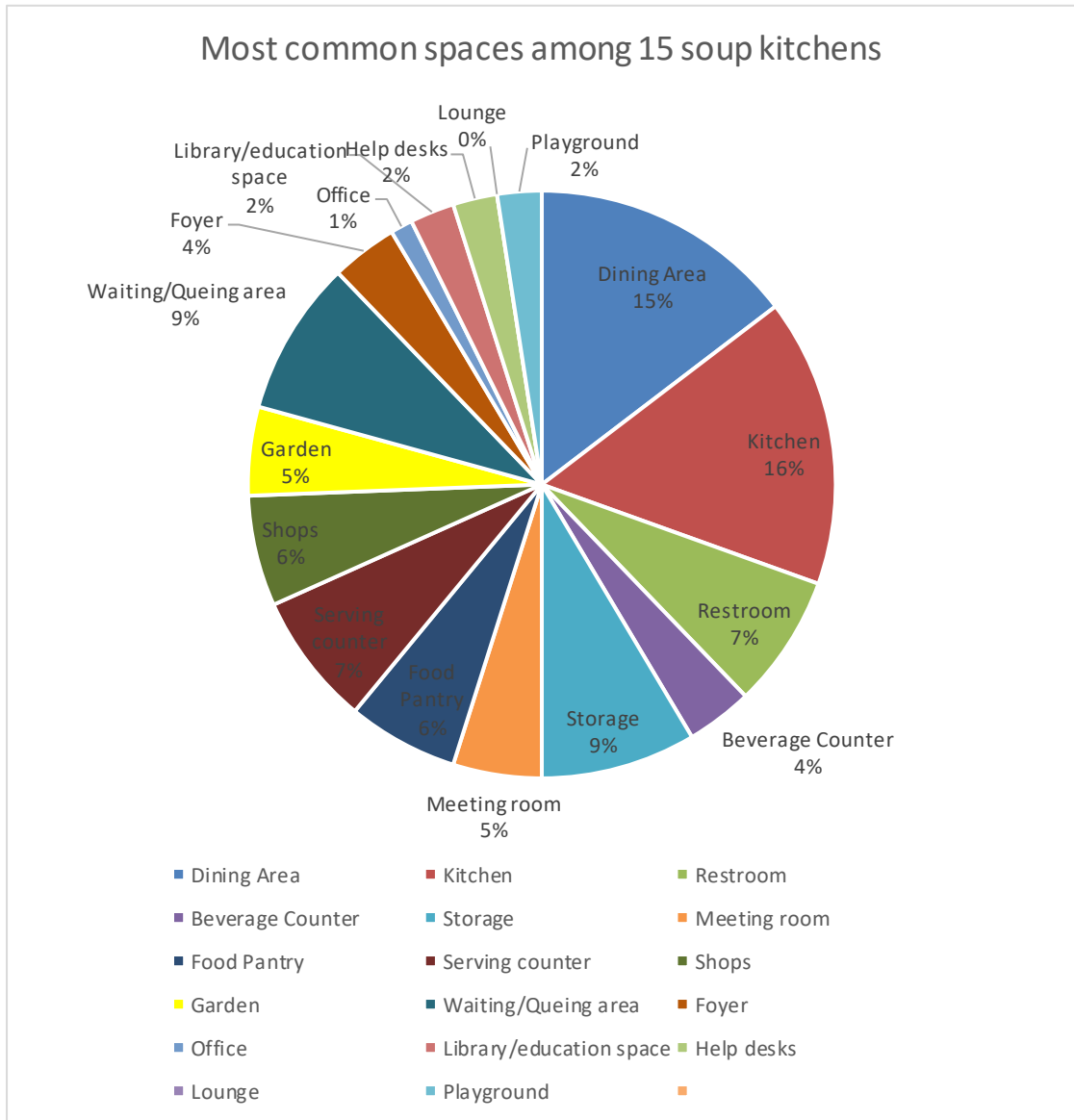
Figure 2: Common spaces among 15 soup kitchens

Based on the findings above, it can be seen that the most commonly found spaces between the case studies are the dining area (15%) and kitchen (16%) spaces respectively. This is then followed by a waiting/queing area and storage space, both being at 9%. On the opposite spectrum, playgrounds, libraries/educational space, help desks, lounges and offices are the least common spaces found in these soup kitchens.
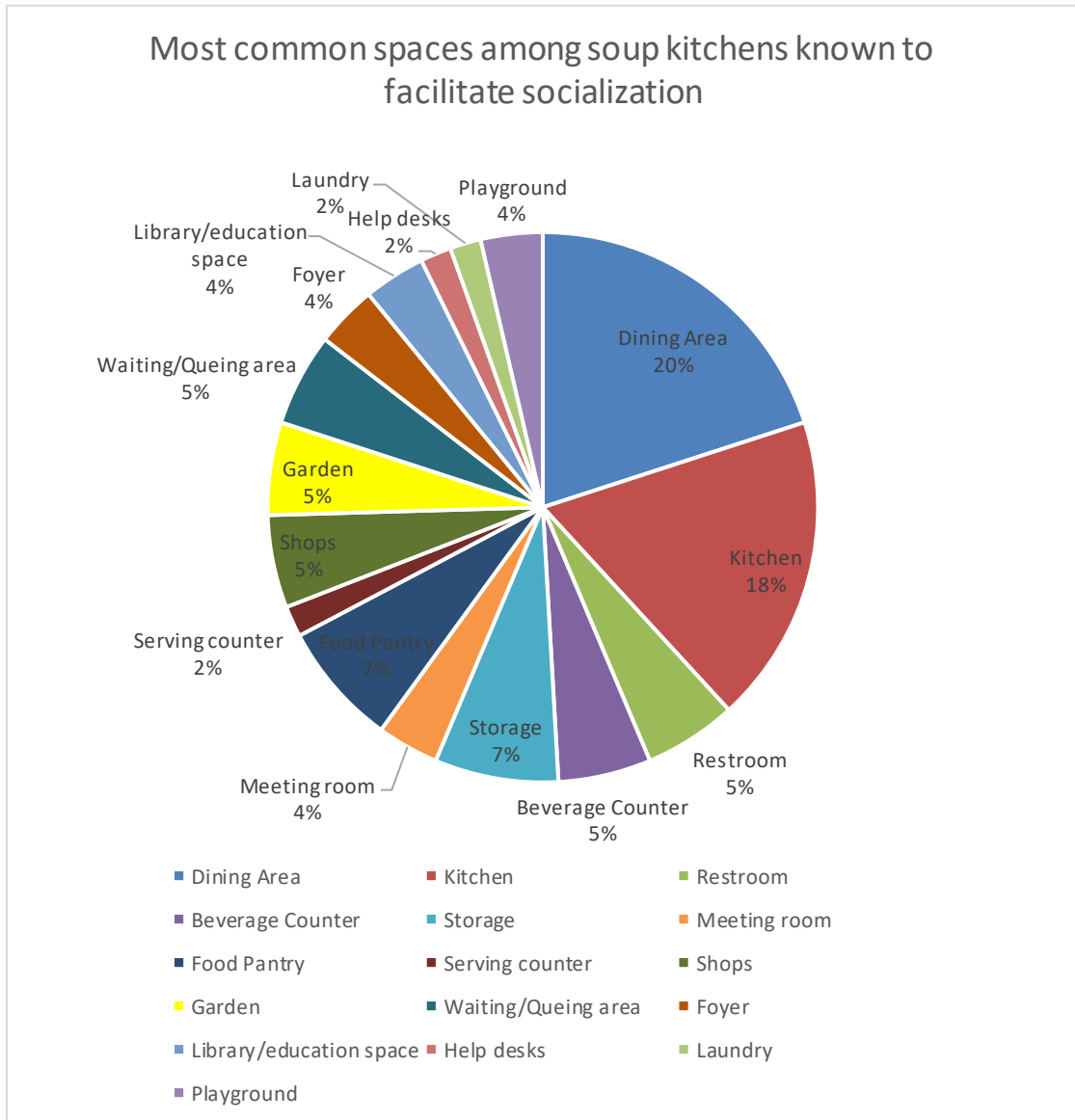
Figure 3: Common spaces among 15 soup kitchens for socializations

Out of the 15 soup kitchens studied, 11 of them were found to be associated with social activity, with mentions of the attendees visiting not only to receive meals but also for socialization. Between these eleven soup kitchens, All of them have dining areas and all except one have kitchens. These appear to be the most crucial spaces for facilitating socialization in soup kitchens. The food pantry is a more commonly occuring spaces between these eleven soup kitchens, sharing the same percentage as a storage space. This is followed by gardens, beverage counters, shops, waiting areas and rest rooms.

7. DISCUSSION AND RECOMMENDATIONS

This study closely examines the architectural and spatial features of two soup kitchens in Kuala Lumpur. At the end of each investigation, recommendations are made in an aim to improve the spatial quality and functions of the case studies. These recommendations are largely based on the findings from the case studies, reinforced by the relevant existing literature and influenced by the researcher's notions. While these recommendations are not completely baseless, further studies should seek to verify the viability of these suggestions by testing them with the major stakeholders of both case studies.

Another logical next step for research on architecture for the urban poor in Malaysia should, in a similar manner, investigate homeless shelters in Malaysia. Perhaps by doing so, a record of the existing building typologies serving the urban poor can exist, with at least one example per typology as a means of reference or benchmarking.

Given the charitable and non profit nature of these typologies, it is beneficial to go deeper into the study of these spaces so that they can achieve maximum impact with the consumption of minimum resources.

8. CONCLUSION

In conclusion, Based on the content analysis, it is still too soon to determine a standard guideline that all soup kitchens should obey, at least in Malaysia. In this study, the soup kitchens are of vastly different sizes and cultures. However, a few key spaces have been determined which can help encourage a healthy social atmosphere. Besides the two primary spaces previously mentioned, support spaces like playgrounds, libraries, and beverage counters help the soup kitchens appear more humane and welcoming, which is crucial for the segment of the community they aim to serve, often suffering from social isolation.

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HERITAGE BOUTIQUE HOTEL DESIGN IN THE UNESCO WORLD HERITAGE SITE OF MELAKA, MALAYSIA: A REVIEW ON LOBBY AND GUEST ROOM INTERIORS

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Abstract

Adaptive reuse is known as a useful intervention to repurpose heritage buildings that are significant for their representation of the distinctive history, identity, and art of a place. Contextually, numerous heritage boutique hotels were seen to be adaptively reused from heritage shophouses in the quest to enliven the heritage site by diversifying local tourism products and catering to contemporary demand in the UNESCO World Heritage Sites of Malaysia. Acknowledging that the richness of design values is crucial in differentiating products and services within the hospitality industry, this paper attempts to understand impactful heritage boutique hotel design through two important spaces, namely, lobby and guest room interiors. These spaces are considerably significant for hotel guests, particularly in relation to their first impression of the hotel. To collect primary data, field observations were conducted at five heritage boutique hotels in Melaka, followed by key informant interviews with five representatives from local heritage and design organisations, including ICOMOS, PHT, and MIID. It is found that holistic consideration of heritage conservation laws and principles, design elements and principles, appropriate design strategy, and proper integration of building services are essential in the act of converting heritage shophouses to heritage boutique hotels.

Keywords: boutique hotel; hotel interiors; interior design; old shophouses; UNESCO world heritage site

1.   INTRODUCTION

Malacca city is the centre of multicultural heritage, which was given the "World Heritage Site" title in 2008 (Abdul Kadir et al., 2020). To understand a city, one needs to understand its heritage hotels because they are historical and cultural venues with intangible meaning and historically rich design characteristics (W. Lee & Chhabra, 2015) (Chang & Teo, 2009). In emerging markets, there are more and more heritage boutique hotels (Goh, 2015) (Huang & Tsaih, 2021). Adaptively reusing heritage shophouses as heritage boutique hotels not only enables the protection of historical shophouses and their intangible value but also promotes the local culture (Huang & Tsaih, 2021). While diversifying the local tourism product, heritage boutique hotels also meet contemporary demand. When staying at a heritage boutique hotel, guests view them as more than just a place to sleep; they will look for authenticity and ways to experience the past (Ghaderi et al., 2020) and to learn about the local history and culture (Huang & Tsaih, 2021). However, a rise in studies related to the design of heritage boutique hotels shows that change is inevitable due to ongoing evolution. Space layout and design will be changed and adapted to new situations and demands, but historical meaning and symbolic importance must be preserved. Hence, proper design is necessary to turn heritage boutique hotels into distinctive products and services in the hospitality industry. In this case, two interiors, which are the lobby and guest room, are focused and emphasised because the hotel lobby is the first space a guest will experience (Nanu et al., 2020), while the guest room plays a central role (Ogle, 2009) in influencing guests' satisfaction and their decision.

2. LITERATURE REVIEW

2.1 Conservation of heritage shophouses in Melaka, Malaysia

The United Nations Educational, Scientific and Cultural Organization (UNESCO) gave the "World Heritage Site" title to Malacca in 2008. The heritage shophouses represent the typical Malaysian urban form (Chang & Teo, 2009). They are cultural capital stocks, both intangible and tangible, that are inherited from previous generations (W. Lee & Chhabra, 2015), and are seen as reusable resources in terms of culture, aesthetics, and the economy. Stakeholders sustainably conserve their historic appearance while at the same time modifying their function based on the requirements of new or existing users for new or different uses (Dehghan Pour Farashah et al., 2021) (Abdulhameed et al., 2019) (Tu, 2020). For example, local governments and private individuals have restored some of these shophouses for new purposes, such as heritage boutique hotels and restaurants (Chai, 2011) (Firzan et al., 2022). Therefore, adaptive reuse of heritage buildings is a typical way of building conservation nowadays, but it should be done with as little intervention as possible by following the heritage conservation laws and principles and using the proper materials (Abdulhameed et al., 2019).

2.2 Definition and characteristics of heritage boutique hotel

Firstly, we need to define what a "heritage boutique hotel" is. While heritage is defined

as any attribute or immaterial possession that is inherited from ancestors, a boutique hotel refers to a hotel that provides an unrivalled and distinctive experience that is difficult to enjoy in other accommodations (Dehghan Pour Farashah et al., 2021).

The characteristics of the heritage boutique hotel are classified into intangible and tangible values. The intangible values are historical background and value, the title of World Heritage Site, excellent personal and customised service, valuable extra experiences, and price. On the other hand, the tangible values consist of the location (must be in the downtown area), unique architecture style and interior design layout, small property size and rooms, uniqueness and dissimilarity of guest rooms, facilities, and materials used (Ghaderi et al., 2020) (Goh, 2015).

Specifically, a heritage boutique hotel is unique because it not only offers accommodation but also offers historical experiences (W. Lee & Chhabra, 2015) and an intimate hotel experience (Goh, 2015) at the same time. It signifies a distinctive cultural identity that depicts the character of the people, culture, and history of the place (Abdul Kadir et al., 2020) to provide authentic cultural or historical experiences for their guests (Ghaderi et al., 2020). Furthermore, guests should feel at home, and services should be more customised (Ghaderi et al., 2020), offer additional lifestyle amenities (Goh, 2015), and provide facilities such as a lobby, restaurant, and coffee shop (Dehghan Pour Farashah et al., 2021). The uniqueness also comes from the outstanding architectural designs, specific layouts, and interior design (Dehghan Pour Farashah et al., 2021). Heritage boutique hotels do not affiliate with any huge hotel chains (Goh, 2015) and enjoy a symbiotic relationship with their location (Chang & Teo, 2009). It is a small-scaled hotel (Goh, 2015) (Abdul Kadir et al., 2020) (Ghaderi et al., 2020) that has limited guest rooms (having less than 100 rooms), each with a unique design and a homey atmosphere (Goh, 2015) (Dehghan Pour Farashah et al., 2021). In this case, the limited number of rooms is not only due to the special and distinctive concept of a boutique hotel but is also due to the design of the original heritage building and the existing layout, which is quite narrow and with limited space (Ghaderi et al., 2020).

2.3 Interior design strategy related to commercial - heritage boutique hotel
Many heritage shophouses are extensively used for commercial purposes (Farhana Azmi et al., 2017), such as heritage boutique hotels. In the current social media age, distinctive and aesthetically well-designed hotels have been chosen by travellers for their travelogues and social media posts (Abdul Kadir et al., 2020).

First, the strategic location of a boutique hotel can be quite effective at luring guests to stay there (Dehghan Pour Farashah et al., 2021). In this case, a heritage boutique hotel must be in the downtown area. Second, space planning or interior layout following space hierarchy and spatial zoning of heritage shophouses should be changed according to the space requirements to function as a heritage boutique hotel and the selection of services provided to meet the guest's activities (Firzan et al., 2022). It is a launching point for investigations into the relationship between lifestyle and activity in terms of how space is used; the adaptability of space in shophouses for new activity in

terms of size and layout, including types of space; and the design of openings determined by lighting and natural ventilation in a building (Jaki & Mamat, 2021). For example, the front hall of a heritage shophouse is revamped to accommodate the reception and lobby areas of a heritage boutique hotel (Firzan et al., 2022). A second example is that to accommodate a high number of guests, new walls are erected mainly on the first floor to segregate the typical long and narrow shophouse interior for more guest rooms (Firzan et al., 2022). Another example is that each guest room must be equipped with an en suite toilet because it is a crucial component of a boutique hotel (Firzan et al., 2022).

Furthermore, an effective design strategy can be the thoughtful selection of materials and colours. In this case, people prefer to have warm-feeling materials such as timber and bricks as compared to cold-feeling materials such as concrete and stones (Wong & Aziz, 2021). In terms of colours, cool surface colours such as green, blue, and purple tended to have calming effects as they were perceived as restful (H. Lee & Lee, 2022). Blue was discovered to have a greater uplifting impact on people's emotions among the cool colours (H. Lee & Lee, 2022). On the other hand, warm surface colours such as red, orange, and yellow tended to have arousal effects as they were perceived as more stimulating (H. Lee & Lee, 2022). Regardless of gender, age, or nationality, numerous studies have shown that cool surface colours tend to provide higher levels of pleasure than warm colours (H. Lee & Lee, 2022).

Coloured lighting also significantly influences guests' lives physiologically and psychologically, including mood, emotion, cognitive performance, and health (H. Lee & Lee, 2022). Blue was the most pleasant lighting colour, while red was the least pleasant lighting colour (H. Lee & Lee, 2022). Interestingly, there is a relationship between lighting levels and feelings of spaciousness (Ogle, 2009). Spaciousness is a mental and sense-based quality that is important to guests to demonstrate the importance of human senses in hotel guestroom design and layout, regardless of whether it is real or illusionary (Ogle, 2009). Human perception of a space's spatial quality is based on how we perceive the space's volume and dimensions (Wong & Aziz, 2021).

Besides, the most important component of the current state of boutique hotels is decoration because they rely on structural features, architectural design, furnishing, decoration, and material use for their competitive advantage (Pirnar et al., 2020). Antique collections, decor, and artwork from the ancestors should be integrated into the interior design of a heritage boutique hotel because it is a cultural artefact embedding cultural values (Cho et al., 2018). Through modification and adaptation in contemporary design, the essence of traditional architecture is connected from the concepts of the past to the present (Hosseini et al., 2016).

2.4 Lobby and guestrooms

Operators pay considerable attention to the architecture of the lobby (Huang & Tsaih, 2021), which sets the tone for the entire hotel. This is because the lobby is the first point of face-to-face interaction between guests and staff upon arrival, impacting on how guests initially perceive a property and is crucial in forming first impressions of a hotel's

brand image and quality (Nanu et al., 2020) (Huang & Tsaih, 2021) (Pirnar et al., 2020). Some boutique hotels' lobbies have become the epicentres of yuppie life since they are the subject of international magazines and government publicity campaigns (Chang & Teo, 2009). The functions of the lobby are to direct guests to the hotel and act as a staged waiting area (Nanu et al., 2020). Moreover, the lobby is the main circulation space that is used as a social and cultural meeting place (Nanu et al., 2020). Therefore, it is crucial to create a spacious ambiance in the lobby (Pirnar et al., 2020).

Next, the guest room is an important part of the overall hotel experience because it serves as the guests' private and personal areas while they are there (Dehghan Pour Farashah et al., 2021). The guest room leaves a more lasting impression on guests compared to any other hotel space (Park, 2010). Thus, hoteliers may utilise guestroom design in terms of its conceptualisation and operation to their own advantage, such as marketing (Ogle, 2009). With the trend toward larger and more comfortable rooms, the spatial characteristics of the guestroom, specifically its size, are equally significant to guests (Ogle, 2009). It is important for the guests to find an available and big-enough space to rest and work, such as having enough space in rooms to put a desk and seats (Pirnar et al., 2020). Also, guests consider the amenities to be one of the most important factors during their stay (Dehghan Pour Farashah et al., 2021). Besides, the colours in the guest rooms should have a relaxing effect since they are typically used for sleeping and resting (Pirnar et al., 2020). Red hotel guest rooms were associated with the highest levels of arousal, but individuals preferred to stay in blue hotel guest rooms over red ones (Kuo & Zhang, 2021). Successful guestrooms provide a "homelike" environment and should be warm, comfortable, and inviting (Park, 2010) (Dehghan Pour Farashah et al., 2021).

2.5 Interrelationship between guests' experience and their willingness to pay
Increasing guest satisfaction and their return intentions is positively related to enriching the guest experience (Amer et al., 2021). In this case, humans are naturally capable of integrating and interpreting their experiences when interacting with each other and their surrounding environment (Manurung et al., 2022). Therefore, after transforming heritage shophouses into heritage boutique hotels, there is a need to determine the threshold from users' spatial experience and perspective (Isah & Khan, 2016) in terms of design evaluation and affective preference. Understanding guests' anticipated needs, as well as what they feel, want, or expect from the provider, is critical to meeting their needs (Amer et al., 2021). In this case, attractive service interiors significantly impacted guests' desire to stay, their liking, approaching behaviours, their purchase decisions, and their loyalty (Kuo & Zhang, 2021). This triggers stakeholders to explore and figure out guest motivations, expectations, and perceptions if guests' experiences at historical sites directly influence their willingness to pay.

Moreover, due to their competitive nature, hotels use their interior designs to stand out from the competition, which has a favourable impact on guest behaviour and overall property performance (Nanu et al., 2020). An atmospheric concept is a marketing tool (Nanu et al., 2020). It is defined as "the design of buying environments to produce specific emotional effects in the guest that enhance his or her purchase

probability" (Nanu et al., 2020). The physical environment is a dimension of the hotel experience that refers to the tangible (Dehghan Pour Farashah et al., 2021). The tangible surroundings and the intangible service are interlinked; they greatly influence the expectations of the guests and have an impact on perceptions, emotions, and behaviour. Vice versa, service expectations are shaped by the physical environment
(Nanu et al., 2020). Besides, customers are more willing to spend more on a hotel room when the colour of the room matches their preferred colour (Kuo & Zhang, 2021). In this instance, most guests nowadays reserve hotel rooms through internet sources, making room colour one of the things they focus on first when looking at hotel photographs, as it is difficult to judge the quality of the furniture, appliances, or bedding by viewing the online photos (Kuo & Zhang, 2021).

3. METHODOLOGY

To collect primary data, field observation and key informant interviews were carried out. In addition, a literature study is done to collect secondary data. After that, all the data is analysed and discussed. Melaka was chosen as the research location because it was designated as a UNESCO heritage site in 2008. An inventory was first performed to identify the actual number of boutique hotels located in the core zone of Melaka. The purpose of the inventory was to record and identify all the adaptively reused heritage shophouses that qualify as the legitimate meaning and function of a boutique hotel. The first set of checklists, which consist of hotel name, address, types of hotels, building typology, and type of zone, were used when conducting the site survey. For the case studies, five historic shophouses in the core zone of Melaka that have been adaptively reused and are operated as heritage boutique hotels were investigated and evaluated. The identified heritage boutique hotels meet the definition of built heritage and meet at least one of the pre-defined assessment criteria of boutique hotels. Prior to the case study surveys, selected heritage boutique hotels such as 1825 Gallery Hotel, AAVA Malacca Hotel, Heeren Palm Suites, Heeren Straits Hotel, and Swiss Hotel Boutique Heritage Melaka were searched earlier from their respective official websites as well as from the online travel booking platforms for lodging reservations. The field observation took place on-site for five days. Five selected heritage boutique hotels were observed, photographed, or visually recorded, focusing on the lobby and guestroom interiors.

Second, the design of the heritage boutique shophouse is figured out through a qualitative approach because the research study aims to explore the perception of guests. To strengthen the reliability of the data, key informant interviews with five representatives from local heritage and design organisations were carried out.

Table 1: Identification of key informants

Code	Organisation	Position
P1	International Council on Monuments and Sites (ICOMOS)	Board Member
P2	International Council on Monuments and Sites (ICOMOS)	Board Member
P3	Penang Heritage Trust (PHT)	President
P4	International Council on Monuments and Sites (ICOMOS)	Board Member
P5	Malaysian Institute of Interior Designers (MIID)	Past President

The interview slide contains pictures to promote interest and help to visualise the imaginary among interviewees so that they will have guidance and a better understanding of the design of selected heritage boutique hotels. It is an effective way to collect data from interviewees' aesthetical viewpoints. All the interviewees also need to share their opinions regarding interview questions, which include ranking and open-ended questions.

Table 2: Question and the purpose of the question

Question	Purpose of the question
1. Do you prefer heritage boutique hotels or modern hotels? Why?	To understand the interviewees' preferences.
2. According to the pictures below, please rank the five heritage boutique hotels according to their interior design of the lobby. Rank (1-First, 5-Last). Why was the lobby interior of the respective heritage boutique hotels ranked first and last?	To understand respondents' aesthetic preferences and the factors that determine the best and worst designs.
3. According to the pictures below, please rank the five heritage boutique hotels according to their interior design of the guestrooms. Rank (1-First, 5-Last). Why were the guestrooms of the respective heritage boutique hotels ranked first and last?	To understand respondents' aesthetic preferences and the factors that determine the best and worst designs.
4. What do you think about heritage boutique hotel design in general? Your ideal view(s) or the Unique Selling Point(s).	To capture design features.
5. What are the must-dos and don'ts when it comes to heritage boutique hotel design?	To create awareness through design.

6. On average, how much are you willing to spend for a night's stay in a reputable heritage boutique hotel?	To understand the relationship between interior design and willingness to pay.

Next, the literature data was searched to understand the conservation of heritage shophouses in Melaka, Malaysia; the definition and characteristics of heritage boutique hotels; interior design strategy related to commercial (heritage boutique hotel); lobby and guestrooms; and the interrelationship between guests' experience and their willingness to pay. To gain an adequate understanding of related topics, the literature studies for reference in this research study included various related published articles, journals, and internet sources.

In the final stage of this research study, all the collected data was analysed to reveal the design elements and principles, and appropriate design strategies for designing a heritage boutique hotel, focusing on lobby and guestroom interiors. The results are compiled and discussed in a qualitative descriptive manner to determine a relevant conclusion.

4. ANALYSIS AND RESULT

After having analysed the collected data, a few findings have been made. First, heritage boutique hotels are facing a high level of competitiveness when there are other types of accommodation offered, such as modern hotels, budget hotels, and Airbnb. Fortunately, heritage boutique hotels are only found at heritage sites. Stakeholders should capitalise on this fact to gain a competitive advantage. Hotel guests regard these historical hotels as places to experience a sense of historical spectacle and amenities, rather than just a place to sleep (Dehghan Pour Farashah et al., 2021). According to all interviewees, if they choose to stay in a heritage boutique hotel, they would like to: experience the historical story of the place; see and understand some historical things and heritage knowledge; and have a sense of belonging to the heritage city. Undoubtedly, the primary advantage of a heritage boutique hotel is the historical experience that a guest can experience during his or her stay. They tend to figure out what the glory of the past was, what we can learn from it, and what is still relevant today.

Conversely, if the respective heritage boutique hotel does not meet or achieve the characteristics of a heritage boutique hotel, then it might lose its essence and be eliminated from the market. Given this, P3 sincerely hopes every stakeholder clearly understands the definition and characteristics of a heritage boutique hotel. A heritage hotel, according to P3, is just a heritage hotel; it cannot be labelled as a heritage boutique hotel as one wishes. This is a severe problem since many heritage hotels that are subpar refer to themselves as "heritage boutique hotels," misleading both domestic and foreign guests and possibly harming the reputation of the nation. A heritage hotel can be a budget hotel, but a heritage boutique hotel is a heritage hotel that has been adaptively reused and must demonstrate and attain the qualities of the term boutique. Characteristics such as historical background and value, the title of World Heritage Site, excellent personal and customised service, valuable extra experiences, price, location

(must be in the downtown area), unique architecture style and interior design layout, small property size and rooms, uniqueness and dissimilarity of guest rooms, facilities, and materials used are important in crafting the concept of a heritage boutique hotel (Ghaderi et al., 2020) (Goh, 2015). P3 stated that a boutique hotel emphasises its design and individualised services, which are high-class and distinct to enhance guests' experiences. A boutique hotel provides an unrivalled and distinctive experience that is difficult to enjoy in other accommodations (Dehghan Pour Farashah et al., 2021). Thus, a heritage boutique hotel is even more unique than a modern hotel because it is not like the ubiquitous modern hotels.

The incorporation of suitable design criteria into the interior design of a heritage boutique hotel is a value-creating action that could improve its marketing and branding and help it compete. From the views of interviewees, the design of adaptively reused heritage boutique hotels does not mean the whole setting must be old-fashioned, antiqued, and ancient. Instead, contemporary adaptation in heritage boutique hotels is an important aspect for heritage boutique hotels to survive and cater to the preferences of present metropolitan customers. Since heritage boutique hotels market the historical narrative, P4 expressed the opinion that if one wants to elevate a narrative, both historical and contemporary elements should be conveyed well. P5 said a purely historical design can be very frightening. The new design should exhibit a "successful marriage" between historically significant buildings and contemporary architectural styles (Abdulhameed et al., 2019). A sense of depth, originality, and history must be incorporated into heritage accommodation (W. Lee & Chhabra, 2015), but it is the responsibility of designers to demonstrate the linkages between the past and present by wisely adding new and cutting-edge concepts. In addition, P2 said the overall environment in a heritage boutique hotel should provide a homey feeling that is appropriate for staying. P3 also agreed that an excellent heritage boutique hotel design should give guests the impression that they could stay there all day without feeling uncomfortable. They can simply unwind and get away from the hustle and bustle of the city.

According to the views of interviewees, classic, high-end, and contemporary design principles can be applied to heritage buildings. It is preferable to have a lobby that combines old, new, and modern design elements. By following heritage conservation laws and principles, P4 just advised maintaining the heritage building's original structure throughout the design process. For example, in a heritage building, the original beam structure, which is the story itself, should be displayed as it is. It is not advised to plaster the ceiling as shown in Figure 1 since it can compromise its originality and aesthetic elements. P4 claimed that the more the original structure or framework of a building is displayed, the better the design.

Figure 1: The ceiling of a heritage boutique hotel was plastered

Furthermore, P2 stated that the correct use of colour is critical because the colour of the lobby wall influences the perception of guests. In the lobby, guests prefer light or bright, vivid, and relaxing colours (Pirnar et al., 2020). The right use of materials for lobby design is also important. According to P2, timber is the oldest building material and is considered a local material. People prefer timber materials (Wong & Aziz, 2021) because using timber in design could affect human perception by providing a sense of belonging. P4 added that using old floor tiles and patterned floor tiles as shown in Figure 2 may be straightforward, but what makes them beautiful is the tile itself.

Figure 2: A heritage boutique hotel's lobby's patterned floor tiles

In addition, P4 claimed that indoor landscaping design in the lobby as shown in Figure 3 should be considered. The fishpond, located in the courtyard near the lobby area, makes the space look nicer and provides ambience.

Figure 3: The indoor landscaping design in the lobby area of a heritage boutique hotel

Interestingly, regardless of the lobby interior design, the hotelier must prioritise cleanliness and tidiness because the lobby not only welcomes domestic but also foreign guests, according to P1. Foreign guests' perceptions might be very high for them to stay in our country. The lobby is a key area that sets the atmosphere for the entire heritage boutique hotel. The overall design should not be too formal, boring, typical, too modern, or messy; it must create a positive first impression so that guests can perceive the quality of the heritage boutique hotel and its brand image.

Next, P4 stated that overly modern and minimalist designs for guest rooms in heritage boutique hotels are not preferred. After that, P4 claimed that a guest room must be equipped with a toilet, as shown in Figure 4, and the toilet design is also important as it is part of the design of a guest room. It is agreed that a guest room must be equipped with an en suite toilet because it is a crucial component of a boutique hotel (Firzan et al., 2022).

Figure 4: Guest room that was equipped with a toilet.

P4 added that the design of the fenestrations should be taken into account. The original craving and wording design might be kept since the window design looks appealing and attractive. Moreover, after analysing the points of view of all the interviewees, it is interesting to figure out that the colour of the guest rooms is the main design concern. The hotel's most crucial design element is colour, which has a significant emotional impact on guests (Pirnar et al., 2020). The decision of guests to stay in a certain room can be influenced by a good wall colour choice that creates a happy atmosphere and is also in accordance with the room's design. In this research, the pink-coloured wall, as shown in Figure 5, is the most mentioned bad design in a guest room.

Figure 5: A pink-coloured wall design in a guest room

Besides, knowing that the distinguishing features of heritage boutique hotels are their limited guest rooms, each with a unique design and a homey atmosphere (Goh, 2015) (Dehghan Pour Farashah et al., 2021), P3 acknowledged that every guest room in a heritage boutique hotel must be unique and different from each other. P3 also added that the guest room design must be spacious. Small room design is not allowed and must be rejected because it is important for the guests to find an available and big-enough space to rest and work (Pirnar et al., 2020). Next, price is the intangible characteristic of a heritage boutique hotel (Ghaderi et al., 2020) (Goh, 2015). Thus, for its guest rooms, P3 said hoteliers should not charge too little; the price needs to be high to set a standard. Hence, the guest room design must adhere to industry and boutique standards and convince guests that it is worth the money.

Added as supplemental data, the unique selling points of a heritage boutique hotel are the design of heritage buildings themselves; the integration of historical artefacts into design; and cleanliness and tidiness. The uniqueness of heritage buildings is a key characteristic when adapting to a heritage boutique hotel (Dehghan Pour Farashah et al., 2021). P1 emphasised the originality of the design of the heritage buildings themselves. P4 also stated that the spirit of the building, historical story, and experience could be manipulated as a unique selling point. The authenticity and integrity of the building should be maintained and displayed to the guests through the design of spaces such as the lobby and guest rooms. Next, antique collections, decor, and artwork from the ancestors should be integrated into interior design because interior design is a cultural artefact embedding cultural values (Cho et al., 2018). P4 recommended

collecting and gathering artefacts from the site and putting them on display in a cabinet. This could be a unique selling point since they convey a story and can enhance the guest experience. Moreover, P1 stated that cleanliness and tidiness are one of the unique selling points because it would be ineffective to have a nice exterior and interior design only to reveal a dirty lobby and guest rooms, especially when dealing with not only domestic guests but also foreign guests, such as Japanese, who are very particular about cleanliness. Apart from the design solely, the whole setting of a heritage boutique hotel and the feeling associated with personalised service and valuable extra experiences should be given attention by hoteliers.

Heritage shophouses are a unique kind of typology in Malaysia that stakeholders must conserve according to the authenticity of the heritage building. A high level of awareness is needed when designing heritage boutique hotels. Architectural interventions must respect the building's original structure to celebrate its history (Dehghan Pour Farashah et al., 2021). Therefore, designing heritage boutique hotels not only requires an understanding of the characteristics of a boutique hotel but also demands a deep understanding of heritage conservation laws and principles. Before doing any intervention or renovation, P5 said offline and online research on the heritage conservation laws and principles, as well as the history of the place, must be done to know the main characteristics of the place. Designers should try to highlight those characteristics and draw attention to them. Without research, there is a great risk that a heritage boutique hotel may lose its appeal and blend in with other standard hotels, such as budget hotels and Airbnb, messing up the design and screwing up the whole originality design. P2 went on to say that boutique hotels classified as heritage should keep at least 60% of the original heritage building design. Designers must be mindful of not deteriorating the fabric of the building, preserving the original materials, minimising intervention, and controlling the level of modernity.

After all, attractive service interiors have a significant impact on guests' desire to stay, their liking, approaching behaviours, purchase decisions, and loyalty (Kuo & Zhang, 2021). Four out of five interviewees are willing to pay more than RM300 if a heritage boutique hotel's design meets guests' needs and expectations. Guests value all these as long as the setting is pleasing, the room design is attractive, the services are excellent, and the overall experience is delightful and enjoyable, so it does not really matter how much money is spent on them. But one interviewee would pick a less expensive guest room because heritage boutique hotels are not five-star accommodations that cater to affluent and high-end guests.

5. CONCLUSION

Melaka's heritage shophouses possess many valued qualities. Conservation is necessary to preserve and enhance their history, culture, strong sense of community, and architecture because they are aimed at tracing memories of the past, present, and adapting to the future conditions in those locations (Baroldin & Din, 2012). Since heritage boutique hotels act as markers of local identity and as a unique selling factor

for guests looking for alternative viewpoints on the city, it is crucial to modify and adapt heritage boutique hotel design through historical and cultural design experiences that are also integrated with proper building services.

This research has shown that the design of a heritage boutique hotel must first follow the heritage conservation laws and principles. Second, when designing a heritage boutique hotel, the term "boutique" must be clearly defined and understood, as it serves as an important guideline in design. Then the design should be comprehensive and holistic, focusing on design elements, design principles, and design strategy. Designers should adopt innovative ideas to convert historic structures and elements into heritage boutique hotels to offer an appropriate theme or setting and brand story. The historical building will suffer from a lack of design integration when there is no connection between the new and old concepts. Moreover, lobby and guest room interiors should be given attention by designers and hoteliers as these two spaces form a long-lasting impression on guests. Choosing the appropriate interior design style, which includes colour and finishing materials, in accordance with the target market is crucial. The importance of rich design values cannot be underplayed within the hospitality industry. In addition, excellent personal and customised service is known as an important character-defining feature of a heritage boutique hotel. Therefore, stakeholders must keep this in mind; all elements, including interior design, should interplay with the services provided by a heritage boutique hotel. After all, most guests are willing to pay for extras such as personalised services, excellent design and experiences offered.

In short, the act of converting heritage shophouses into heritage boutique hotels must consider all relevant heritage conservation laws and principles; design elements and principles; appropriate design strategy; and proper integration of building services.

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EMPOWERING THE LOCAL BAMBOO FURNITURE INDUSTRY TOWARDS THE SUSTAINABILITY OF THE MALAYSIAN INTERIOR DESIGN INDUSTRY

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Abstract

Recently, the production of raw materials was seen halted as a result of the MCO (Movement Control Order) imposed during the unprecedented Covid-19 pandemic era. It is seen that most people tend to re-decorate and upgrade their homes during the compulsory confinement period, buy purchasing new furniture and decorative elements. Acknowledging the importance of attaining environmental-friendly design, this study consulted the Malaysian Timber Industry Board (MTIB) to seek on developing the local bamboo industry to promote sustainability within the Malaysian interior design industry. Besides, structured questionnaires were distributed via Google Forms to 30 respondents comprising staff at furniture stores in selected cities in Perak, to understand how bamboo has been promoted to their customers. It is found that the potential of bamboo has not been widely explored as a sustainable material. Furthermore, bamboo has lesser plantation and exportation rates in relative to oil palm and rubber in Malaysia. Other findings include there is a lack of awareness and knowledge in the current local scene, particularly in developing the potential and commercial sides of bamboo as a sustainable built material.

Keywords: bamboo, creative industry, local materials, market awareness, sustainable design

1. INTRODUCTION

Bamboo is one of the important sources of Non-Timber Forest Products (HHBK) in Malaysia and has great potential for commercialization. Among the examples that can be taken from foreign countries is China controls the non -timber forest resources it makes bamboo is among one of the important exports that are able to contribute to the economy of their country. Things this is also not an exception in

Malaysia when many studies have been done previously stating that non-timber forest resources such as bamboo are among the contributors to the country's economy. According to a study in Malaysia, the total exports of the bamboo industry experienced a decline rate for three consecutive years from year 2018 to 2020 when it recorded RM9.97 million, RM 9.16 million and RM 8.28 million. In fact, the bamboo industry in Malaysia is still considered backward and not seriously developed when the world market value of the bamboo industry is US $ 68 billion (RM295 billion) in 2018 (MTIB, 2021).

Figure 1 Bamboo Exports in Malaysia
[Source: Malaysian Timber Industry Board (MTIB)]

In this regard, it is not too late for Malaysia to develop the bamboo industry expand and compete in the international market if it has an action plan be strategic in overcoming the challenges and issues that are obstacles to this plant commercialized. The government through the agencies involved, especially the Malaysian Timber Industry Board (MTIB) has also been working to develop the bamboo industry with several steps and it including improving the upcoming Bamboo Industry Development Action Plan 2021-2030 launched in June 2021. Accordingly, this writing highlights between three strategic plans major implemented by the government in the development of the bamboo industry in addition to some recommendations which needs to be emphasized. In the meantime, this writing is also somewhat related with the introduction of bamboo trees in Malaysia and the development strategy of the bamboo industry in Malaysia.

i)   Current Challenges of the Bamboo Industry.

Referring to MTIB, the challenges in the bamboo industry are currently divided into two, namely domestic and foreign. However, the focus on the objectives of this study is a domestic problem. Among the challenges of the first domestic bamboo industry is the constraint of raw materials. In the bamboo industry that prevails today, the government is still dependent on natural forest resources. The bamboos that grow in the forest are scattered and irregular. This causes high costs to be borne if it involves the harvesting process to obtain a quality bamboo clump grade. If a bamboo farm is established, it can be controlled in terms of planting bamboo clumps and facilitate the harvesting process later. The bamboos planted in the fields can be controlled when the bamboos that grow fertile will be left until they reach maturity while the damaged bamboos will be cut down compared to the bamboos that grow in the forest. In addition, the shortage of skilled and semi-skilled manpower in the bamboo industry is causing

this industry cannot be developed. Our country is too dependent on foreign workers when referring to statistics from the Department of Statistics Malaysia (DOSM) states half foreign workers skilled increased by 56.4 per cent in 2018 compared to 55.2 in 2013. The government's efforts will increase 35 percent of workers in the skilled workforce by 2030 is something the action is seen to be lagging behind as Singapore already has over 52 per cent of the workforce skilled.

  ii) <u>Research question</u>

What are the skills or strategy involved for local bamboo development in Malaysia? How the furniture store industry convinces customers to use furniture made of bamboo as a sustainable interior design?

  iii) <u>Objectives</u>
- To empower the local bamboo furniture industry within Malaysian Timber Industry Board (MTIB) to furniture stores for the sustainability interior design in Malaysia.
- To learn the strategy of bamboo industry development for interior decoration use for environmental sustainability.

2. LITERATURE REVIEW

Literature review of various online tertiary sources such as press release and online article as stated below (some but not all) are the main source of reference to find relevant information regarding the study in order to understand and analyse the topic chosen.
- *Berita Harian Online: "Industri buluh akan terus diperkasa"* by Zanariah Abd Mutalib (Februari 19, 2020)
- *Berita Harian Online: "Buluh boleh jadi bahan utama bina rumah"* by Suzianah Jiffa (Julai 20, 2016)
- *Malaysian Timber Industry Board (MTIB): vision and mission* by Lembaga Perindustrian Kayu Malaysia (MTIB) (2020)

3. METHODOLOGY

This section discusses research methods and methods of obtaining information and data. This method is used to ensure that the objectives of the study can be achieved according to valid and reliable data.

3.1 Structured interview/focus groups

  A structured interview will be carried out by distributing questionnaires to Malaysia Timber Industry Board (MTIB) corporate members as the main target group to retrieve primary sources and a more realistic outlooks related the topic studied in close relation to the current scenarios of the sustainability interior design in Malaysia.

3.2 Surveys

Distribution of online survey forms through Google Forms to individuals working in furniture stores aged 21 and above across Malaysia to obtain a wider range of input on the use of bamboo on their furniture.

4. STUDY FINDINGS AND DISCUSSION

This section discusses data analysis and displays the findings of a study conducted to corporate members of the Malaysian Timber Industry Board (MTIB) on the development strategy of the bamboo industry in Malaysia. This section also describes the results of data analysis based on respondents' responses to a questionnaire conducted related to how furniture stores offer furniture from bamboo to customers.

4.1 The strategy of bamboo industry Malaysia development.

1. Expanding Bamboo cultivation.

   Nowadays, bamboo plantations are a major requirement created to ensure the industry this can be commercialized domestically and abroad. Not to mention, the conflict in the issue of material shortages raw materials in Malaysia is also one of the reasons why bamboo plantations need to be established. A government effort in the establishment of a bamboo sample farm is a good starting point for bamboo entrepreneurs to start planting bamboo plantations.

2. Strengthen Research & Development & Commercialization (R&D&C) bamboo cooperation.

   The initiatives implemented by the government in further strengthening the bamboo industry is to strengthen the research, development and commercialization (R & D & C) cooperation of the bamboo industry with the Forest Research Institute of Malaysia (FRIM), public and private institutions of higher learning. This cooperation is able to contribute to the quality in the processing and development of bamboo industry products. As an example, the existing bamboo mosques in Gua Musang and Masjid Ihsaniah Iskandariah, Kuala Kangsar use natural materials for the façade as well as the interior design for the mosque.

Figure 2: Bamboo Mosque in Gua Musang
(Source: Page Eco Masjid, 2018)

Figure 3: Ihsaniah Iskandariah Mosque, Kuala Kangsar
(Source: Malaysia Traveller, 2018)

The government has also built a bamboo surau in Dataran Tenusu, Kuala Nerus. The construction of this bamboo surau is one of the government's efforts to further strengthen the bamboo research and study center. The uniqueness of the bamboo surau which has an area of 3,000 square feet is not only made from bamboo but also from bamboo products.

3. Implementing the evolution of product diversity.
   The bamboo industry is actually capable of producing a wide variety of high quality products with selection of bamboo species that have the potential to be commercialized and use the technology as well valuable output innovation. The evolution in the development of this product diversity is not the only one generate income for the rural population but are able to contribute to the national economy as do foreign countries. An example that can be taken from China is they manufactured bamboo based products in the home construction industry such as floors, columns, doors, walls and home furniture. In Malaysia, there are local entrepreneurs who develop bamboo furniture such as Impian Bumi Casa Sdn Bhd and Istana Bambu Enterprise domestically. These efforts need to be further enhanced systematically. So that not only furniture but bamboo boards as well able to be produced by Malaysia itself.

Figure 4: Bamboo furniture industry
(source: MTIB)

4.2 How furniture stores offer furniture from bamboo to customers.
4.2.1 Respondent Demographics

A total of 30 respondents who have given respondents throughout this study was conducted. The description of the analysis of respondents' demographic data involves aspects of gender, race and age. Descriptions of the analysis of demographic data of these respondents are presented in the form of tables and pie charts.
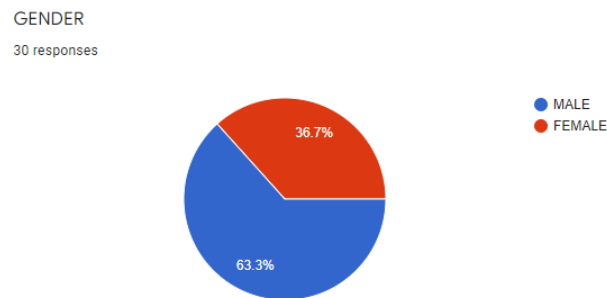
Chart 1 Gender

The study respondents consisted of 30 respondents. From chart 1, the number of respondents is 19 males equivalent to 63.3% and 11 females equivalent to 36.7%. This is because, male workers are very much needed to lift heavy furniture items and female workers only need to take care of the shop only.
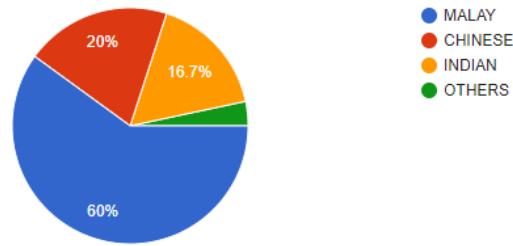
Chart 2 Race

Based on chart 2, out of 30 respondents, there are 18 Malays equivalent to 60% and also 6 Chinese equivalent to 20%. In addition, 16.7% are Indians, which is 5 people and others.

AGE RANGE

30 responses
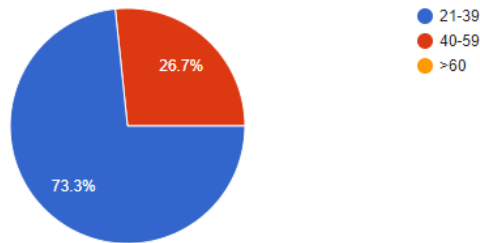
Chart 3 Age range

Chart 3 shows the number of respondents based on the age of the respondents which is a total of 22 respondents aged 21 to 39 years equivalent to 73.3%, while a total of 8 respondents aged 40 to 59 years equivalent to 26.7%.

4.3 Data analysis of questionnaire about how furniture stores offer furniture from bamboo to customers.

A total of 10 questions were given to the respondents during this study. The results of this questionnaire will explain the results on how furniture stores offer furniture from bamboo to customers among the Malaysian community.

4.3.1 Number of respondents that "Have customers ever asked what furniture can reduce environmental pollution?"

1. Have customers ever asked what furniture can reduce environmental pollution?

30 responses

- DISAGREE
- NOT SURE
- AGREE

83.3%

16.7%
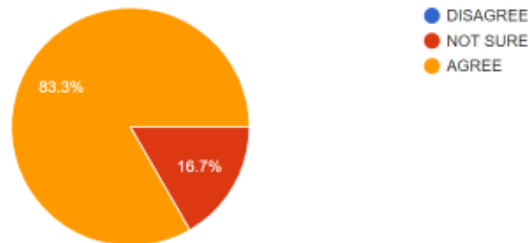
Chart 4 percentage of respondents that Have customers ever asked what furniture can reduce environmental pollution?

Chart 4 shows the number of respondents stating that have customers ever asked what furniture can reduce environmental pollution? is intended to obtain information. The results of the study showed that 83.3% of the respondents agreed that there were customers who asked about suitable furniture to reduce pollution and the rest were unsure which was 16.7%. This shows that there are furniture buyers who are still sensitive to the environment.

4.3.2 Number of respondents that "Do you prefer customers to buy or just ask about the furniture?"

2. Do you prefer customers to buy or just ask about the furniture?

30 responses

- DISAGREE
- NOT SURE
- AGREE

80%

16.7%
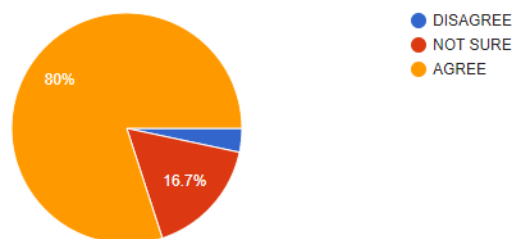
Chart 5 percentage of respondents that Do you prefer customers to buy or just ask about the furniture?

Chart 5 shows the number of respondents stating that do you prefer customers to buy or just ask about the furniture? Is intended to obtain information. The results of the study showed that 80% of the respondents agreed that they prefer customers to buy rather than just ask. This is because their goal is to make a profit. A total of 16.7% were unsure and 3.3% disagree.

4.3.3 Number of respondents that "When customers come to your store, do you describe in advance about the furniture?"

3. When customers come to your store, do you describe in advance about the furniture?

30 responses

- DISAGREE
- NOT SURE
- AGREE

100%
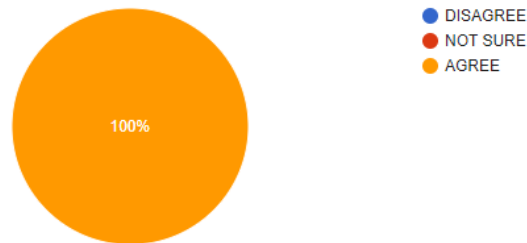
Chart 6 percent of respondents that When customers come to your store, do you describe in advance about the furniture?

Chart 6 shows the number of respondents stating that when customers come to your store, do you describe in advance about the furniture? Is intended to obtain information. The results of the study showed that 100% of the respondents agreed that they describe in advance about the furniture to customer. This is because this is part of their job as employees and trying to attract customers.

4.3.4 Number of respondents that "As an employee in a furniture store, do you know that the material used is harmful to consumers or not?".

4. As an employee in a furniture store, do you know that the material used is harmful to consumers or not?

30 responses

- DISAGREE
- NOT SURE
- AGREE

83.3%

13.3%
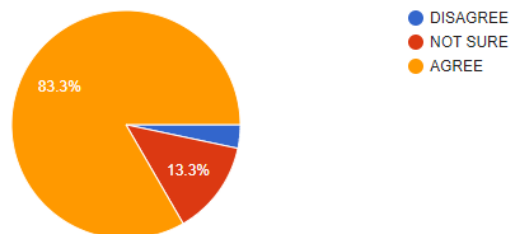
Chart 7 Percent of respondents that As an employee in a furniture store, do you know that the material used is harmful to consumers or not?"

Chart 7 shows the number of respondents stating that as an employee in a furniture store, do you know that the material used is harmful to consumers or not? Is intended to obtain information. The results of the study showed 83.3% of the respondents agreed that they know material used in their furniture is harmful to consumers, 13.3% of the respondents not sure and 3.3% is disagree.

4.3.5 Number of respondents that "Do you know what is material sustainability to interior design?"

5. Do you know what is material sustainability to interior design?

29 responses

- DISAGREE
- NOT SURE
- AGREE

82.8%

13.8%
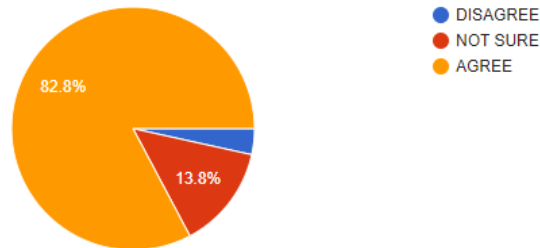
Chart 8 percent of respondents that Do you know what is material sustainability to interior design?

Chart 8 shows the number of respondents stating that Do you know what is material sustainability to interior design? Is intended to obtain information. The results of the study showed 82.8% of the respondents agreed that they know what is material that can be sustain for interior design besides, 13.8% of the respondents is not sure and 3.3% is disagree.

4.3.6 Number of respondents that "As a furniture store employee, are you trying to convince customers to buy more sustainable furniture?"

6. As a furniture store employee, are you trying to convince customers to buy more sustainable furniture?

29 responses

- DISAGREE
- NOT SURE
- AGREE

89.7%

10.3%
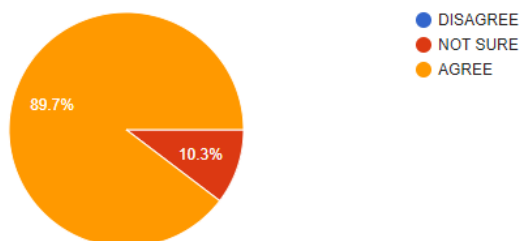
Chart 9 percent of respondents that As a furniture store employee, are you trying to convince customers to buy more sustainable furniture?

Chart 9 shows the number of respondents stating that as a furniture store employee, are you trying to convince customers to buy more sustainable furniture? Is intended to obtain information. The results of the study showed 89.7% of the respondents agreed that they are trying to convince customers to buy more sustainable furniture because they also want sharing knowledge and caring for nature together and the rest are 10.3% not sure about it.

4.3.7 Number of respondents that "Do you agree that furniture made of bamboo is easy to care for and wash?"

7. Do you agree that furniture made of bamboo is easy to care for and wash?

30 responses

- DISAGREE
- NOT SURE
- AGREE

53.3%

13.3%

33.3%
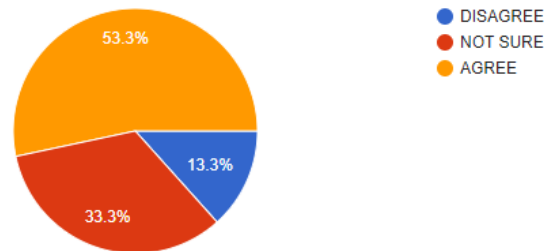
Chart 10 Percentage of respondents that Do you agree that furniture made of bamboo is easy to care for and wash?

Chart 10 shows the number of respondents stating that do you agree that furniture made of bamboo is easy to care for and wash? Is intended to obtain information. The results of the study showed 53.3% of the respondents agreed that furniture made from bamboo easy to care of because they are as an employee, they have to manage it in store. Another results is 33.3% is not sure and 13.3% is disagree with it.

4.3.8 Number of respondents that " Is a piece of furniture more durable if it is made of bamboo?"

8. Is a piece of furniture more durable if it is made of bamboo?

30 responses

- DISAGREE
- NOT SURE
- AGREE

80%

16.7%
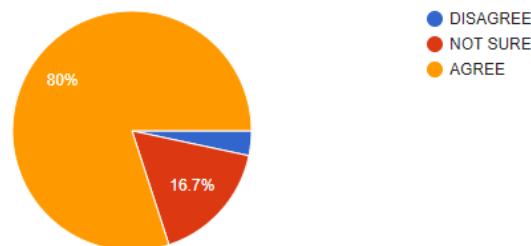
Chart 11 percent of respondents that Is a piece of furniture more durable if it is made of bamboo?

Chart 11 shows the number of respondents stating that Is a piece of furniture more durable if it is made of bamboo? Is intended to obtain information. The results of the study showed 80% of the respondents agreed that furniture more durable when it made from bamboo. This is because this material is natural. Another results is 16.7% is not sure and 3.3% disagree about that statement.

4.3.9 Number of respondents that "Bamboo is very easy to find in Malaysia?"

9. Bamboo is very easy to find in Malaysia?

30 responses
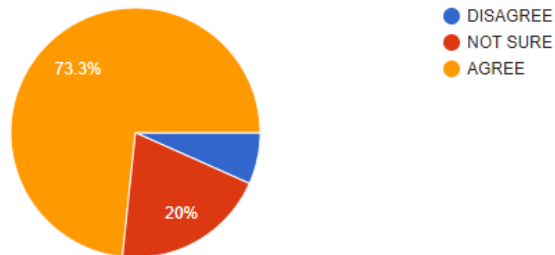
Chart 12 percent of respondent that Bamboo is very easy to find in Malaysia?

Chart 12 shows the number of respondents stating that bamboo is very easy to find in Malaysia? Is intended to obtain information. The results of the study showed 73.3% of the respondents agreed that bamboo is easy to find in Malaysia. 20% is not sure and 6.7% is disagree.

4.3.10 Number of respondents that "Will a piece of furniture be more aesthetic when made of bamboo?"

10. Will a piece of furniture be more aesthetic when made of bamboo?

30 responses
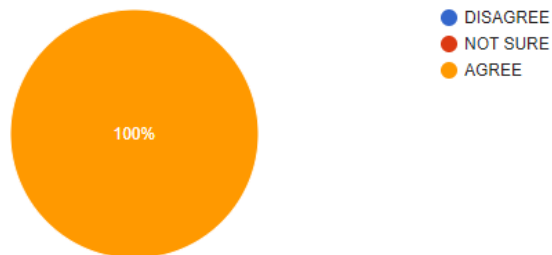
Chart 13 percent of respondents that Will a piece of furniture be more aesthetic when made of bamboo?

Chart 13 shows the number of respondents stating that will a piece of furniture be more aesthetic when made of bamboo? Is intended to obtain information. The results of the study showed 100% of the respondents agreed that furniture will be more aesthetic when made from bamboo. This is because, when the material is of natural material, it is very valuable and has a high value.

5. RESULTS AND DISCUSSION

Through the study, the empowerment of the local bamboo furniture industry needs to be done in the Malaysian Timber Industry Board (MTIB) and a survey from several nearby furniture stores aimed at surveying how they know and offer to bamboo-related customers. Hopefully, in the near future this is expected to be observed in the hope of

helping to provide current and future sustainable interior design.

6. CONCLUSION

Bamboo is a plant that is easy to reproduce and has the potential to be developed large-scale if implemented strategically. In Malaysia there are so many species bamboo with a variety of uses. This valuable treasure is still not fully utilized in our country. The value bamboo industry exports also declined following the Covid-19 pandemic. Lots of challenges and factors that prevent this industry from developing. The bamboo industry is not just giving benefits to the economic growth of the country but also able to generate income for the community rural. Accordingly, the industry needs to be rehabilitated immediately and undergo a great evolution such as foreign countries that are able to produce a variety of value-added products for world market. With this, it is hoped that the results of this effort can improve the sustainability of interior design in Malaysia.

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REINTERPRETING PETRŽALKA:
FROM PROCESS OF STATE SOCIALIST UTOPIA TO A UTOPIA OF CAPITALIST PROCESS

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Abstract

After World War II and before the fall of the Berlin Wall, Central and East European countries were under the influence of the Soviet Union, and this impacted their planning and architecture. These state socialist regimes were known to build sprawling amount of prefabricated panel housing estates all over their cities, often nicknamed 'commie blocks', 'Khrushchyovka' in Russian or 'panelaky' in Czech or Slovak. They were notorious for being monogamous, dull and devoid of architectural character, due to the conformity of housing blocks. The largest housing estate in Europe is situated in the former Czechoslovakian city of Bratislava, called Petržalka. Often neglected in planning history books, the narrative of former state socialist regimes deserves a mention, as it explains the stark differences in the built environment between different parts of Europe, and how they adjust accordingly to neoliberal economic policies after political crises. Drawing upon David Harvey's theory of dialectical utopianism (2000), this paper interprets the current development of Petržalka as capitalisation of urban capacities left by an unfinished Czechoslovakian urban planning project. Methods include content analysis of primary and secondary sources, from planning textbooks, architectural journals to maps by the former Czechoslovak government and Bratislava city council. First, it traces the visions and technocratic methods of the previous regime in the process of building their state socialist utopia. After the critical juncture of 1990-1993, it analyses the manner of how neoliberal capitalist process negotiates spatiality in Petržalka over the past three decades, upsetting this materialised utopia. It demonstrates how morphological changes in Petržalka were affected by Thatcherite planning policies, exacerbated by Slovakia's supranational EU networks, from 'humanizing' panelaks to new commercial buildings and infrastructures.

Keywords: state socialism, urban planning, neoliberal urbanism, capitalism, European Union

1.   INTRODUCTION

As a stark embodiment of a socialist city, mass housing estates in former state socialist countries are a popular topic for scholars researching on post-socialism and a constant theme in recent published books (Benkő, Kissfazekas, 2019; Engel, 2019). As for Petržalka in Bratislava, numerous scholars have either narrated its conception, depicted its numerous socio-economic issues or its physical transformation after 1990 (Šuška, et al., 2013; Ferenčuhová, et al., 2013; Szalay, 2013). However, they often do not relate changes in the post-socialist landscapes to a more relevant planning theory or acknowledge them as 'hybrid spatialities', i.e., dialectical products of old and new processes, open to changes but never fixed (Golubchikov, et al, 2013).

In comparison to other housing estates, Petržalka makes for an interesting case study due to its unique geopolitical position. Formerly under the strong influence of the Austro-Hungarian Empire, after 1919 Austria still kept an eye on its former industries and worker settlements in Petržalka and any major decisions taken on the Danube would affect both Bratislava and Vienna (Schriffl, 2012, p.148). Federalization of Czechoslovakia in 1968 meant further recognition of Bratislava as capital of Slovakia and as Slovaks had more representatives in central government. Local actors took this advantage to influence huge investments in Bratislava, among them building Petržalka housing estate and infrastructure (Buček, 2016, p.13). After 1990, Vienna and Bratislava became twin cities again and economic restructuring has seen a boost in the region. Therefore, Petržalka's urban metamorphosis in just half a century has always reflected power relations between local, regional and international actors from outside Bratislava.

Petržalka was initially envisioned as a housing utopia for its citizens. Utopia is defined as a "a non-existent society described in considerable detail and normally located in time and space that the author intended a contemporaneous reader to view as considerably better than the society in which that reader lived" (Sargent, 2010, p. 6). For Jeremy Till (2009, p.190) utopia is a place of hope, "founded in new futures, untainted by scars of history and unfettered by uncertainty." He continued, "…as an architect the spatial aspects come first, hoping to set the ground for social transformation." The state socialist version of utopia differs from those envisioned by earlier utopian socialists of Thomas More, Charles Fourier or Ebenezer Howard. The seemingly utilitarian urban environment of mass housing estates harks back to their own values, in which housing was regarded as a basic need for their citizens, and state agencies were responsible for the distribution of equal, uniform housing for everyone. Notwithstanding, social inequalities still existed during state socialism in terms of the

allocation of housing based on the type of employment with the state or family status. Their emphasis on even distribution and equality differed from the previous pre-war capitalist system, associated with unhygienic slums and unmodernised housing priced at the mercy of market speculation. These values are inseparable with the concept of scientific and technological revolution (STR), where technocratic governments believed that advances in prefabricated panel production would create better cities.

Considering that Petržalka was never completed before 1989, it underwent several changes in the past 30 years; rehabilitation, conversion of flats, new additions of luxury apartments, shopping malls, business centers and reindustrialization of manufacturing plants. These are attributed to production, circulation and accumulation of capital within the processes of globalized neoliberal economy, articulating itself in urban form. David Harvey (2000) describes two types of utopia, the utopia of spatial form and the utopia of process. The former, he argues (pp. 179-180) often become distorted from their noble intentions by having to "compromise with the social processes they are meant to control." Whereas the latter is not bound to a specific place, and must negotiate with the "spatiality and geography of place."

Paradoxically, the changes in Petržalka were also caused by continuities established by important actors even after the rupture of the former political system. As demonstrated by scholars (Tuvikene, 2016; Zarecor, 2017; Bockman, 2011), there are overlapping elements in post-socialist cities in relation to their state socialist past, especially in terms of practices and economic processes. Bockman and Zarecor pointed out that market mechanisms existed in state socialist countries from the 1950s, arguing that neoliberalism in CEE was locally embedded over time rather than an import from the West. People in positions of power learned the art of negotiation during state socialism so that they could retain their financial capital even when institutions and state powers diminished after 1989. The socialist city, as product of centrally planned infrastructure and controlled resources became an asset, converted into 'financial opportunities' by elites to further their interests (Zarecor, 2018, p. 110).

Zarecor introduced infrastructural thinking and socialist scaffold as frameworks to analyze the socialist city. Infrastructural thinking "is decision making propelled by the requirements and scale of urban infrastructure" whereas socialist scaffold is "a basic infrastructure for future growth onto which other systems—economic, social, political, environmental—can attach and become activated (2018, p. 99)." Both are not alien concepts in modern city planning in general. An essential feature of 20th century urban planning, the state regarded cities as coordinates of state territorial power as they nationalized regions and lands, re-embedding 'transmission belt for national economic

policies' to 'redistribute industrial capacities' and to balance out uneven economic development (Brenner, 2019). However, Zarecor and Wagner (1994) argued that implementation of infrastructural layout was much stronger in state socialist countries, given the capacities of a centrally planned economy.

Therefore, this contribution charts the timeline of Petržalka from its conception in 1966, its production in 1970s-80s and metamorphosis after 1993. It draws upon planning textbooks, architectural journals to maps by Bratislava city council to various existing articles. It conceptualizes these transformations in reference to concepts by Harvey and Zarecor, describing how the urban, geographical and environmental qualities of Petržalka left by the state socialist legacy became fertile ground for everlasting changes. While the scope of this article will not cover political, social, economic issues in depth, it mentions relevant issues necessary to contextualize changes. This opens up room for more discussion regarding the urban capacity and potential of Petržalka, adding to existing debates on its future.

2. PROCESS OF STATE SOCIALIST UTOPIA

Figure 1: View of Bratislava and Petržalka in 1905, taken by Anton Schlein from a hot air balloon. The photo shows the former village of Petržalka, agricultural lands, Sad Janka Krála

Public Park, recreational activities including horse-riding, rowing and sailing clubs and bridge connection to Bratislava, Stary Most.
(Source: Chlpík & Gindl, 2011)

Petržalka was an industrial and agricultural area with a small village whose inhabitants worked in factories and on agricultural lands. A railway station connecting to Vienna was located near the Matador factory in the southwestern part of Petržalka, Kopčany. The northern part at the Danube was known for sailing and rowing activities. The Sad Janka Krála public park adjacent to the old bridge Stary Most as well as the horse racing track which existed then are still preserved.

Soon after the Communist Takeover, Petržalka became a part of Bratislava in 1951. In addition to new industries and new settlements in Bratislava, J. Svetlík addressed the possibility of expanding urban settlement into Petržalka in the 1954 Territorial plan. Existing factories in Kopčany were nationalized including Matador, thus better living conditions were needed for workers. Later in 1963, M. Beňuška sought better traffic planning solutions, proposing a circuit to pass through Petržalka to the other side of Bratislava over the port, to avoid the inner city for faster connection. At the same time, he suggested more development southwards into Petržalka (Zalman, 2016). This was not going to be just another settlement; this in particular was going to be a showcase of a socialist city, considering its border with Austria.

In Czechoslovakia, standardized housing projects stretched far back before state socialism, as evident in Bata housing project in Zlin. There were notable housing projects during the socialist realism era, such as Ostrava-Poruba, where standardized buildings were designed with neoclassical facades. After political changes in 1954, a rupture of different ideas guided production of urban forms, as dwellings should be built to be functional rather than endowed with unnecessary embellishments. Monumental and ostentatious architecture had to be abandoned for more functional, standardized methods, and more so after 1960 (Zarecor, 2011). The core promise of providing equal housing had to be delivered through the challenges of better quality, yet lowered costs and building time. Local advancements in technology emerged from successful research at research institutes in Prague, Brno and Bratislava, producing series of prefabricated panels for future housing estates. Komplexná bytová výstavba - Complete Housing Construction (KBV) provided guidelines for a holistic urban complex such as types of civic amenities required for certain number of dwellings, i.e., kindergartens, schools, shops, medical centres, post office, playgrounds and sports facilities (Runštuk, 1978; Moravčíková, 2011). Notwithstanding limited resources,

designers still aspired to work with existing materials in their efforts to design a socialist utopia in Petržalka.

2.1 The Competition

In 1966, the Bratislava National Committee hosted an international urban planning competition for Petržalka. 310 participants from 28 countries participated, in search of the ideal plan (Gross, 1969). Competition entries must deploy modern architectural designs, an environment that encouraged a work-life balance, complemented with various amenities and leisure facilities. There was no mention of demonstrating sensitivity to the layout structure of the village, and most of the existing 4113 dilapidated dwellings were demolished and 15,000 inhabitants relocated before work began. It would be replaced with 60,000 flats and 140,000 residents. Participants were required only to conceive of the architecture, greenery and how to channel waterways from the Danube, given that road networks, bridges and railway transport were already specified by the authorities. There were no winners, and only five proposals were awarded third prizes, deemed worthy ideas for the future plan of Petržalka (Ibid). According to the jury, they did not fulfil all the criteria of the competition, but they applauded the intention of preserving existing parks, developing waterways, creating new lakes, while integrating different building functions, allowing a close connection between Bratislava city center and Petržalka (Gross, 1969, p.51). The National Committee expressed the desire for these ideas to be incorporated into the scheme to members of Stavoprojekt – state run office of architects and engineers - assigned to the task.
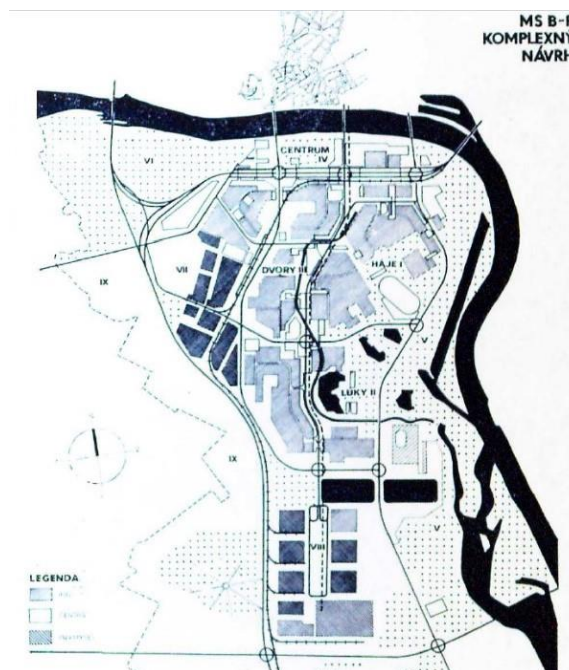
Figure 2: Approved authorised plan of Petržalka highlighting the significance of the highway networks forming the layout of the housing estate, followed by planned metro line and railway tracks.

(Source: Stanislav Talaš, 1978)

Stanislav Talaš and Jozef Chovanec were commissioned to design Petržalka in 1971. In spite of mandatory use of standardized prefabricated panels for dwellings, they did their best to propose various compositions and colors, in the designs for schools, medical centers, power plants, while being sensitive to the environmental conditions (Talaš, 1978, pp. 21-23). Drawing inspiration from the competition as well as Nikolaj Miljutin's linear city concept, they envisioned the area called the Centrum along the main traffic artery of Petržalka as a lively urban boulevard, as an extension from the older city center of Bratislava, planned in stages until 2000 (Hruska, 1978, p.10; Szalay, 2013, p.200). The idea of a high-speed metro system was introduced in early 1970s, to connect south of Petržalka with Bratislava under the Danube, running parallel to the canal along the north-south central axis, Chorvátske rameno. Lively functions and added features along this main central axis were supposed to grow over time, as illustrated in a 1973 document by state enterprise, Investing, acting as contractor for the project (Dvorín, 1973).
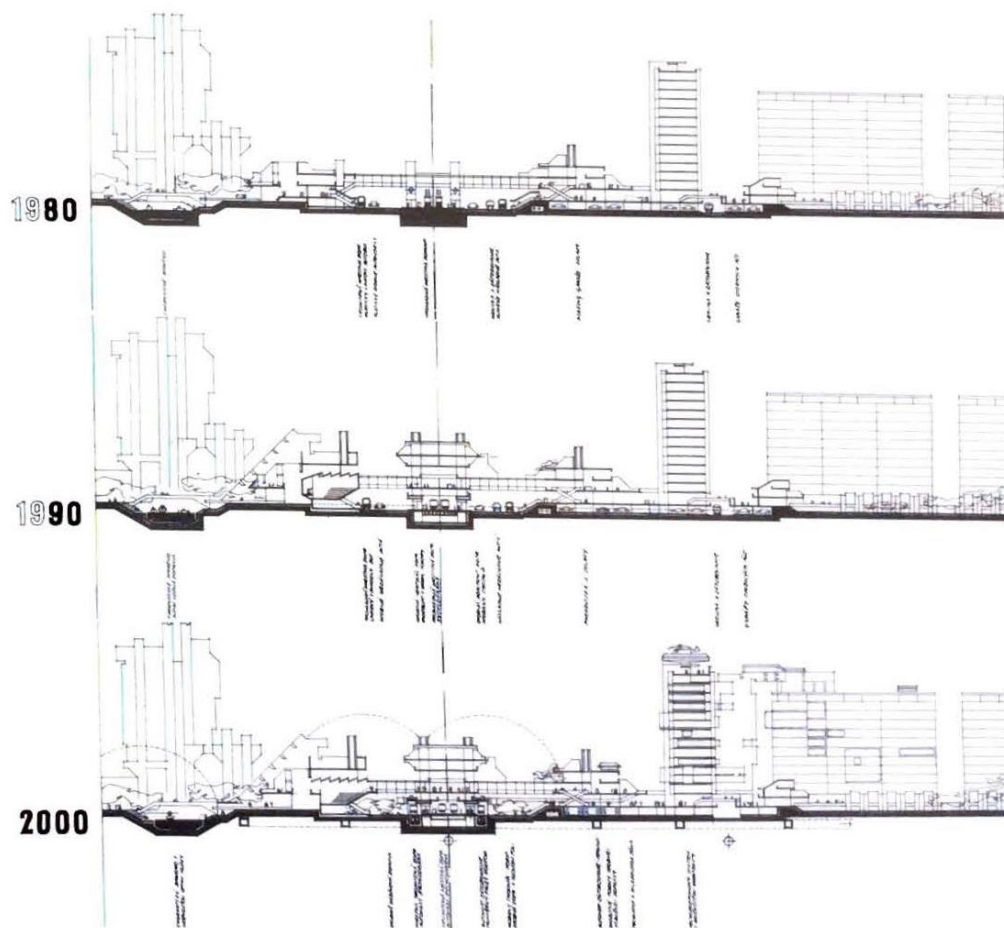
Figure 3: A cross section shows the conception of metro line along the central north-south boulevard, elevated walkways connecting to residential buildings, and central hub with futuristic architecture and how the buildings would have added features over time.
(Source: Mestský Sektor Bratislava-Petržalka by Ivan Dvorin, 1973)

2.2 Centralized Planning in Czechoslovakia

Consistent with Zarecor's infrastructural thinking theory, under a centralized system, the vision of urban utopia had to comply with national territorial planning laws, in which standardized building codes were legally binding. Modern planning in Slovakia began after Second World War, and the phrase 'territorial planning' in the first Czechoslovak Planning Act 1949, suggested 'a more technical and future-minded (and maybe eastward-looking) approach' (Dostalík, 2017, p.167). The state regarded territorial planning as development of lands into a uniform settlement system via top-down approach, planned effectively with long-term economic, social and demographic forecast (Gál & Furdik, 1984). Standardization and improvement of infrastructure gave the federal government more power over its territory within national boundaries. Preparation of Highway Road Network in 1960 corresponded with the needs of centralized planned economy and the 1958 territorial planning laws. Its long-term plans

were approved in 1963, and construction of the Malacky-Bratislava section began in 1969, allowing better connections between the Czech cities with the rest of Slovakia (Šteis, 1989, pp. 26, 37). National economic plans even instructed that locations of new housing estates in the 1984 Directional Plan of Bratislava must be along main highway systems, as not doing so would 'reduce the efficiency of transport and engineering investments' (Hauskrecht, 1983, p.4).

Socialist scaffolding comes in as the production of Petržalka in 1973 intermeshed with the multi-scalar centralized planning of Czechoslovakia. Planned in accordance with the 1971 long-term Slovak Socialist Republic (SSR) Urbanization Project, the spatial logistics, highways and mass production of industrialized building materials took on a grander scale (Michalec, 1976). Hence, the urban fabric of Petržalka should be discerned as an imprint of hierarchical, centralized and standardized projects regulated by the state socialist regime of Czechoslovakia with special attention towards Slovakia as part of the SSR Urbanization Project. Moreover, future settlements should not be developed as 'accidental' but with intention, as nodes of economic activities and industrial production, with targeted urban population (Gřegorčík, & Přikryl, 1974, p.97).

While this is a strength of the Czechoslovak planning system, it is also a weakness in the process of building Petržalka. Firstly, as building laws are bound to 1976 centralized territorial laws, construction of housing and civic amenities depended on state-approved standardized prefabricated panels. Hence, layout of buildings, was determined by the assembly-line production of panels or radius of crane joists. Secondly, the late 1970s economic crisis affected efficiency and production, hence the regime prioritized production of housing, and since panels were also used in kindergartens, nurseries and medical centers, those with complicated designs were either not built or delayed (Maier, & Šlemr, 2016, p.173). Thirdly, emphasis on nationwide highway building led to changes in plans over 1970s and 1980s, putting construction of public transportation for Petržalka on hold. The SNP Bridge (Slovenského národného povstania - Slovak National Uprising) completed in 1972, allowed more transportation of building materials and machineries into Petržalka, rather than burdening the existing Stary Most. After ravaging most of the village, arterial and collector roads were first built throughout Petržalka, concentrating on construction sites that were easier to work on and building temporary warehouses for panels. In the absence of other public transport alternatives, residents were reliant on buses, as shown in a 1987 plan of bus routes produced by official transport authorities (Figure 4).

Figure 4: Plan of bus routes in the incomplete settlement produced by official public transport authorities indicate that residents were heavily reliant on vehicular road transport in 1980s.
(Source: Bratislava Petržalka, Orientačná mapa, Mestská Hromadná Doprava, Slovenska Kartografia, 1987)

The north-south axis and envisioned central boulevard along Chorvátske rameno remained incomplete before the collapse of the regime in 1990. Nevertheless, the state building enterprise successfully built 49,829 flats (Szalay, 2013). In accordance to the 1963 plan, Prístavný Bridge and the Lafranconi Bridge were added in late 1980s, with the latter being finished just as Slovakia gained independence. There were plenty of green areas, with forests and two artificial lakes, Malý and Veľký Draždiak in the southeast. Petržalka's materialization is disrupted after 1990, as its architecture and urban forms were given new meanings, thereafter, rendering them conducive conditions for re-appropriation in the neoliberal market economy.

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3. THE UTOPIA OF CAPITALIST PROCESS

Since 1993, introduction of the market economy in Slovakia came hand-in-hand with neoliberal theory and embedded into the global economy (Sailer-Fliege, 1999; Kalb, 2019). When market reforms and privatization were re-introduced in Slovakia, they were associated with democratization, 'replacing the political motive with the profit motive,' which would 'lead the process of economic restructuring' (Gould,2017. pp 198-200). Decentralization of administration systems into self-governing municipalities had its drawbacks, however, given the inexperience of local municipalities in planning practices and limited funds. Neoliberal planning became an antidote to centralized planning of the previous regime, used to justify private investors' influence in decisions of land use (Dąbrowski, & Piskorek, 2018, p.576). The 1990s were an unstable period of economic restructuring, but soon improved during the Dzurinda government (1998-2006).

Membership in multi-national political alliances also meant rescaling of territorial planning approaches, encouraging competitive forms of neoliberal market urbanization. In early 2000s, Slovakia became a member of important political alliances including OECD, NATO and more importantly, the European Union. From 2001, administrative and judicial capacities were formed to specialize in regional policies to meet EU criteria for membership (Dąbrowski, & Piskorek, 2018, p.578). The goal of EU Cohesion Policy was to encourage territorial, economic and social cohesion among member states, providing funding through distribution of EU Structural Funds. Planning practices were adjusted accordingly, and funds for regional and urban development were provided through a multi-scale governance system (Ibid, pp. 571-572). There is an overlapping similarity between spatial planning of former centralized economies and EU spatial planning. Both define spatial planning as methods by public sector to regulate even development between regions, based on long-term social and economic perspective (Goldzamt, 1979, p.79; EU, 1997, p.24). EU spatial policy frameworks have only promoted inter-regional competitiveness, attracting capital investment through enhancement of inter-city logistics and telecommunication system. During Slovakia's accession in 2004, reforms helped consolidate competitive growth, inadvertently creating unbalanced regional development (Brenner, 2019, pp.159-160). Nodes of former socialist scaffold were re-appropriated by neoliberalism, as sites of financial assets were identified for growth. 75-80% of EU funds is allocated for infrastructural projects (Taczanowski, 2018, pp. 208-209) most notably the Trans-European Transport Network (TEN-T) that covers wide range of transport infrastructural networks from railways, roads to waterways linking whole Europe.   These funds, under the Bratislava

Ministry of Transport and Construction and Regional Development, enabled improvement of infrastructure, such as reconnection of railway line between Vienna and Bratislava-Petržalka stations. The manner in which the cities of Bratislava, Vienna, Budapest, and Prague became more strongly interconnected within this region supports the circulation and accumulation of capital, which found their spatial fixes in Petržalka.

Where EU funds could not cover, such as urban development projects and rejuvenation of dying industries, is when private sectors came in. New master plans and strategic planning documents that emerged along with reorganization of official administration enabled extensive development activities to take place in Bratislava (Bleha, & Buček, 2015, pp.167-168). While there is improvement in participatory planning, urban development was unregulated, largely dominated by private firms and often discard important environmental and social issues (Buček, 2016, p.14). Improvement in infrastructures and release of lands to private developers for urban development activities, are an embodiment of the endless cyclic, spatializing processes of neoliberal capitalism that would affect the region for decades to come.

Figure 5: Aupark shopping center and O2 building is located on the interchange connecting D1/Einsteinova highway to Panónska cesta. This photo is taken from the top of SNP Bridge

overlooking Petržalka. Plenty of commercial, corporate buildings line the main traffic artery D1, symbolizing the dominant presence of neoliberal capitalist economy in Petržalka.
(Source: Author, 2018)

3.1 Privatization and urban renewal

At first, the housing blocks in Petržalka seem resistant to changes, but colorful variants, extension of loggias, cafes and retailers occupying the ground floor reveal a different story. Despite losing 25,269 inhabitants from 1991 to 2018, privatization and rehabilitation efforts have helped to mitigate the overwhelming monotony of these neighborhoods. Before 1990, only less than 2% of flats were privately owned while the rest were owned by state or housing cooperatives (Beňušková, 2006). When privatization and restitution laws came into existence after Slovakia's independence, only 15% of the flats in Petržalka were not sold within 10 years (Ibid). The less desirable flats stayed with the municipality, creating shortage of social housing (Buček, 2005). However, as private owners often lack funding to repair their own flats, the government created housing subsidies and, in some cases, invited private investors to participate, leading them to view housing as commodity rather than a basic need (Šuška, et al., 2013). Hence, Petržalka became dependent on private investors for improving the quality and densification of urban spaces (Ibid). There were some successes, however, such as the Gercenova and Skybox neighborhoods.

Another pressing issue was who should be responsible in maintaining large green and public spaces. Construction sites and large parking places dominate areas that were once vast green areas. To maximize potential of remaining green spaces, local politicians frequently call in non-governmental sector to realize various initiatives by engaging with community (Kristiánová, & Vitkova, 2016). Another urban design scheme from state socialist era that did not translate well with neoliberal capitalist times is the elevated walkway. These walkways are attached to certain residential blocks in Dvory, within the concept of vertical segregation proposed by Chovanec and Talaš. Situated half floor above ground, with carpark underneath, the idea was that they would connect residents to other buildings via pedestrian bridges and to underground metro, lined with shops and public facilities with direct entrances to their flats. During construction process, its concept was partially achieved. While certain shops and businesses on the elevated walkway still exist, over the past 15 years, many closed down because they could not compete with discount supermarkets and large commercial complexes that appeared. Hence, these spaces become neglected over time (Kasala, & Smatanova, 2019).

Not all residents of Petržalka live in prefabricated panel blocks. Some even live in remaining single detached housing of the former village in the Dvory section, newly built high-end condominiums or suburban-style housing, added in 2010s. A new neighborhood with low-rise apartments and cookie-cutter row houses, Slnečnice was finished in 2018 at the southern tip, completely isolated from the rest of the district. On the edge of Chorvátske rameno close to the tram stop was the Petržalka City apartments, with a significantly different architectural language. Besides Vienna Gate condominiums, another set of condominiums is currently being developed on the land formerly owned by Matador, aptly called Matadorka. According to the property developer's website, these elegant apartments are aimed for 'cosmopolitan' residents with a 'purpose', specifying a high-income clientele. This statement is indicative of the neoliberal capitalist values embraced by mass sections of society, and rewards that came with the promises of social mobility. The developer speculated that the multifunctional residential complex would be highly sought after, given the higher value of land near the train station. Preferences to live in different types of housing within Petržalka indicate the widening socio-economic stratification of society, although the vast majority of who live in the panel blocks are still middle class given its affordability.

Figure 6: Visualization of Matadorka (in foreground), a multifunctional residential complex currently being built on the former Matador industrial area.
(Source: https://www.matadorka.com/sk/projekt, 2020)

While housing mostly dominated by private sectors, the city council is still in charge of transport and infrastructure. The residents of Petržalka are either auto-oriented, or reliant on buses as tram lines only go as far as Jungmannova in the north. The inherited socialist scaffold was recognized as essential economic corridors, upgraded under the TEN-T project. Even though the vision of building the metro system remains a pipe dream, they managed to install tramlines into Petržalka in 2016. Land values along

main traffic artery D1 and train station are lucrative for commercial and office buildings, especially at the highway interchange. Taking advantage of low taxes, flexible labor laws, and other incentives implemented by the government, international finance institutions, commercial developers, electronic and software companies have erected buildings around these areas. For instance, Aupark is located at the interchange close to the SNP Bridge whereas Siemens and IBM buildings were built parallel to the artery, strategically marking their visibility. Factories around Kopčany were de-industrialized and repossessed by international and domestic companies during 1990s, and some buildings were converted into showrooms for some of the most important car manufacturers for the EU, as Slovakia is a leading car exporter. During the first few years after 1990, factories were closed and flats vacated. Surrounded by motorways, former industrial sites and bounded by the railway on the east, the Kopčany flats are an island isolated from other parts of Petržalka. Lack of schools, nearby shops, social and health services, rendered the area more socially distant than the rest of Petržalka. The state of deprivation and negative association of Kopčany with high crime and drug use can be attributed to the Slovak urban policy in the 1990s and 2000s. Low-income residents of Bratislava who could not afford better housing were relocated in Kopčany, where they had to settle for lower quality flats and neglected public spaces (Blazek, 2016, p.29). However, situation has since improved over time. Many buildings in Kopčany served as logistical warehouses, and there are large supermarkets by big international retail chains such as Carrefour and Tesco nearby, built in American-style strip malls surrounded by a sea of parking lots. The presence of international businesses in Kopčany prompted the district council to take a number of initiatives, launching social projects engaging community and improving urban environment such as increased security presence and installation of streetlights (Blazek, 2016). The central axis of Petržalka remains a never-ending issue to be solved. Where the Chorvátske rameno runs there is now a long green strip that runs across the housing estate. There is potential for commercial, cultural and social activities, with a built-in transport running parallel to the canal (Mládek, et al, 1998; Čapová et al, 1995; Šuška, et al., 2013). As part of formal compliance to EU spatial planning policy, a 2007 master plan of Bratislava listed out 24 bio-corridors considered important to surrounding regions. This was deemed rather superficial, as there was no detailed statement of how they would translate well locally, given urban planning regulations (Kristiánová, & Vitkova, 2016). The city council launched urban design competitions in 2014 and the "Solution of the Central Development Axis of Petržalka" plan became accessible to the public in February 2019. While still in schematic stage, in comparing the cross-section drawings with those shown in the 1973 Investing document, one can discern some similarities (Figure 7). Despite absence of underground metro and futuristic architecture, the idea

of commercially mixed area connecting with elevated walkways to residential buildings, and central tramline running through the center are still there. With sustainability being a buzzword in 2020, sophisticated landscaping with planted trees and integrated bike lanes pushed its way into the agenda. These are still subject to changes.
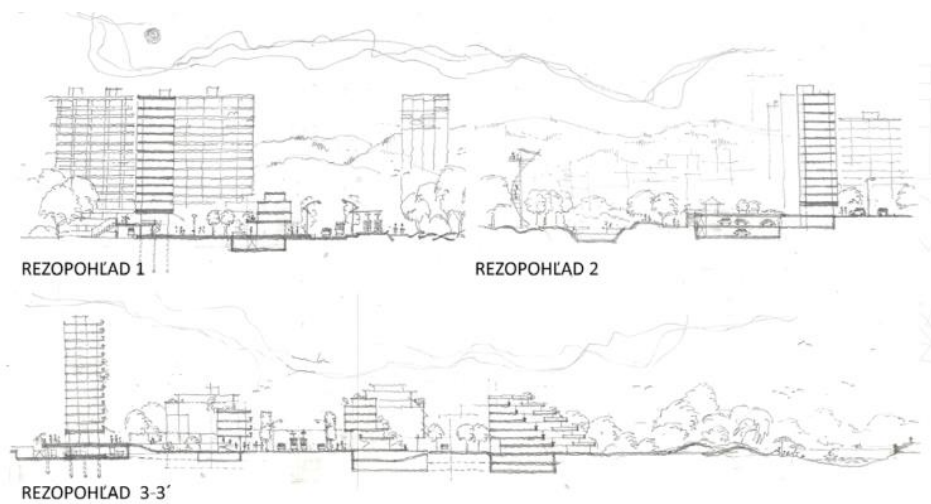
Figure 7: Conceptual plan of the central axis proposed by the urban planning department of the Bratislava City Council.
(Source: Bratislava City Council, https://www.bratislava.sk/sk/prerokova nie-urbanistickej-studie-riesenie-centralnej-rozvojovej-osi-Petržalka -predlzenie-terminu. 2019)
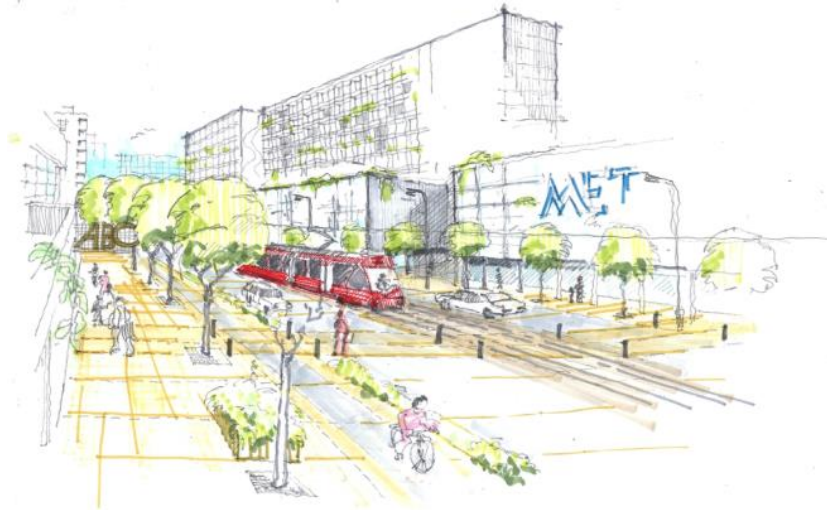
Figure 8: Enlarged cross-section drawings and perspective drawing of proposal from Figure 7 for central axis showed similarities with the Stavoprojekt proposal from 50 years ago in Figure 3.
(Source: Bratislava City Council, https://www.bratislava.sk/sk/prerokovanie-urbanistickej-studie-riesenie-centralnej-rozvojovej-osi-Petržalka -predlzenie-terminu. 2019)

4. CONCLUSION

Utopic visions depicted by architects and planners faced challenges during implementation due to economic and political circumstances. Rather than ending up with a finished product, i.e. the ideal state socialist city, critical junctures led to subsequent processes that render the product susceptible to changes. Dominated by profit-oriented urban development, Petržalka was uprooted by the values it was supposed to counteract. The utilization of socialist scaffold, commodification of dwellings, rising land values led to construction of consumption palaces, new dwellings which generated more capital materializing in other forms. Petržalka became a utopia of process, where spatialized forms would never achieve closure.

The past three decades provided not just a litany of successes but also a set of urban challenges. Petržalka is an embodiment of the current situation in Bratislava. Neoliberal urban planning has only exacerbated inequality, creating loopholes for uneven development and disenfranchised communities instead of democratizing city planning. This climaxed in 2018 in the wake of political scandals. Positive changes ensued when architect Matus Vallo became mayor of Bratislava. One of the first things he did was set up Plan Bratislava, an 'independent civic organization' aimed to provide tangible solutions to improve the city. Their proposals range from improving the urban environment, mobility to a more transparent city management, improving education and neighborhoods. It is a question of how to achieve socially accessible, better quality urban planning while balancing private sector initiatives with public needs. A

neutral candidate, human rights lawyer and environmental activist Zuzana Čaputová was elected president of Slovakia in 2019 under the banner to fight corruption (Sirotnikova, 2019). Then in 2020 a new coalition government was formed, consisting of new political leaders promising transparency and effective distribution of EU funds (Sirotnikova, 2020). With changes taking place in recent years, this provides hope for improvement. The solution to the dilemma when utopia of spatial form is compromised by utopia of process, according to Harvey (2000, p.232), is 'dialectical utopianism', creating spaces that are "materially grounded in social and ecological conditions but which nevertheless emphasizes possibilities and alternatives for human action through the will to create." When faith is restored in the government, state intervention and regulated urban policies could ensure a well-rounded development in the future of Petržalka.

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MODERN FENG SHUI INTERPRETATION WITHIN CONTEMPORARY RESIDENTIAL DESIGN IN MALAYSIA: A CONVERSATION WITH FENG SHUI MASTERS

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Abstract

Feng Shui is an ancient Chinese geomancy practice that seeks harmony and balance within living environment and natural settlements, commonly associated with positive benefits for space occupants. People in general look to improve the quality of their living spaces, as part and parcel of enhancing their overall happiness and wellbeing. Apparently nowadays, the adoption of Feng Shui principles in residential design is not merely limited to Chinese people yet to other ethnicities too. This scenario has call upon further exploration on how Feng Shui can best suit contemporary interior design and cater the needs of modern lifestyle. Three local Feng Shui masters with past involvements in residential projects were interviewed to further understand so, apart for gauging the significance of Feng Shui for the current and future interior design industry. It is found that several aspects are essential such as air ventilation, water element, layout, light, colour, and sound are key aspects in the discourse of Feng Shui for residential interior design. This study would help in raising awareness on the significance of adapting Feng Shui in the current interior design industry in Malaysia.

Keywords: contemporary space, design culture, Feng Shui, interior design, residential design

1. INTRODUCTION

Feng Shui originated in ancient Chinese geomancy practice that seeks to achieve harmony and balance with living environment and natural settlements in order to deliver positive energy and impact to those who inhabit space in the world (Eitel, 1878). Feng Shui practices could be categorized into landform and living-space Feng Shui.

This research paper aims to study the Feng Shui of living-space which focus on the physical layout, furniture arrangement, design elements, air circulation, lighting and other. A Feng Shui interior design goes much deeper than just choosing the right style of furnishings and color schemes; it's meant to bring balance, clarity, and good fortune to those who enter and reside in the space (Ahmadnia et., 2012). It has since spread from China to other Asian and Southeast Asian countries such as Japan, Korea, Laos, Malaysia, Singapore, Philippines, Thailand and Vietnam. A study concludes that the influence of Feng Shui is still pervasive among Malaysian Chinese as they still consider Feng Shui as one of the criteria in buying a house regardless the geographical differences (Mal, Wong and Chee, 2018). It is proved that many Chinese believe in and practice Feng Shui in their lives, particularly in relation to their residence. However, due to the mingle of cultures, more Malaysians regardless their ethnics and cultures are becoming aware of Feng Shui and integrating it into their lives. Despite Feng Shui is related with traditional believe and propitious manner, but some of its principles are rational which make it still applicable in modern day (Octavia and Tanuwidjaja, 2014). This research is thus intended to study the modern Feng Shui interpretation in the contemporary residential interior design with the goal to benefit the industry players by raising awareness on the fundamental practice for Feng Shui design and the significance of Feng Shui in current interior design industry and the future prospect.

2. LITERATURE REVIEW
Foundation Concept of Feng Shui

Feng Shui is the Chinese art of positioning, of balancing and improving the environment (Rossbach, 1987) by establishing an equilibrium amongst nature, building and people. Feng Shui incorporates knowledge of Chinese philosophy, religious, architecture, astronomy, astrology, culture, mathematic, cosmology, human psychology, geography, and topography. The basic philosophy of Feng Shui comprises holism, circulation, balance and transformation, as interpreted by the concept of Qi circulation, theory of Yin Yang, the Five Elements and Bagua (Zhong and Ceranic, 2008).

The main essence of Feng Shui is Qi (气 chi), an invisible substance, a form of energy, and it characterized as "life breath" to everything that exists in the universe by the Book of Burial. According to Zhong and Ceranic, every human is a type of Qi imbued with subtle energy, and the natural environment comes into being through the dynamic movement and transformation of Qi. The Qi should be controlled not to flow either quickly or slowly. It could be Feng Shui is the practice of regulating the flow of energy and channeling good Qi into a built environment or dwelling to bring positive impact to the occupants.

Feng Shui believes in the Yin Yang theory which everything in the world formed by the circulation and interaction of Yin Qi and Yan Qi- two opposite energies that are interdependent of each other and in the constant state of the dynamic balance. Yin represents negative, night, dark and water while Yang represents positive, day, light and fire. The Qi could be categorized into the yin (shade) and yang (light), and they should be complementing one another (Guiley and Bradley, 1991).

Feng Shui is also closely related to the Five Elements (wood, fire, earth, metal, and water); the five directions (east, south, centre, west, and north); the four seasons (Spring, Summer, Autumn, and Winter) and five colours (green, red, yellow, white, and black) (Lin, 1995).

Bagua, also referred as Eight Trigrams, an important instrument used in Feng Shui as the staring point from which all design decisions are made. It used to identify the Yin Yang energy as well as to depict the patterns of the environmental changes (Spear, 1995). Feng Shui analyses and interrupts the environments to improve the human living spaces in the hope of enhancing health, prosperity and fortune.

The Relationship of Feng Shui with Contemporary Residence Interior Design

Feng Shui is an environmental assessment based on local variables including geographical conditions, climate, culture, habi ts as well as architecture knowledge. Most house owners would employ Feng Shui consultants, also referred as Feng Shui Master, to evaluate and design interior Feng Shui. Based on the analysis made, Feng Shui is utilised as a practical technique to determine the proper location, good direction, shape, proportion, sun exposure and arrangement for designing and building the ideal environment to occupy. Before planning the interior, Feng Shui need to deal with environment surrounded such as buildings, streets, drainages, existing greenery and water sources such as river. To achieve good Feng Shui, the geometrical relationship between critical areas within a flat, such as bedroom, kitchens and bathrooms has been regarded as most essential component, followed by living room and entrance. In certain circumstances, Feng Shui and interior design serve the same purpose which is to add dimension of feelings space according to demand of occupants through the use of colours, materials, interior arrangement and natural lighting. Study indicates that the natural environment should be preserved during the process of environmental development as Feng Shui principles convey the importance of harmony with local conditions and resources (Areej and Lena, 2013). Natural furnishing materials, natural sunlight, natural ventilation and vegetation are highly appreciated in Feng Shui Interior Design. The openings of houses such as doors and windows are crucial and they should be unobstructed and in right position to enable good qi and natural light to enter (Ahmadnia et., 2012). To summarise, many Feng Shui solutions are intended to

promote positive function, comfort and safe improvement and majority of them are rational and practical as well as closely related to interior design. However, different Feng Shui Masters practice distinct Feng Shui principles and some may disagree with others. Hence, it is critical that people do not see Feng Shui as a superstition but rather apply it rationally.

Influence of Feng Shui in Malaysians' House Buying Selection

According studies conducted in Kuala Lumpur, Sandakan and Penang in Malaysia, Feng Shui is one of the most crucial variables influencing Chinese house purchasers' decisions. The majority of Malaysian Chinese practice Feng Shui in life as they believe that with proper application, it may enhance luck, health and wealth. As a result, houses with good location, orientation, interior and exterior layout, existing green, internal arrangement and even house number become factors to consider when purchasing a house. The basic mechanism of Feng Shui concept outlined "The method of Feng Shui is, first of all, to obtain water and secondly to store from the wind" and "The geodetic forces of the mountains are basic bones"(Paton, 2007). Therefore, purchasers prefer houses with sea view, surrounded by nature, backed by mountains and a well-lit living room. Whereas houses facing a cemetery, with an irregular or pointed shape, a smaller entry door and bedroom located at the end of hallway have been identified as the most undesirable features by purchasers. Despite geographical differences, the findings reveal that Malaysian Chinese perceptions of Feng Shui are not particularly different (Mal, Wong and Chee, 2018). Feng Shui is gradually gaining popular in Malaysia and is expanding to other ethnic groups. However, research and studies on the perceptions of various ethnic societies on housing Feng Shui are sparse and should be studied.

3 Methodology

Formulation of Interview Questions

To attain the objectives of the study aforementioned, seminal work and past research on general Feng Shui and Malaysian residential interior design contexts were scrutinized. Collectively, six relevant enquiries were shortlisted to be further probed via interview method. The six interview questions raised in this study revolved around these aspects:

Q1. Fundamental Feng Shui practices to consider while planning and designing residential spaces
Q2. Feng Shui principles typically applied in residential design
Q3. Collaborative experience working with interior designers for residential project

Q4. Ethnic groups of residential clients that sought Feng Shui audit and consultation service

Q5. Role of Feng Shui in the current, local interior design market

Q6. Importance of basic Feng Shui knowledge for interior designers

Selection of Interviewees

Acknowledging that there are quite a number of Feng Shui practitioners across Malaysia and approaching all of them would be overwhelming and would be beyond the means of the researchers, selection of the interviewees was made based on four criteria as following:

1. Involvement with residential project(s): auditing and consultation services
2. Local practitioners: Malaysian Feng Shui masters
3. Experience: more than 10 years of experience
4. Reachability: willingness to participate in this study and responded positively within 2 weeks

Interview Procedure

Two synchronous interviews are conducted via video call with two of the interviewees, and an online open-ended survey is distributed to one of the interviewees to obtain responses on the topic. Both synchronous interviews last 45 and 60 minutes respectively. The responses of interviewees are documented through note-taking, and the interviews are recorded with consent for documentation and reference. A Google Form is distributed to the interviewee to obtain responses to the structured questions.

4 Results

Upon the identification of the abovementioned questions and the selection process of interviewees, three Feng Shui masters with over 15 years of experience were further approached and interviewed as presented in Table 1. Inputs gained from them were then synthesized and organized into the two subsequent sections.

Table 1: Interviewees Details

Interviewees	Career Background
Master Lee Cheng Hoe	Full time professional Feng Shui Consultant with 15 over years of practical expertise. Master Lee runs a consultation company, Penang Feng Shui located in Penang, Malaysia, offering on-site and online residential and commercial Feng Shui audit and planning service.

Master TY Kaw	Interior Designer and Feng Shui Consultant with over 15 years of experience expertise. Master TY Kaw runs an interior design company, Ty Design and Feng Shui based in Johor, Malaysia, offering residential and shop interior design and Feng Shui analysis.
Master Siow	Professional Feng Shui Consultant titled Time-Space Strategy Scheme Consultant with over 30 years of practical expertise. Master Siow offers residential and commercial Feng Shui audit and consultation as well as organizes Feng Shui classes.

Fundamental Modern Feng Shui Practice within Contemporary Residential Design

Master TY Kaw stated that before planning for the interior Feng Shui, the exterior or surrounding environment needed to be evaluated beforehand. Meanwhile, Master Siow also agreed on the importance of analysing the exterior Feng Shui. To begin, analyse the site content, including buildings, sun orientation, vegetation, terrain, water sources, streets, and noise from surroundings, depending on the location and direction of residences. These are the fixed and unchangeable factors which Feng Shui masters have little control to improve the exterior Feng Shui. Unlike the landed residences, which have courtyards or landscapes, the Feng Shui of condominiums can only be improved from the interiors. Thus, Feng Shui masters may enhance the Feng Shui by offering solutions to the interiors in order to reduce the factors that are deemed unwanted or harmful in Feng Shui after analysing the situation of the surroundings.

Feng Shui masters had mentioned about the need of balance between energy, environment and ecology. According to Master Lee, the balance of Yin Yang and application of the Five Elements are the typical principles of residential Feng Shui design. Despite following all of the Feng Shui practises and principles, all masters indicated that Feng Shui should be people-centric, which means prioritising the needs

of inhabitants based on their habits, preferences, priorities, and economic capabilities. Thus, Feng Shui masters need to get know and understand their clients before planning the interior Feng Shui. In general, clients tend to request on designing Feng Shui that prioritise the needs of householders. Yet, in some cases, ageing parents and children become the main focus, which depends on the requirements of clients.

There are a few aspects need to take note with when analysing, planning and designing the interior Feng Shui. Following are the important Feng Shui aspects cited by Feng Shui Masters:

1. Air ventilation

Wind in Feng Shui refers to air, which is indicated as ventilation in interior design. All masters mentioned that it is an essential element in Feng Shui because it is created by the flow of air and represents Qi. Therefore, masters will determine the direction of positive Qi (wind) and channel it into the interior. Master TY Kaw mentioned that the main entry doors of residences should face the correct direction and be free of obstructions to allow the wind to enter. Today, majority contemporary apartments have smaller space and the main doors are frequently facing directly to the windows of balconies, creating a strong air flow. The air will go out the window rather than circulate indoors. Therefore, shelves or screens are installed at the main entry door to divert the strong wind and redirect it to circulate within.

2. Water element

Water is another crucial Feng Shui element after wind. Master Siow claimed that indoor water features and vegetation are used to harmonise the interiors. However, due to urbanisation, more people are living in small apartments. In that situation, a simple aquarium or small water feature will suffice.

3. Layout

Master Siow stated that according to classic Feng Shui, the ideal shape of a residence layout is square and without gaps. A layout that is irregular, sharp and pointed, especially a triangle, is unfavourable and considered bad in Feng Shui. Malaysian residences, on the other hand, are typically laid out in a long and narrow rectangle, which is considered appropriate in Feng Shui.

4. Light

According to Master TY Kaw, the use of light depends on the function of space. For example, living rooms are categorised as Yang because they are normally dynamic and crowded with people, while bedrooms are categorised as Yin because they are usually quiet and less crowded. Hence, living rooms should have large windows to introduce daylight into the space, while bedrooms should be equipped with small windows or curtains to control and reduce intense lighting.

5. Colour

Master TY Kaw claimed that Feng Shui dictates the living room be clean, bright, and free of dullness and darkness. In general, bright and vivid colours are used in living

rooms, indicating vitality. In contrast, soft and light colours as well as natural wood colours are utilised in bedrooms to create a comfortable and relaxing area to rest. While Master Lee suggested that colours are very much related to the theory of the Five Elements. The use of the right colours is critical in creating and maintaining a balance of energy in residences.

6. Sound

Master TY Kaw suggested that sound is an aspect that is often overlooked by people, yet ambient sound has a strong impact on human and it is one of the aspects that Feng Shui has been catering for. People nowadays live in crowded cities, and noises from the streets and nearby buildings seem unavoidable. Hence, the interior space layout and placement of windows appear crucial. Bedrooms, study rooms, and home offices are the spaces that need to be considered for noise-proofing. Master also advised taking televisions out of bedrooms to avoid noise and distraction to improve sleep quality. For residences located in busy cities, windows facing busy streets should not be placed behind the beds, or it will affect the mental health of occupants. As mentioned earlier, bedrooms are classified as Yin, which requires silence and relaxation.

Significance of Feng Shui in Interior Design Industry in Malaysia

All Feng Shui masters agreed on the significance of Feng Shui in the current Malaysia interior design industry. The demand on interior Feng Shui design mainly contributed by Chinese, followed by Indians and Malays. Although the number of Indians and Malays is not as large as the Chinese, yet, Master Siow and Master Lee have stated that Feng Shui is gaining popularity among other ethnic groups. The other ethnic groups begin to implement Feng Shui in their residences because modern Feng Shui is not religiously orientated and it is also practical and rational. People believe that enhancing their residences' Feng Shui may improve their health, luck, and fortune.

Master Siow indicated that clients have preferences of seeking Feng Shui consultation from experienced and renowned Feng Shui Masters or consultants who they have been familiar and used to employ. Master TY Kaw suggested that other than having a strong interest in Feng Shui and considering becoming a Feng Shui expert, interior designers do not need to have a deep understanding of Feng Shui. Still, all Feng Shui masters stated that it is important for interior designers to possess a basic knowledge of residential Feng Shui in order to understand their client's requirements and preferences. Thus, interior designers can translate it into aesthetic and functional design. However, based on the experiences of three Feng Shui Masters, interior designers normally do not work or communicate with Feng Shui consultants directly. Instead, clients will receive Feng Shui advice from the consultants and deliver their decisions to interior designers afterwards.

5 Conclusion

Feng Shui is an ancient Chinese geomancy practice that seeks to achieve harmony and balance with living environment and natural settlements in order to deliver positive energy to space occupants. Feng Shui practices and suggestions are rooted on the basic concepts of Qi circulation, the Yin Yang Theory, the Five Element and Bagua. Conclusively, there are six key Feng Shui aspects to consider namely air ventilation, water element, layout, light, colour, and sound. Besides, Feng Shui is seen as an applicable approach for contemporary residences in Malaysia, which popularity is increasing to other races apart from the Chinese. Feng Shui knowledge can also be complemented within the interior design industry to aid meeting practical and aesthetic design requirements. In light of this, future collaborations between Feng Shui masters and interior designers can be positively anticipated. Feng Shui can be regarded as an environment assessment mechanism to evaluate the environmental factors using Feng Shui theories. It is an useful tool for searching and building an ideal environment for the benefit of space occupants.

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AWARENESS OF MALAYSIA-BASED INTERIOR ARCHITECTS TOWARDS NFT ARCHITECTURE IN METAVERSE

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Abstract

Since the popularization of the internet, cyberspace keeps evolving to adapt to the new Human-Computer interaction. Various virtual digital environments such as social networking, virtual 3D world, augmented reality applications, cryptocurrencies, and mixed reality have been created. The term "Metaverse" is known by more people when Facebook relaunches itself as 'Meta' to march into the metaverse realm. Metaverse has allowed gamers, real estate developers, architects, and interior designers to socialize, work, play and learn in a digital universe parallel to the real world. It is shaking hands with the architecture world to create the landscape of virtual space which is also known as the NFT Architecture-the unbuilt environment. The role of architecture becomes increasingly crucial to connect the gap between the real and virtual domains and create spaces that bring people together. This paper attempts to study the awareness of interior architects toward NFT architecture in the metaverse. To acquire more information on the researched topic, interviews were conducted with several design firms. This paper highlights the opportunities and importance of architects and designers in shaping the metaverse.

Keywords: NFT architecture, Metaverse, Blockchain

1 Introduction

The Covid-19 pandemic has become one of the driving forces for the development of virtual architecture to adapt to the new norm of life. However, the construction industry players in Malaysia are un-exposed to the concept of NFT architecture. This study aims to explore the roles and opportunities of interior architects in metaverse and NFT.

According to Google trends (2021), the keyword "metaverse" gained interest from web users in March and April when the sandbox game platform Roblox, has announced its venture into the metaverse. The "human co-experience" concept formed a social interaction that combines gaming, entertainment, and social media that goes toward the metaverse (Cuofano, 2022). Then, the searches for "metaverse" gained traction from October to December 2021 when Facebook rebranded its company to Meta (Google trends, 2021).

The immersive experience in the metaverse is realized with Virtual reality (VR) and Augmented reality (AR) technologies. However, not everyone can afford an expensive VR headset. Against this background, AR technology become the main driving force for metaverse development as 83.96% of the world's population owns a smartphone (Statista,2022) which allows users to dive into the metaverse (Makarov, 2022). Besides, the rise of blockchain technology has brought about decentralized currencies and NFT (non-fungible tokens) (Leider,2022). Being the convenient catalyst of virtual architecture, the Covid-19 pandemic had accelerated the digitization of our lives and normalized more persistent and multi-purpose online engagement and communication (J.P. Morgan, 2022). With all forms of communication shifting online, a clear demand arose for virtual spaces that facilitate casual and professional connections (Leider,2022). As a result, the combination of technological, economic, and social drivers had resulted in the explosive interest in the metaverse (J.P. Morgan, 2022).

NFT statistics also found that Malaysia had the third highest number of NFT owners (24%) out of 20 countries surveyed (Finder.com, 2021). The main attraction of NFTs lies in the ease of to access NFT collections, facilitating sales and purchases in cryptocurrency without foreign exchange and hidden charges (Azari, 2022). The NFTs from local artists vary from 3D animated worlds to internet memes and our culture and heritage illustrations (Khoo, 2021). In 2021, Malaysia has launched its first-ever Crypto Art Week (CAWA Malaysia), Pentas NFT marketplace, and millions of ringgits worth of NFT sales.

Foresee the possibilities of architecture in shaping a personalized metaverse, multi-professionals that consist of architects, creativist, new media specialists, Web3, and virtual developers have gathered to form a team, known as Seetizens Plus (Seetizens Plus, 2022). Various experimental projects are being conducted to provide a space for communities to socialize as avatars and organize events within the digital world without compromising the SOPs. The recent digitalized Rumah Tangsi by ASMoS Architect has been used to host the Pentas Merdeka exhibition, KLFashionWeekend, and the Portals NFT festival (Wong, 2022). Plus, NFT

architecture now has gained more attention from the public when Ar. Qhawarizmi Norhisha with his concept of 'Non-Fungible Terraces', a digital home that is built on blockchain won the first prize in Sime Darby Property's Concept Home 2030 Competition (The Star, 2022). Metaverse is not only gamification, but it creates an extension of physical work, play, and living environments into the virtual world (Ridha, 2022).

The following section presents theoretical evidence to substantiate statements and provide a fundamental understanding of metaverse and NFT architecture.

2 Literature Review

2.1 Metaverse

Metaverse is first coined in the sci-fiction named Snow Crash, written by Neal Stephenson in 1992 (Joshua, 2017). The author defines the metaverse as a massive virtual environment parallel to the physical world, where users interact through digital avatars in a 3D virtual space instead of the real world. Metaverse is the post-reality universe, a perpetual and persistent multiuser environment merging physical reality with digital virtuality (Mystakidis, 2021) to form a virtual community where users can work, play, relax, transact, and socialize (J.P. Morgan, 2022). It was driven by augmented reality (AR), with users controlling an avatar. For example, the user wears an Oculus VR headset for attending a mixed reality (MR) meeting in the virtual office, finish work, relax in a blockchain-based game, and then manage the crypto portfolio and finances inside the metaverse (Binance Academy, 2021). Soon, immersion, immediacy, and interaction will be key to the next generation of web users with the advent of Web3.0 (Sreenivasan, 2022).

Mutual generation of the virtual and the real is a key feature of the metaverse, which is embodied in six core elements: immersion, virtual identity, digital assets, real experience, virtual-real interconnection, and a complete social system (Deloitte China, 2022). For the construction industry, a digital twin might mean developing a replica of the physical asset that brings together design, construction, and real-time operational data (Autodesk, 2021). Digital twins might replicate, anticipate, and inform decisions such as the structure's building process or the potential applications of the physical building evaluated in the virtual environment (Loomba, 2021).

There is no one virtual world but many worlds in the metaverse with different personalized themes, which enable people to deepen and extend social interactions digitally (J.P. Morgan, 2022). Therefore, developers grab the chance to create large maps of the land in the metaverse and divided it into small parcels to sell on the market

(Binance Academy, 2022). In Decentraland, users can buy and sell 'land' as non-fungible tokens (Jessel, 2022). Non-Fungible Token (NFT) is cryptographic assets on a blockchain with unique identification codes and metadata that distinguish them from each other (Sharma. 2022).

2.2 NFT Architecture

NFT Architecture is a term used to describe architecture composed of non-physical forms. These digital building blocks can be manipulated and changed according to the creator's visions. To create an illusion of presence in remote locations, NFT architecture includes electronics that allow interactive experiences with physical spaces and digital projections (Fulgar, 2021). Unlike the usual three-dimensional model, NFT architecture is an art form than just a project presentation tool. Due to the disconnection with the material world, it enables a creative and artistic rebirth where beauty and value lie in the freeness of unfounded and impossible structures, which can nevertheless be virtually inhabited and experienced (Ghisleni, 2021).

As stated by Autodesk, "A digital twin might mean to develop an up-to-date replica of the physical asset." (Redshift, 2021). Hence, the role of architecture becomes increasingly crucial for architects to conquer both the physical and the virtual domains (Loomba, 2021). Since people require places in the metaverse, architects and designers hence take the lead to create or enhance these spaces. Designers and architects contribute significantly to imaginative projects in the metaverse (Shakeri, 2022) since they are experts in architectural psychology. They sensitize to the influence of the designed environment on human experience and behavior which contributes to an understanding of the interrelation between humans and the environment (Abel, 2021).

Metaverse is exponentially opening doors and opportunities for architects, designers, and creatives to become major players in the next wave of disruptive, digital innovation (Metaverse Architects, 2022). They can find all their creative energy and unleash it in the metaverse without applying for any permits (Arrigo, 2022). There will be no restrictions on building codes, local climate conditions, available building technologies, or construction costs (Sun, 2022). Besides, one can become a metaverse architect disregard of their age, nationality, connections, skin color, gender, and race which limit their access to opportunities in the past (Metaverse Architects, 2022).

According to Chris Precht, an Austrian architect and NFT enthusiast, metaverse and NFT architecture provide more opportunities to young architects and small offices. They can sell the digitalized architecture design and build them in the future when

having enough budget (2021). Moreover, the digital world of the metaverse allows architects and designers more experimentation. The digital product can be built into a tangible product if there is enough demand from clients (Finsa, 2022). As claimed by Patrick Schumacher, the principal of Zaha Hadid Architects, the metaverse is a space where designers and architects can gain inspiration to build more fantasy and sci-fi architecture in the real world (2022).

During the Coronavirus lockdown in 2020, Krista Kim created 'Mars House', the first NFT digital house in the world: a completely virtual meditative environment that can be an escape from the real world using technologies (Fulgar, 2021). Recently, architecture studios are increasingly turning to the metaverse to construct virtual buildings (Finney, 2022). The Liberland Metaverse, a collaboration between Liberland, Zaha Hadid Architects, Metaverse and ArchAgenda a.o. creates a virtual industry synergy and networking hub for Crypto projects, companies, and events (World Liberland, 2022). Besides, Epic Games has hosted a series of interactive musical performances, including Travis Scott, Marshmello, and Ariana Grande, in its "Fortnite" video game. (HOK) Another useful implementation of NFT architecture in the interior aspect is the virtual-physical blended classrooms in the metaverse for post-covid-19 teaching and learning (Wang et al., 2022). The self-disclosure could lower the unreliability and ambiguity feeling during communication and promote intimacy and positive relationships (Greenan, 2021) which reduce the mental distance between individuals and increase trust between teachers and students (Song et al., 2019).

3 Methodology

Seven design firms were identified and approached in the initial stage of this study. Key informant interviews (qualitative) were with three design firms in Malaysia, selected based on selection criteria presented in Table 1. The key informants were interviewed through phone calls or online meetings based on their respective preferences. The interview questions consist of general information about the design firms as well as the perception of key informants regarding the roles and opportunities of metaverse and NFT architecture.

Table 1: Selection of Interviewees

Design firms	Background	Selection Criteria		Permission for interviewing (Consent Granted)
		Metaverse design (architecture)	Application of VR/AR	

Seetizensplus.io seetiverse.io@gmail.com	Seetizenplus Plus is the digital avengers of the multiverse world. They are multi-professionals that consist of Architects, Creativist, New Media specialists, Web3, and Virtual Developers with 20 years of professional working experience. They envision that the future will be a hybrid integration between the realm of physical and digital worlds that will correlate together to create a new way of living, working, and leisure.	Yes	Yes	No respond
StudioKAIZEN mystudiokaizen@gmail.com	StudioKAIZEN is a team of aspiring young and talented staff for seamless digital system development and media creation. It provides the best experience to clients in system and app development, 3d architecture modeling architecture and real estate 360 virtual tours, video production, and photography.	Yes	Yes	Accepted
No-to-scale notoscalestudio@gmail.com	No-to-scale is an art & spatial design agency that undergoes research to connect to projects deriving works intended to be presented in the form of functional objects, spaces, and artworks. No-to-scale manifesting itself in both physical and digital spaces.	Yes	Yes	Accepted
Unreality Architecture kaiyiwong94@gmail.com	Based in Malaysia, Kaiyi started his own design studio 'Unreality', focusing on architectural design and art. His work aims to challenge the architecture paradigm and blur the boundary between art and architecture; and between virtual	Yes	Yes	Accepted

	and reality.			
MAITREE info@maitreehouse.com	MAITREE is a creative digital studio specializing in the codesign and creation of authentic content and digital experiences connecting people, places, and communities. Its immersive media studio leverages new technologies like VR and AR to pioneer unforgettable story experiences for commercial, heritage, education, tourism, art, and entertainment sectors in the Asia Pacific region.	No	Yes	Rejected
Qhawarizmi Architect qwa.architect@gmail.com	Qhawarizmi Architect (QWA Architect) is a sole proprietor boutique architectural design/research strategist. Established in 2017, the firm strives to formulate exceptional spatial solutions for the ever-demanding issues in the built environment.	Yes	Yes	No respond

4 Findings & Discussion

In the final stage, 2 companies and a metaverse architect were interviewed, and the data is analyzed through thematic analysis. The interview transcripts were expected to clarify the opportunities and importance of architects and designers in shaping the metaverse. The interview results have shown the opinion of interviewers towards the awareness of Malaysia-based interior architects towards metaverse and NFT. The interviewers are including the founder, director, and architect who are experienced in this new realm.

Q1: *"What triggers you to venture into the metaverse and build the NFT architecture?"*	
Conclusive statement	The strike of Covid-19 and personal interest are the main reason for respondents to involve in metaverse and NFT architecture. Curiosity is the driver that pushes them to explore the possibilities of interior design and architecture as a service in the metaverse for the user experience. This is because they see the potential in this new trend.

Q2: "What is NFT architecture and how is it different from regular 3D models?"	
Conclusive statement	The difference between a 3D model and NFT architecture is the minting process that registers the model in the blockchain to own the smart contact. Then, the 3D models will become the token that can be traded within the blockchain for cryptocurrency.

Q3: "What might metaverse do to interior and architectural projects?"	
Conclusive statement	There is no restriction and limitation in the metaverse where architects and designers can unleash their creativity. Metaverse becomes a platform or tool for designers and architects to test the idea and explore the space with lighting, placing of furniture, building orientation, etc. before it is built to make the space more believable and real. The NFT architecture can complete reality by superimposing it on the digital layer which becomes the extension of the physical world.

Q4: "How do metaverse and NFT architecture provide opportunities to the architects and designers?"	
Conclusive statement	Most of the NFT artists in Malaysia are from architectural and interior backgrounds as they are used to the digital mode of working. Metaverse gives chances for designers and architects to expand their client base globally as the demand for designing virtual spaces and NFT objects is high as it is in the developing stage. They can propose creative and crazy designs without any restrictions. Respondents agree that involvement in metaverse and NFT architecture will add value to a designer or architect as they have extra skills and are more sensitive to the current trends.

Q5: "In your opinion, do architects and designers in Malaysia aware of the NFT architecture and metaverse in the construction industry?"	
Conclusive statement	Most respondents agree that architects and designers in Malaysia are not aware of NFT architecture and metaverse design. The reluctance to step out of the comfort zone to study new things and the unpredicted risk in blockchain discourage architects and designers to join the metaverse. They want something that can generate instant profit. However, the respondent from StudioKaizen thinks there's still a group of visionary architects and designers who are actively involved in it to advocate the metaverse

	movement in Malaysia.

Q6: "What are the current status and future possibilities of NFT architecture in Malaysia?"	
Conclusive statement	There are different forms or mediums of NFT in the blockchain. NFTs are not currently viewed as having an oversaturated market but there is some evidence of dwindling interest while they are still wildly popular. If interest levels continue to decline, oversaturation could become a possibility. The respondent from StudioKaizen thinks that the NFT has the potential to replace manual documents with smart contracts that ensure the safety, transparency, and efficiency of the transaction process.

Q7: "How can the NFT architecture benefits your business?"	
Conclusive statement	The respondent of StudioKAIZEN believed that the construction documents can become the NFT to be stored in the blockchain in the future. NFT is public, transparent, and nearly impossible to modify, delete, or hack once uploaded to the blockchain. The incident of missing or misplacing manual documents and double work of submitting both documents in softcopy and hardcopy can be reduced. Respondents from No-to-scale* think that it allows them to be more sensitive to clients' needs and expand their client base with fast exposure of works.

Q8: "Can you share some of your current NFT projects or metaverse design that are related to the architecture?"	
Conclusive statement	Most of the respondents encourage young designers and architects to start creating their first NFT project in the metaverse so they can understand the whole system of the blockchain where the future of architecture lies. According to a respondent from No-to-scale*, the metaverse is not all about design but also includes the managing, developing, and marketing part. There are many ways for young designers and architects to involve in the metaverse, and one can find the most suitable place for

	them by joining the community with their very first NFT design.

According to the respondents, the strike of Covid-19 and personal interest are the main triggers for them to involve in metaverse and NFT architecture. The widespread of the Covid-19 virus altered our work culture and became the trigger of accelerated e-commerce which changed the business model. People are switching the virtual mode of socialization in metaverse like Discord where they can interact with friends and colleagues while staying at home. The use of avatars and metaverse give a more immersive and interactive experience to users compared to online meeting platforms like ZOOM, Google Meet, Webex, etc. Based on the metaverse statistics (Social.com, 2022), the virtual worlds of the metaverse have attracted nearly 60,000 all-time users which is tenfold the total amount at the beginning of 2020. Therefore, there is a demand for digital spaces in the metaverse.

Compared to architecture, interior architecture is easier to link with to metaverse as it is about designing a spatial experience. In Malaysia, a lot of NFT artists are from architectural and interior backgrounds as they are already halfway into the digital mode of working. After making it interactive, they can upload it to the blockchain to seek clients who appreciate their work. Architects can create unique digital properties such as cities, buildings, furniture, and sculptures backed with NFT for collectors. They believe in the potential of metaverse and NFT architecture in the future, so they are devoted to this realm despite it being still a small community. The digital spaces in the metaverse allow users to experience the space beyond the physical limit by overlaying reality with the virtual spaces to have interaction and social socialization through all the channels to enhance people's lives. In the future, the digital double will become the trend as people can travel to a certain building, store, or place beyond the physical boundaries for the experience. For example, users can deal with the retailers and explore the merchandise without having to travel to the physical store.

Besides, respondents feel that they are more aware of the current trend and clients' needs through their involvement in the metaverse as everything in the decentralized world is developing fast.   Based on respondents from No-to-scale*, design is not the only service needed in the metaverse as blockchain developers, curators for an event, people searching for this creative platform, or community builders are the signs in the digital ecosystem. Moreover, they agreed that architects and designers in the physical

world have many limitations, such as government regulations, climate, structural stability, typography, and the law of gravity to deal with. In the metaverse, they have the freedom to overcome these constraints and create crazy designs with bold ideas. According to respondents' claim, finding clients that fully support architects' and designers' creative ideas and pay the bills on time is a rare thing. With the broad global market without limitations of finance and clients' mindsets, they can develop a broad client base.

Furthermore, the metaverse world benefits the architecture business in terms of transparency, authenticity, ownership, and safety. The respondent of StudioKAIZEN believed that the construction documents can become the NFT to be stored in the blockchain in the future. NFT is public, transparent, and nearly impossible to modify, delete, or hack once uploaded to the blockchain. The NFT with smart contract can prevent the incident of missing or misplacing manual documents and prevent the double work of submitting both documents in softcopy and hardcopy in Malaysia's architecture industry. All NFTs have distinct records of ownership, and authenticity of the contracts and it ensures the preparation and transaction processes are transparent yet efficient.

Entrepreneurs especially the ones who are involved in finance foresee the future of the digital realm. Based on the respondent's explanation, most entrepreneurs started buying lands in the metaverse to build their headquarters or properties there to secure themselves a platform for reaching future clients and becoming a pioneer in their industry. As mentioned in the literature review, architecture in the metaverse not only display the building's aesthetic but also create an atmosphere that governs it. Architects and designers are experts in architectural psychology, and they take care of the socio-cultural consideration of the communities. Hence, the clients need them to build their assets in the metaverse due to their sensitivity towards the influence of the designed environment on human experience, emotion, functionality, and behavior. Architects and designers offer extra value compared to game developers or designers as they tend to put the social impact and responsibility first to serve a community other than just designing an eye-popping design that catches people's attention. For example, designing "vernacular" metaverses that are full of varieties and cultural inclusion for people from different cultural backgrounds to reach a broad crowd. Metaverse is a loophole for realism while revealing the infinitely more complex social, societal, and historical means through which physical places are formed. Thus, the high demand for architects and interior architects to design for purpose and emotions encouraged the respondents to involve in metaverse design.

However, as said by the respondents of No-to-scale* and Unreality studio, architects and designers in Malaysia are not aware of NFT architecture and metaverse design. People will tend to relate it to the gaming, entertainment, and multimedia industry which are long existed in the digital realm rather than the architecture industry with buildings that need to be built physically in reality. Thus, they are unaware of how serious the metaverse could be and do not care to implement the knowledge of NFT, blockchain, and smart contracts into the construction industry. The process for the concept of metaverse and NFT architecture to be accepted by more people takes time as they will only start to invest and learn about it when it is profitable. As mentioned by the respondent of Unreality studio, the reluctance to step out of the comfort zone to accept and study new thing especially when it is still not very mature and full of unpredictable risks discourage architects and designers to join the metaverse. As for architects and designers, their schedules are occupied that studying a new thing will be exhausting for them and they also don't like to be paid in the crypto coin because they are afraid that it is a scam. Nevertheless, there are still a group of visionary architects and designers who are aware of the future potential of NFT architecture and actively involved in it to advocate the metaverse movement in Malaysia. Respondents believe that involvement in metaverse design and NFT architecture will add value to the architects and designers and differentiate them from others in the workplace.

5 Conclusion

Metaverse, uncharted territory with infinite possibilities without the constraints of the physical world provides interior architects and designers endless opportunities to expand their careers in digital spaces. The study found that architects and designers are important in the metaverse to bridge the physical and virtual worlds. In this ever-evolving world, the values, and forms of architecture in the digital age need to be redefined as it varies across history to fulfill people's needs. In overall, the awareness of Malaysian interior architects and designers is relatively low as they are still not very confident with this unmatured metaverse. Nevertheless, there are still a group of enthusiasts who believe in the ultimate potential of the metaverse and devoted themselves to building the Digital Twin to fulfill the arising human's new needs. This research revealed the great impact of the metaverse and NFT on architectural and design firms nowadays. Hence, architects and designers need to be prepared with knowledge in these fields so they can grab the opportunities to explore endless possibilities in the virtual world.

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7 Appendices

i.   List of interviewees' background

Name of interviewee	Company	Biodata	Date of Interview
Shamin Sharun (Sam)	No-to-scale*	Sam and Nadhrah co-founded the No-to-scale* as a design research platform looking into current issues	9th June 2022

Nur Nadhrah (Nadhrah)		and responding to them through the act of design. They obtained the MArch Part 2 in Architecture from the University of Greenwich, London. During the covid-19 pandemic, both start their venture into the metaverse- having their NFT works exhibited in virtual and physical galleries in Seoul and Hong Kong for CryptoArtAsia week. Sam is actively involved in the Malaysian art scene whereas Nadhrah has working experience in London as well is the First Runner Up recipient of the PAM Silver Medal Award for architectural graduates. They are currently practicing as architects and design researchers in Kuala Lumpur, Malaysia.	
Wong Kai Yi (Kai Yi)	Unreality Architecture	Kaiyi is a graduate architect, who obtained his Master of Architecture RIBA Part 2 / LAM Part 2 from the University of Sheffield, the UK in 2020. He worked as a full-time designer at Studio Red Hong Yi previously. He had a few exhibitions alongside Red Hong Yi at Georgetown Festival and Zhongshan Building. Under her influence and mentorship, he is now fully ventured into the crypto scene and NFT.	10th June 2022
Ar. Afi Muhamin Jamalludin (Ar.Afi)	StudioKAIZEN	Ar.Afi has completed his Bachelors (BA Hons) (2012) and Masters of Architecture (2014) at the University of Brighton, United Kingdom. He aimed to create meaningful architecture back in Malaysia which not only functions from a technical standpoint but also from a philosophical view in line with the Malaysian Ideal, Vision 2020 of creating a progressive society through architecture.	13th June 2022

ii.   Summarised interview transcripts

Q1: *"What triggers you to venture into the metaverse and build the NFT architecture?"*	
Sam	Went into the blockchain area last year when NFT is concerned and building a reality in the digital space Want to explore the possibilities of interior design and architecture as a service in the metaverse?
Nadhrah	Out of curiosity

	Forced to be working from home, switching the mode of socialization from physical to on-screen.
Kai Yi	Struggling to find a job in an architecture firm became the starting point of my journey into the art realm and exploration to blockchain and the NFT pieces
Ar. Afi	Passion Taking some inspirational insight from the architects from oversea especially Krista Kim's Mars House

Q2: "What is NFT architecture and how is it different from regular 3D models?"	
Sam	Need to understand the layers of the transaction, so we know how to monetize things and interact inside the metaverse. NFT can be in many forms (jpeg, augmented reality, 3D files, animation, and other different mediums). Understanding all the mediums within the blockchain allows us to find the one that best suits them.
Nadhrah	NFT is the product, it is not a system that runs by itself. Putting an asset on the smart contract, whoever uploaded their 3D models in the blockchain will own the ownership.
Kai Yi	Upload in blockchain to gain the contract value behind the asset. Only the architecture that is being built in the blockchain can be called the NFT architecture. The process of registering NFT in the blockchain is called "minting", and only after registering as NFT then it can gain its value.

Q3: "What might metaverse do to interior and architectural projects?"	
Sam	Experience the space beyond the physical space. Adding another digital layer to the physical workspace. NFT architecture can complement our reality in different ways. Revolution of tools which make our works easier, faster, cheaper, and more accessible to everyone.
Nadhrah	Change the ways people think and experience digital spaces. Not restricted by the climate, typography, and regulations.
Kai Yi	Provide a duplicate of the earth in the virtual parallel world Need architects and designers to build their assets in the metaverse which is eye-catching design to promote their business to a broad crowd.

Ar. Afi	As a tool to create your quick model
	Explore the space in terms of lighting, composition, orientation of your furniture, and floors from the beginning to the end of your building.

Q4: "How do metaverse and NFT architecture provide opportunities to the architects and designers?"	
Sam	Exposing and promoting your work to people around the world Finding someone who appreciates it Broadens our client base globally.
Nadhrah	Higher sensitivity to properly design a better space
Kai Yi	Metaverse has the demand for virtual spaces and NFT objects to enrich the space. Designers, architects, and creative mind people will be needed to provide their services. Metaverse as the future: designing virtual spaces in the digital realm, a transaction using decentralised finance, ownership through smart contracts, and selling properties using cryptocurrency.
Ar. Afi	Involvement in metaverse design and NFT architecture will differentiate you from others at the workplace and add value to yourself.

Q5: "In your opinion, do architects and designers in Malaysia aware of the NFT architecture and metaverse in the construction industry?"	
Sam	Don't get how serious it can be Interior architecture is easier to link with to metaverse compared to architecture as it is about designing a spatial experience.
Nadhrah	Not yet.
Kai Yi	No. Usually, normal designers will only be concerned about the functionality, security, and restrictions of gravity. Refused to step out of their comfort zone to study new things. People want to skip the process to get to the profitable part and Don't like to be paid in crypto coins due to increasing scamming cases.
Ar. Afi	Yes, some of the architects and designers are aware of the NFT architecture and they are already making their metaverses

Q6: "What are the current status and future possibilities of NFT architecture in Malaysia?"

Sam	Currently, the NFT sort of dies down in Malaysia Moved on from the ideas of just selling images in the metaverse but understanding the ecosystem of the blockchain. Not restricted by regulations of Lembaga Arkitek Malaysia when working on a global digital scale.
Nadhrah	Accelerated awareness about cryptocurrency and blockchain had the system and format for transactions Need time and effort from different parties for NFT architecture to take mainstream
Kai Yi	A wide range of NFTs in the market right now Tried to give some exposure to NFT and metaverse thing to friends but most of them are not interested
Ar. Afi	The NFT market is slowly dying due to the possibility of oversaturation in the market. Future possibilities of NFT as the smart contract in the construction industry prevent the incident of missing or misplacing of manual documents. Transparency of contracts and the process of transaction

Q7: "How can the NFT architecture benefits your business?"
Sam	Able to design a space that is for clients from anywhere else in the world which effectively opens the scale set to a broader base Digital double resolve the geographical restriction.
Nadhrah	Faster exposure Reveal the digital space in people's imagination More sensitive to the current trend and client's needs.
Ar. Afi	In the future, I think the NFT will be any kind of document that is required like the letter of application, CCC, or your CPC documentation to be stored in blockchain. The easier documents preparation process Currently, people are still used to submitting the documentation manually even though they have OSC 3 plus an online submission platform.

Q8: "Can you share some of your current NFT projects or metaverse design that are related to the architecture?"

Sam	Mona. Try to figure out how to monetize the selling of these spaces. Merge the type of project to clients' needs Designing metaverse is not all about design. You can either be blockchain developers, artists, people who're searching for this creative platform, or a community builder.
Nadhrah	To know deeper about the metaverse, you just go and join the community and try to upload your first NFT project in the blockchain
Kai Yi	Recently, I collaborated with the investor of Talkchain (a mandarin platform that educates the public about the blockchain and crypto) to create utility-based NFT which is the element that can some sort of giving you cash-back (in crypto coin or other NFT) That NFT will become the proof that you take part in that investment.
Ar. Afi	Last year, we took a metaverse for PAM Southern Chapter and 360 PAMSO. This gallery is main for the PAM Southern Chapter last year for the world's architecture day festival

ANALYSIS OF HOUSING RECONSTRUCTION FROM RESIDENTS' PERSPECTIVES AFTER THE 2014-FLOOD IN KUALA KRAI, KELANTAN

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Abstract

Post-disaster housing reconstruction (PDHR) is considered the most critical assistance after emergency aid, such as food, clothes, and temporary shelter, particularly in underprivileged areas where disaster victims depend primarily on external assistance to restore their basic needs. PDHR provides opportunities to rebuild the affected community into a better condition for continuous recovery and development. Nevertheless, various studies also highlighted numerous problems within PDHR that resulted from neglecting the community's needs and viewpoints before and after the project completion. This paper examined the housing reconstruction in the aftermath of the 2014-flood in Kuala Krai, Kelantan. It was publicized that the disaster victims had received their new houses within six months to 2 years after the disaster. However, the long-term impacts of these housings on the affected villagers remain unknown. It is essential to acquire the strengths and weaknesses of the housing project so that the future PDHR project can learn from it and be built better. Therefore, this research aims

to evaluate the reconstructed house design from the residents' perspectives and examine their living traditions in response to their housing needs. This research focused on Kampung Manek Urai in Kuala Krai by adopting a case study approach, where 36 respondents were selected through purposive sampling. Data were collected through semi-structured interviews and visual research. The analysis discovered that residents were generally delighted with the house assistance but were dissatisfied with the housing attributes. The findings revealed that the housing actors disregarded certain local traditions and housing necessities during the design stage of the houses. The housing configurations profoundly caused difficulty in their traditional way of life, forcing them to modify the house according to their tradition with the already-limited financial resources. This study established the importance of evaluating post-disaster housing outcomes as they offer opportunities to facilitate better pre-construction planning and post-disaster recovery in Malaysia.

1 Introduction

Rebuilding houses in the aftermath of a disaster requires thorough consideration, including their responsiveness to local culture and climate, durability, ease of maintenance, adaptability for future living, and being developed with the beneficiaries' participation (da Silva, 2010). However, these considerations were often overlooked by building donors, particularly in rural areas where disaster victims depend primarily on external assistance to restore their basic needs. The affected communities are regarded as mere receivers and are incapable of decision-making during the planning stage of housing reconstruction.

Previous research has discovered various housing problems during occupancy stages resulting from overlooking the actual needs of the beneficiaries. These problems have led to living difficulties in their daily lives (example: Di Gregorio & Soares, 2017; Hanafi et al., 2021; Karki et al., 2022). In Kuala Krai, there is little coverage of the flood victims' condition after receiving the house replacement, although it was well documented that the affected community is the most critical stakeholder in the post-disaster housing context (Shafique and Warren, 2015). In this context, the impacts of the post-flood housing on the flood victims in Kuala Krai remain unspoken. Hence, this paper aims to fill this gap by evaluating the reconstructed house design and its condition from the residents' viewpoints. This study also analyzed their living traditions in response to their housing needs.

Evidence of the disaster victims' recovery and development could be acquired from evaluating their experience during the occupancy stage (Hayles, 2010). The outcome should indicate if the housing project has contributed to the beneficiaries' well-being or otherwise (da Silva, 2010). Analyzing the housing is essential to learn about the occupancy stage and condition of post-disaster housing in Malaysia from the residents' viewpoints. The research outcome presents the potential to improve the future PDHR in Malaysia in which the weaknesses could be improved, and the strengths could be implemented in the next project. However, if evaluation is disregarded, similar problems within the housing might recur in the next project and may impede post-disaster recovery and long-term resilience.

2.0 Overview of 2014-flood in Kuala Krai

Unexpected extreme rainfall and strong winds during the North-east Monsoon in December 2014 caused a widespread and destructive flood in Malaysia, severely affecting the majority of states in Malaysia, including Kelantan. News reported that nine out of ten districts in Kelantan were inundated, making Kuala Krai the hardest-hit district, with thousands of victims, were evacuated. Villages in Kuala Krai were entirely

submerged, with the estimated cost of damages being approximately RM200 million (Akasah and Doraisamy, 2015)

The water level recorded in Kuala Krai was up to 10 meters and inundated buildings up to the 4th floor (Anua and Chan, 2020). The flood, which was known as the Yellow Flood or *Bah Kuning* in Bahasa Malaysia, had left immeasurable damages that some news reported it was as intense as the tsunami aftermath. The strong currents had ruined a large number of houses in the villages and had wiped away thousands more. It was recognized to have caused the most devastation in Kelantan within 100 years (Wan Ahmad and Abdurahman, 2015).

As the Government declared that housing reconstruction is urgent assistance for the flood victims, the National Disaster Management Agency (NADMA) identified that a number of 1295 houses replacement needed to be rebuilt in various villages across Kuala Krai, given that beneficiaries retained their valid land documents. The housing reconstruction process received assistance from multiple parties, including Government and external agencies, with local and external donations continuing to arrive at the disaster-stricken areas.

Post-disaster housing reconstruction can be effective at reducing the vulnerabilities of the flood victims as it provides an opportunity to build the community in a better condition (Ahmed and Charlesworth, 2015). The housing donors and actors gradually constructed different housing schemes across the district. All flood victims with valid land documents received permanent house replacements within two years. The reconstruction process adopted donor-driven reconstruction (DDR) or also known as the top-down approach, in which the housing donors would be the decision-maker in most of the process. Housing actors and donors would often leave the site after the completion of the housing project with minimal or no consideration of the occupancy stages, which eventually resulted in various housing problems. Evaluation of these housing programs may provide evidence of advantageous components that can be integrated into other projects and the unsuitable segments that need improvement.

2.1 The Outcome of Post-disaster Housing Reconstruction

Post-disaster housing reconstruction (PDHR) has become a significant component in the post-disaster reconstruction context (Ahmed, 2011). It offers an excellent opportunity to improve pre-disaster vulnerabilities, rebuild the communities in better conditions, and facilitate sustainable development. Besides providing houses for the affected communities as part of disaster response, PDHR is initiated to reduce home-loss impact and disaster risk, assist in long-term recovery, and rebuild a resilient environment (Ade Blau, Witt and Lill, 2018). Previous research emphasized that those involved in PDHR interventions need to identify any vulnerable housing condition that existed before disasters and improve it in post-disaster housing reconstruction (Tran,

2015). Therefore it should be delivered to fulfill equal qualities in terms of physical and technical measures, as well as living traditions and quality of life (Hayles, 2010). However, in most donor-driven reconstruction approaches, the building actors would determine nearly all decisions regarding reconstruction. As a result, housing donors and builders frequently misinterpret the community's needs and capacity, presuming they know what is best to provide for the community. PDHR that disregards local customs and preferences frequently leads to unsatisfactory living conditions and consequently will affect the community's well-being (Rahmayati, 2016). Previous research identified three forms of cultural inappropriateness as a result of overlooking local needs in housing reconstruction: namely, building materials, infrastructure service, layout, size and spaces of the house, and overall house design (Ahmed, 2011).

A longitudinal study was carried out by Barenstein (2015) in a post-earthquake resettlement village in Gujarat, India. The purpose of the study was to assess people's coping methods in relation to the socio-spatial structure of the community. The survey in 2004 revealed that the vast majority of villagers were highly dissatisfied with the new house, and some had refused to move into the house. Conversely, eight years later, the same community had established patterns of adaptations and transformed the houses to accommodate their privacy needs, spatial needs, and thermal comfort. The beneficiries undertook the changes based on their traditional lifestyle and cultural needs, which were not considered in the original donated house (Barenstein, 2015).

Other research discovered that many rebuilt houses after the Gujarat 2001 earthquake had remained empty because villagers were dissatisfied with the house layout and amenities. Some house designs which ignored local and traditional necessities caused discomforts, such as leaking and excessive heat (Sanderson, Sharma and Anderson, 2012). Households had expressed disappointment when their traditional spatial request was rejected. Eventually, those with financial resources would renovate the house according to their traditional lifestyle and cultural needs, which were not considered in the original donated house (Barenstein, 2015). On the contrary, the lower-income groups had to carry on living with difficulties (Sanderson, Sharma and Anderson, 2012).

Rahmayati (2016) asserted that housing donors or actors should be more perceptive on the importance of integrating socio-cultural aspects into the design and planning of post-disaster housing. These aspects were often ignored or incorrectly translated into the housing design. Her study on housing reconstruction after the 2004 tsunami in Aceh focused on the assessment of the new housing reconstruction design's influence on the social practices of the occupants and the implications of the changes towards the community. The research showed that in most post-tsunami Aceh house-building projects, housing donors did not sufficiently consider local concerns, socio-cultural issues, family customs, or space usage. When unsatisfactory houses are constructed, the

poor living conditions cause a severe impact not just on socio-cultural family practices but also on community welfare.

The initial analysis from around the world demonstrated that beneficiaries were not merely receivers but were one of the most critical stakeholders in post-disaster housing reconstruction programs. Thus, housing actors must not overlook their viewpoints on basic needs and contextual practices. Assessment of the housing outcome could provide us with the necessary features to be improved in future post-disaster housing development.

3.0 Research Methodology

This study adopted case study research was used for this investigation. This study used semi-structured interviews to obtain data, which allowed for in-depth exploration and analysis of respondents' experiences. Besides, observations were carried out to examine the condition of the house. Based on the objectives and nature of the case area, purposive sampling is adopted to maintain homogeneity in sample selection within the village. The interview was conducted with the head of the household or the second member of the household until it reached data saturation or data adequacy, which is the process of collecting data until no new information can be obtained (Morse, 1995). Thirty-six participants were interviewed, and data were analyzed using Thematic Analysis.

4.0 Findings and Discussion

4.1 Overview of Post-flood Houses in Kuala Krai

In Kuala Krai, there are two permanent housing reconstruction plans, consisting primarily of one-story houses built on the beneficiaries' land and houses built on new sites or relocation schemes. This research focused on the former project, which will be the case study in Kampung Manik Urai, a typical Malay village located 25 kilometers from Kuala Krai town center. This paper selected a housing scheme funded by the Federal Government through the Public Work Department of Malaysia (JKR) to maintain homogeneity in sample selection. Throughout this paper, this scheme will be termed *Rumah Kekal Baru* (RKB). The beneficiaries must possess the land with appropriate land documents to be eligible for an RKB house. This process, although viewed as time-consuming for particular beneficiaries, was necessary to avoid disputes in the future.

The house design was initiated and managed by JKR, while the construction process was undertaken by contractors appointed through JKR. There was a total of 48

units of RKB built across Kampung Manik Urai, consisting of two types of design, namely, Type 1 (RKB1) and Type 2 (RKB2). The beneficiaries were given the option to choose the house type according to their preferences. RKB1 was built on stilts 2.4 meters above the ground. The floor area is 62 m² which consists of spaces including a living and dining area, three bedrooms, one kitchen, one bathroom, and one toilet, which was illustrated in the floor plan in Figure 1. Figure 2 shows the overall 3D image of RKB1. The other design, RKB2, which was built on the ground, had a more extensive floor area (76 m²). The house consists of a living and dining area, three bedrooms, one kitchen, and two toilets, as depicted in the floor plan in Figure 3, while the overall 3D image of RKB2 is shown in Figure 4.

Figure 1 : The floor plan of RKB1
(Source: Hanafi et al., 2021)

Figure 2 : The 3D image of RKB1
(Source: Author)

Figure 3: The floor plan of RKB2
(Source: Hanafi et al., 2021)

Figure 4 The 3D image of RKB2
(Source: Author)

4.2 Physical Condition and House Design

This segment will evaluate how residents in both RKB1 and RKB2 viewed the physical condition of their houses and the overall village look. It was observed that overall village character appeared to be different after the flood as compared to the pre-flood setting. Villagers also mentioned that there were fewer numbers of timber houses with various features and characters in the village due to destruction during the flood, and at present, the village and its street were rebuilt with brick wall houses that looked similar. The donated houses, constructed with reinforced concrete (RC) as their structure and brick wall as the primary construction material, were perceived as sturdy and able to withstand a future flood. The construction materials also were viewed as modern by several beneficiaries.

4.3 Spatial provision and relationship

4.3.1 This inequitable house size and spaces

In rural areas, it was common for extended families to be living together under one roof because of close family relationships and financial constraints. House is also becoming a place for economic activities where they were built to incorporate the economic means and the users' needs who work at homes such as tailors and babysitters and even attached to eateries and stalls. Women participants in this study mostly expressed concern about the inadequate kitchen areas in the donated houses, highlighting that their activities and pre-flood living traditions had to be adjusted accordingly due to lack of space. This indicated that space provision, circulation, and spatial relationships in their old house were directly linked to living traditions and norms.

However, the above pre-flood living norms had undergone inevitable changes mainly due to the changes in post-flood living conditions. Several residents found the reconstructed house size was insufficient for their spatial needs and living norms which required them to modify the layout and spaces according to their basic needs. Some had planned for modification or extension even before the house was built. This inequitable house size and space had prevented the residents from continuing their income-generation activities.

4.3.2 Provision of a single access door in RKB1

Residents in RKB1 notified that they encountered inconveniences with the provision of a single staircase and access door in the house layout. They underlined the inefficient circulation and difficulties in their daily activities, especially activities or chores related to the kitchen and back of the house. Furthermore, the single entrance would impose risk and unsafe conditions, especially during an emergency. Consequently, this research identified extensions constructed at the back of RKB1, where residents had built an internal staircase with a secondary door at the rear part of the house. In traditional Malay houses, usually, women would enter the house from the back of the house, where the kitchen and women-related spaces would be. This tradition influenced the spatial organization of the houses and thus would determine the overall house layout. The practice also resulted in the extension of some of the RKB1, as shown in Figure 3 and Figure 4 below.

Figure 5
(Source: Author)

Figure 6
(Source: Author)

4.3.3 Separate toilet and bathroom

In certain traditional Malay houses, including in Kelantan, toilets and bathrooms are still built separately due to hygiene and religious preference. Although it was not obligatory in Islam to have a separate toilet and bathroom, they viewed that it was necessary because the bathroom was used mainly for cleaning oneself, washing clothes, and performing ablution or *wudhu'*, an act of ritual washing before performing prayers. This aspect has been incorporated into the RKB1 housing scheme

. Nonetheless, a significant number of residents mentioned that the above provision is insufficient, especially in larger households where extended family was staying together in the house. It was discovered that an additional bathroom with *kolah* was constructed in nearly all renovated houses, mostly on ground level, for taking *wudhu'* or ablution and washing clothes by hand. *Kolah*, a water tub meant to keep clean water, is also constructed as a practical solution for low-pressure water supply and in case of water supply interruption.

The findings of the housing reconstruction evaluation in Kuala Krai revealed that house donors did not pay much attention to the house's spaces and its functional requirements. The daily routines and social life of the villagers were not considered when planning the houses, resulting in additional difficulties and challenges for the inhabitants.

5 Conclusion

The post-flood housing reconstruction programs in Kuala Krai have given certain structural benefits to the affected villagers by providing house replacements. However, post-disaster house reconstruction is not merely providing shelter, but an important goal is restoring their socio-cultural characteristics. The research indicated that houses were perceived to be smaller with fewer rooms and spaces, that the house layouts were altered, and that some of the fundamental spaces for social practices and traditions were not considered. The finding revealed that the occupants' daily routines and social interactions are two predominant attributes that influenced the house layout and its functions. Therefore, these important factors must be considered in post-disaster house design and planning. It can be seen that the condition of the house has a direct impact on post-flood living conditions where the residents had to; either modify the house layout or hesitantly adjust their living tradition to suit the house constraints. In this regard, it was suggested that there were attempts to resume their pre-flood tradition in the post-flood houses; therefore, the houses reflected their cultural practices and significance. The post-flood housing reconstruction disregarded specific important design attributes, which could lead to significant effects on the residents living conditions and subsequently disturb their quality of life. A mismatch between the residents' life traditions and the reconstructed house will result in social costs that create a strain over the long term.

Therefore, in all subjects discussed in this paper, an essential measure in the post-disaster reconstruction process is the understanding of local conditions which can be acquired from the community and translating their spatial needs and traditions into

functional design outputs. This study emphasized the importance of evaluating post-disaster housing projects, especially from the beneficiaries' perspectives, hence highlighting the significance of the end-users as one the stakeholders in the post-disaster context. The disaster victims, who were vulnerable and restricted financially, should not be burdened any further with the inappropriate housing layout, which forced them to modify their houses in accordance with their living traditions. Finally, post-disaster housing initiatives must consider sustainable development that not only focuses on housing improvements but also ensures that long-term physical, social and economic recovery has met the community's actual needs.

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SPACES AND COMPONENTS OF MALAY HOUSES IN KELANTAN DIALECT

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Abstract

Kelantanese, regardless of their ethnicity, converse in the Kelantanese dialect as a way of instilling a feeling of well-being and maintaining their identity as Kelantanese. The use of this Kelantan dialect marks the identity of the localities that highlight their uniqueness. The Kelantan dialect has the features of phonology and morphology, which change the pronunciation of standard Malay words. Some of the Kelantan dialects totally use different words and terminologies in their dialects' vocabulary. Therefore, this paper identifies the pronunciation and names of the spaces and components of Malay houses in Kelantan dialects. This article used the features of phonology and morphology to study the pronunciation of the words; and interviews with local people to identify the terminologies used in the Malay house. This study was divided into two categories: spaces and components of the house. The findings showed that there were three features that were used in the Kelantan dialect, which were the extension or shrinking of vowel phoneme inventories, the character of word stress, and the consonantal asymmetry of syllable structure. The Kelantan dialect has fifteen vowels, making it one of the extreme scales of extension and shrinking of vowel phonemes. This study helps non-Kelantanese to understand the Kelantan dialects in communicating with the local people. In addition, this paper will be used as a reference by future researchers to do research relating to the Malay architecture in Kelantan. Dialect preservation is important as a retention of the nation's heritage, culture, and language that is of great value for future generations.

Keywords: Kelantan dialects, Malay house, components, spaces, Architecture Heritage (SDG11)

1 Introduction: Kelantan Dialect

The main language spoken is Kelantanese Malay dialect alongside the standard Malay. Kelantanese Malay dialect is also known as Kelantan-Pattani Malay language, Kelantan Dialect or Bahasa Kelantan in Standard Malay. This research will refer to Kelantanese Malay dialect as Kelantan Dialect (KD). It is highly known that Kelantan Dialect is quite difficult to understand than the Standard Malay. There are various linguistic differences in term of phonological sounds, writing system and vocabulary. Phonologically, Kelantanese dialect consists of 35 phonemes; 8 main vowels, 7 nasalized vowels and 20 consonants (Mahmood, 2006).

Therefore, this paper identifies the pronunciation and names of the spaces and components of Malay houses in Kelantan dialects. This article used the method of research, which included using the features of phonology and morphology to study the pronunciation of the words; interviews with local people to identify the terminologies used and their pronunciation of spaces and components in the Malay house; and personal interviews with traditional Malay house builders. This study was divided into two categories: spaces and components of the house. The findings showed that there were three features that were used in the Kelantan dialect, which were the extension or shrinking of vowel phoneme inventories, the character of word stress, and the consonantal asymmetry of syllable structure.

The aim of the paper is to identify the pronunciation and names of the spaces and components of Malay houses in Kelantan dialects. The research question is how to pronounce the spaces and components of Malay houses in the Kelantan dialects.

2 Kelantan Dialect

The Kelantan dialect is a regional dialect spoken mostly by the people of Kelantan, which is located in the north-eastern part of Peninsular Malaysia. Mahmood (2006) calls for 35 phonemes, including 8 vowel phonemes, 7 nasalized vowel phonemes, and 20 consonant phonemes (Mahmood, 2006). The eight vowel phonemes are [i, e, ɛ, a, u, o, ɔ, ə], and the seven nasalized phonemes are [ĩ, ɛ̃, ã, u, ũ, õ, ɔ̃].   There are six places of articulation for consonants: plosives [p, b, t, d, k, g, ʔ], nasals [m, n, ɲ, ŋ], fricatives [s, z], affricates [tʃ, dʒ], [j, w] and lateral [l] (Hamzah, 2013).

2.1 Phonology and Morphology in Kelantan Dialect

Berko Gleason (2005) says that spoken language, written language, and their related parts (i.e. receptive and expressive) are each a synergistic system made up of different language domains that work together to make a dynamic, integrated whole. These domains are phonology, morphology, syntax, semantics, and pragmatics.

The following are descriptions of the five linguistic domains:

  i.   Phonology is the study of a language's speech sound (or phoneme) system, as well as the rules for combining and using phonemes.
  ii. Morphology is the study of the rules that govern how morphemes, which are the smallest parts of a language that have meaning, are used.
  iii. Syntax refers to the rules that govern how words in a given language can be joined to form sentences.
  iv. The meaning of words and word combinations in a language is referred to as semantics.
  v.   Pragmatics: the principles that govern how language is used in conversation and in larger social contexts.

The five fundamental language domains include a continuum that extends to higher-order language abilities, such as discourse, which is influenced by pragmatics domain skills. In this paper, the limitation is applied to phonology and morphology.

	Spoken Language		Written Language	
	Listening	Speaking	Reading	Writing
Phonology	ability to identify and distinguish phonemes while listening (i.e., phonological awareness)	appropriate use of phonological patterns while speaking	understanding of letter-sound associations while reading (i.e., phonics)	accurate spelling of words while writing
Morphology	understanding morphemes when listening	using morphemes correctly when speaking	understanding grammar while reading	appropriate use of grammar when writing

Figure 1: Relationship Between Spoken Language and Written Language (Source: ASHA, 1993)

Glottal Stop

A glottal stop is a stop sound produced in phonetics by abruptly closing the vocal cords. Arthur Hughes et al. (2013) defines the glottal stop as a type of plosive in which the vocal folds are brought together, as when holding one's breath (the glottis is not a speech organ, but the gap between the vocal folds).   It is also known as a glottal plosive. In Kelantan dialects, words that end in [t,k,p] are applied with a glottal stop [ʔ]. For example; tingkap /tikaʔ/ and atap /ataʔ/.

Open O [ɔ]

Open o or Turned c (majuscule: Ɔ, minuscule: ɔ) is a letter of the extended Latin alphabet. In the International Phonetic Alphabet, it represents the open-mid back rounded vowel. In Kelantan dialects, words that end in [a] is changed to [ɔ]. For example; tangga /tanggɔ/

Nasal Maintenance

Nasalized sounds are sounding whose production involves a lowered velum and an open oral cavity, with simultaneous nasal and oral airflow. Nasal consonants are maintained before voiced stop [b, d, g] in Kelantan dialects. For example; jamban /jambƐ/, tanggo /tanggɔ/

Nasal Deletion

Nasal consonants are deleted before voiceless stops (p, t, k)

- pintu /pitu/
- lantai /lata/

Nasal Substitution

Nasal substitution is only one of a number of phonological processes that serve to eliminate nasal/voiceless obstruent sequences. Nasal consonants [m, n, ŋ] are replaced with epsilon (Ɛ) in word-final position.

- awan larat /awƐ larak/

- papan /papɛ/
- alang /alɛ/
- rumah bujang /ru:moh bu:jɛ/
- tiang /tiyɛ/

Consonent Deletion

In the case of consonant deletion, the consonant which is deleted would not be replaced by other consonants in the dialect, unless if the consonant were /r/ which would then be adapted to /ɣ/. As can be observed in the following examples, deletion could occur at any position of the word. [i, u, r] deletion occurs at word-final positions. For example;

- lantai /lata/
- birai tangga /biɣa tangga/
- kasau /kasa/
- kelarai /kelaɣa/
- pagar /paga/

Meanwhile, the deletion of consonant /l/ at the word-final position is replaced by a vowel. However, /l/ is deleted when it appears as the second final consonant. The deletion of /d/ occurs when this consonant is at word-medial and word-final positions. In short, the deletion of consonants in the Kelantan Malay dialect has two different patterns that are, deletion with no replacement or with replacement. Deletion with replacement occurs either by replacing the deleted consonant with a vowel or with a native segment.

Consonant Substitution

Consonant substitution is a phrase used in linguistics, specifically phonology, to describe a scenario in which one item is replaced or substituted by another item within a certain domain and structure (Crystal 2008, p. 463). This technique is known as a "replacement" in phonology. Consonant substitution happens when a consonant is replaced by another consonant in the borrowed lexical item. Consonant substitution is a tactic used to prevent the loss of a sound in a language. Consonant replacement produces a result that closely resembles the input. However, the identical output is not permissible in the language of the borrower. Therefore, the consonant must be substituted by a consonant that is quite similar to the language of the borrower (Hock 1991). According to Peperkamp and Dupoux (2003), when the adaptation process happens, the input sound in the donor's language would be mapped to any sound that is

closer to the recipient's language. If the sound could not be found in the recipient's language, it would be substituted with a sound that is as similar to it as possible.

2.2 Components and Spaces in Kelantan Dialect

Component: *lantai gelegar /lata gelega/*   Other terminology in Kelantanese dialect: **/lubƐ jaɣƐ/** *(lubang jarang)* **or /lata jaɣƐ/**   Change of pronunciation & change of terminology
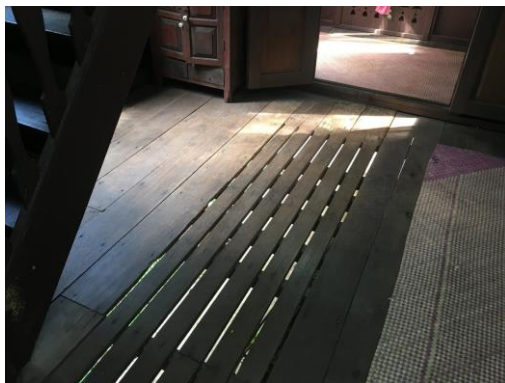
Figure 2: Lantai Gelegar (Source: Nasir at.al., 2011)	Lata JaɣƐ is prepared in some houses for: • Normally, it is located in the veranda area. • Its floors are not close together because some of the board components are not properly fastened together to allow for opening in the case of bathing the deceased. • There is a belief that it is prohibited to walk on it or under it, since neither path is considered sacred.

Component: Gutter */seloɣƐ/*   Change of terminology

Figure 3: Gutter is made from metal sheets (Source: Utaberta et al., 2015)	To cover the area of *Selang* from the rain and to channel down the rainwater from the roof to the ground. **Figure 4:** Gutter function as a roof apart from to channel down the rainwater. (Source: Utaberta et al., 2015)
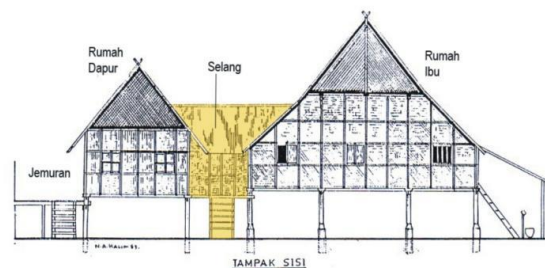
Component: *Pelantar*   Other terminology in Kelantanese dialect: **/jemoɣƐ/**
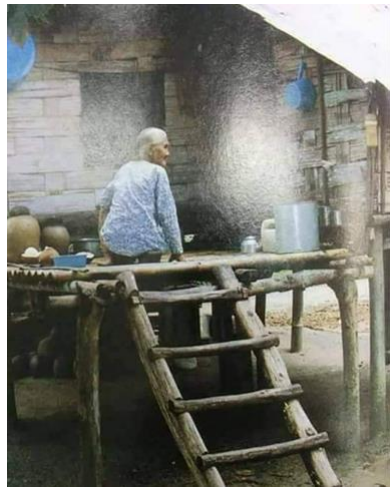
Change of terminology	
 Figure 5: Pelantar without roof (Source: Nasir at.al., 2011)	• Typically, the platform links to the kitchen house on the lower floor. • It has wider-spaced flooring than typical. • This area may be opened or closed as it without a roof, serves as an air circulation system within the house, and admits additional light. **Figure 1:** Pelantar (Source: Utaberta et al., 2015)
Component: **Roof *(Bumbung) /ataʔ/*** Change of terminology	
 Figure 2: Roof of *rumah bujang* in Terengganu (Source: Ahmad Fuad, 2011)	• In addition to protecting the structure, the roof serves as a symbol of racial origins. • The renowned architecture of Malay heritage is found on the east coast states of Malaysia and southern Thailand, where a traditional Malay roof known as a *Singgora* roof is used.

Conclusion

Future research on acoustic analysis of the Kelantan dialect and other Malaysian dialects is required to fully comprehend each vowel location. There are several dialect-related acoustic analysis topics that few people have yet discovered or researched. This study would provide readers with a better understanding of how speakers of the Kelantan dialect speak with more time and data. This study is meant to help students

and teachers understand how they say words wrong and, as a result, improve their pronunciation skills so that they are ready for future challenges in this way of communicating around the world. This study helps non-Kelantanese to understand the Kelantan dialects in communicating with the local people. In addition, this paper will be used as a reference by future researchers to do research relating to the Malay architecture in Kelantan. Dialect preservation is important as a retention of the nation's heritage, culture, and language that is of great value for future generations.

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THE MEMORY REMAINS: THE FUTURE OF MALAY COMMUNITY IN KOTA BHARU

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Abstract

This paper examines the effects of globalisation on the lives and communities of Malays. People believe that urban living affords them more opportunities. However, Malays who have relocated to the city do not have access to all of these opportunities. Even though they are constantly squeezed by various pressures in their settlements, their dreams and hopes to remain constant. The Malay settlements became increasingly vulnerable after the migration to the city in terms of both identity and cultural density. Environmental changes in Malay settlements following migration are rarely discussed. Even though the link between migration and the destruction of Malay settlements was very strong, the discussion only raised concerns about the city. In collecting information for this study, both qualitative and quantitative approaches were used. Randomised interviews were conducted in conjunction with participant observations and direct observation techniques. Case studies were conducted in eight Malay villages in Kota Bharu. In addition, 350 participants were selected for a randomised questionnaire in Kota Bharu. Respondents

from a variety of backgrounds supported the findings of the study. The majority of this village's inhabitants are long-time Kota Bharu residents who are Malays. To support the findings and discussion, IBM SPSS V26 was used to analyse the data in a descriptive analysis and was supported by participant interviews. The findings of the study indicate that not all Malays aspire to migrate. To continue living in the current settlement, they must have access to a hospitable neighbourhood.

1 Pace of Globalisation: City and People

"The dust replaced in hoisted roads,

The birds jocoser sung;

The sunshine threw his hat away,

The orchards spangles hung."

"The dust replaced in hoisted roads,

The birds jocoser sung;

The sunshine threw his hat away,

The orchards spangles hung."

"The dust replaced in hoisted roads,

The birds jocoser sung;

The sunshine threw his hat away,

The orchards spangles hung."

"The dust replaced in hoisted roads,

The birds jocoser sung;

The sunshine threw his hat away,

The orchards spangles hung."

'Cause the moment has arrived

I should walk away from the path of life.

Enjoying the slideshow of memories dancing before my eyes,

I, now, move on to be a memory of time

Urban media hubs typically power global information networks with global reach. When locals have access to media such as the Internet, the limitations and knowledge provided by local media can be overcome (Hannerz, 2000), facilitating potential migration movements as overseas attractions become more "real." The concept of "global ethnos"in the "landscape of people who shape the changing world in which we live" (Appadurai, 1999): tourists, migrants, refugees, exiles, guest workers, and moving groups, among others, are an important feature of the world and appear to influence politics and relations between nations to an unprecedented degree. The

spread of urban capitalism, which largely determined the growth, reconstruction, restoration, and reconfiguration of cities around the world in the late nineteenth century and beyond, has always been associated with the life and migration of people to the city, as well as the manufacture of the city itself (Forbes, 1996; Bishop et al., 2004).

This can happen when globalisation is used as a discourse to open up fragile societies (at the state level) and cities (at the local level) that are unprepared to compete on a global scale (Schmidt, 1998). However, in the late twentieth century, it became increasingly important to emphasise the global nature of this growth and the dynamics of international and post-colonial identity in discussions of global urbanism. Capital cities are typically economic hubs for international trade and exchange. They may undergo moderate to severe changes at many levels in order to meet the demands of an emerging global economy that any country-specific central organisation does not bind. When international pressures such as globalisation arrive in Southeast Asian societies, their capitals are usually the first to be affected. This is due to several factors. Southeast Asian municipalities stand out among them due to the high concentration of population and economic activity in urban conglomerates. These conglomerates are typically large multinational corporations (MNCs) from the West or Asian behemoths that have expanded overseas to capitalise on the globalisation process for economic gain. Through these MNCs, the globalisation of capital and labour has opened up local markets to the rest of the world. When job alignments and opportunities are created, modified, or destroyed in response to global market economic indicators, it creates various opportunities for workers of varying abilities.

Globalisation also provides "strong incentives to adapt urban politics to the increasingly powerful needs of productive capital and international finance, jeopardising social sustainability" (Schmidt, 1998). As a result, there is a social cost to entering the global market. What is the price of a country attempting to integrate its economy into a market system? Among them is the convergence of welfare spending that is low and export oriented. Another factor is the increased demand for low-wage workers, as evidenced by the increased presence of female workers or the relocation of production to other locations. When nation-states compete for global capital, the world becomes "polycentric rather than bi-polar... like a pattern of turmoil rather than push-pull, more of a battleground than a battle line between centre and periphery, more of a battleground than a battle line between centre and periphery" (Schreiter, 2001).

1.1 Migration: The Choice of Returning or Not

The number of Malay migrants has been consistently underestimated by government statistics. The primary reason for this is that the majority of Malays living abroad intend to return to their homeland, as do their relatives and friends. Malays from other regions of the nation are seldom counted. The primary source of population for new agricultural settlements and urban growth is older rural communities. Between 1965 and 1972, rural communities lost approximately 6% of their population, while urban communities gained nearly 40%. This imbalance is not due to differences in community size, which were nearly identical in 1965, but rather to the general situation of older rural communities in comparison to new agricultural and urban communities. Rather than deciding whether or not to migrate, individuals who decide where and when traditional types of movement will occur are responsible for the change in population density among Malay communities. For example, almost all young men in Malay communities will want to begin travelling. The questions are: where will I go first, when will I go, and how will I get there? The importance of experience and potential opportunities is a fundamental determinant of when to start. The city has always been regarded as an adventure-worthy location, if not as a city, then at least as a remote location. Even for a city or town boy, another city is the preferred location. Nevertheless, city living is prohibitively expensive. When living with family and friends, which is a significant factor in determining a city's location, one must contribute. Some city boys with stable employment and vacation time travel. Others moved to different areas of the city in search of employment. Regardless, wandering is the most difficult thing for rural people to do. Before embarking on a journey, they must first pique their interest. When the price of rubber is high relative to the cost of living in the city, there are more young men in large cities because tapping rubber can earn money quickly for a large enough interest to stay in the city, gain experience, and find urban work, thereby extending their freedom. When the price of latex is low, young men spend less time in the city and more time attempting to attract a partner. Many youths who visit urban communities in their region are able to extend their stays not only due to the relatively low cost of living but also because government programmes have increased employment opportunities for Malay citizens. They remain in the city and raise families there.

2 Research Methodology

Malay settlements near rivers are frequently threatened by urbanisation and natural disasters. Natural disasters such as floods and a lack of employment opportunities have a significant impact on the lives of Malays in Kota Bharu. The question is how long Malays will be able to live in the city in the future. Can they continue to migrate in search of better places to live in order to improve their standard of living? This

study employs case study techniques as well as participant observations in Kota Bharu to gain a better understanding of the community's daily activities and routines. This is one of the earliest settlements, with many cultural and historical features (Figure 1). In 2019, questionnaires were distributed to case study areas in order to collect primary data through the use of random sampling techniques. Direct observation, visual analysis, and randomised interviews with participants were used to find dialectical answers about migration in Malay settlements. The study polled 350 local respondents through various methods, including questionnaires, face-to-face interviews, group discussions, and assistance from villagers who had access to the area and served as native sponsors. The SPSS software was used to create a descriptive analysis that was supported by a literature review and reviewed using a randomised interview approach to produce a more practical discussion.

Figure 1: The case study area (Source: Abdullah, 2020)

3 The Malay Dreams

The Malays had been excluded from the early colonial era and its rule. They were sidelined by colonial rule with a planned economic system. It looks like the economic development country was arranged into two lines. The first was to isolate the Malay, whether through planned colonialism or not, and the second was to exploit Malaya's wealth. The modern economic sector founded by the West merges with the global financial system. It is parallel and developed according to that situation. With the help of Chinese and Indian immigrants, they finally managed to bring back the wealth of Malaya. However, the agricultural economy developed by the Malay people is separate and not directly connected to the urban area.

The disparity in income between the two groups is widening. It is unbalanced and causes social and cultural distinctions. According to Faaland et al. (2005), Malay agriculture supports urban communities, but the government's policies favour other industries over agriculture. The Malay population is the group most directly affected

by poverty, but they are also the last to receive aid. Numerous rural residents lack access to electricity, roads, and clean water, exposing them to various diseases. This circumstance compelled them to seek out opportunities to reside in the city. The majority of Malay individuals believe that they are suitable for city life.

Table 1: Do you feel comfortable living in the city (n = 350)

Item	Frequency	Percent
Yes	236	67.4
No	114	32.6
Total	350	100.0

(Source: Abdullah, 2021)

These findings are supported by Table 1, showing that most respondents feel they are suitable for living in the city. This finding is supported by a questionnaire that showed that 236 respondents (67.4%) thought they were ideal for living in the city. At the same time, a total of 114 respondents (32.6%) indicated that they could not adapt to life in the city. This situation indicates that their motivation to migrate is high. They dream of being given equal opportunities to live in the city. This situation proves that colonialism is one of the causes of Malay poverty. If Malay is not allowed to progress while the other ethnicities continue to do so progressively, the Malay generation will be left behind. With the Malay elite group's loss of political power to the colonialists, the Malay's fate became bleak. Immigrants such as the Chinese monopolised small businesses under colonial rule. The Malays wanted to enter the industry, but they were not given the opportunity and were barred from many aspects. This finding is supported by a study (Abd. Rahman, 1971) indicating that the development of the Malays is far behind the Chinese people.

However, this problem persisted after the NEP was implemented. The government continues to make efforts to balance urban and rural inequalities. The ultimate objective is to eradicate poverty among the Malay population. The spread of socioeconomic development and physical infrastructure has been extensive but gradual throughout the region, whether in a new industrial city, town, or areas primarily developed for rural and suburban areas. To meet the needs of the expanding urban population, various supportive activities have been developed.

Meanwhile, the suburban area has expanded well beyond the agricultural sector. Numerous agricultural areas have been transformed into residential areas, new sectors,

or even new towns. According to Md. Jahi et al. (2016), rural areas and agriculture are becoming increasingly urbanised in all capital cities. This situation has altered the community's perspectives and philosophies in the past. Despite the absence of employment opportunities in their settlement areas, they can still create opportunities. Eventually, the identical process continued until the present day. Due to the lack of employment opportunities in Kota Bharu, they were forced to relocate to the city. Those who are unable to migrate continue to believe that employment opportunities are one of the most important aspects of the city. This finding is supported by Table 2, which reveals that n = 188 respondents (53.7% of the total) reported that there are numerous employment opportunities in the city. Moreover, n = 88 (25.1%) of respondents indicated that employment opportunities are the primary opportunities available in the city. In contrast, only n = 70 (20%) believe that the city offers superior educational opportunities.

Table 2: Opportunities in the city? (n = 350)

Item	Frequency	Per cent
Work	188	53.7
Education	70	20.0
Business opportunity	88	25.1
Others	4	1.1
Total	350	100.0

(Source: Abdullah, 2021)

Thus, urban life has good job and educational opportunities compared to the settlement areas. They also believe that their lives will change after migrating to the city. Through the results of these informal interviews as well, the researchers found that the same migration process will be repeated. In their settlement, they are building dreams that cannot solve life's problems. Their migration is likely to fail, as previously explained. Their city life is not attractive, but it can lead to a better future. However, not all respondents want to migrate to the city. These findings are supported by Table 3, showing the questionnaire results for 350 respondents. The results showed that 181 respondents (51.7%) did not want to migrate to the city despite being given the opportunity. Meanwhile, 169 respondents (48.3%) want to migrate to the city if they have the chance. The following respondents also support these findings:

Table 3: If given the opportunity, would you want to migrate to the city? (n = 350)

Item	Frequency	Per cent

Yes	169	48.3
No	181	51.7
Total	350	100.0

(Source: Abdullah, 2021)

'... if given a chance to migrate, I do not want to go to the city. This is because life is a busy city makes me uncomfortable for my way of life ...'(R-1).

'...city life does not suit me because I prefer to plant crops around the house. Houses in big cities are usually in condominiums with high prices. At the same time, there is no place to cultivate ...'(R-2).

These statements demonstrate that the current settlement pattern is incompatible with the Malay way of life. In addition, the dynamic urban lifestyle did not entice them to migrate. In other words, the Malay are more suited to their current location. Sendut (1961; Wahid, 1996) stated that despite widespread settlement patterns, communities in this region can define their own social, cultural, and way of life among family members, neighbours, and other communities. Freedom of movement, open space, and the absence of barriers between negotiated and personal space can maximise this social interaction. They can live and play safely in their yard as children. The surrounding area is shaded by a tree canopy, allowing children to play even in hot weather. This circumstance illustrates the importance of interaction in their lives. This lifestyle does not exist in the city, particularly for newly immigrated individuals.

The observations also found that the settlement environment has naturally growing trees, courtyards, and an organic path that connects the houses. The houses look close to each other, and the atmosphere is in harmony with its surroundings. Organic paths are a natural blend of building materials and space for their environment. These observations align with previous studies by Harman Shah and Wahid (2010). That said, Malay settlements were built and developed in the context of nature, and there is no specific classification. Public and private spaces are not divided by creating elements such as fences. There is no precise geometric arrangement, symmetry, or description of a village (Harun, 2011; Hanafi, 1986). Therefore, they feel more comfortable with life here. This finding is supported by Table 4, showing a total of 224 respondents (94.9%) said they were deemed fit to live in the city.

Nevertheless, they feel that this settlement area has provided comfort to the excellent neighbourhood relations. This situation shows that the community will be concerned with their neighbourhood's settlement. They thought that the urban culture they would face would be the same if they migrated to the city. This finding is supported by survey results that showed only a small group of 25 respondents (7.1%) out of 350 respondents who said they were uncomfortable with their neighbours. This situation caused most existing neighbourhoods to be formed from the family system for a long

time. Therefore, the percentage of neighbours' problems is miniscule, not reaching 10% of the total respondents. In addition, it was found that as many as 100 respondents (87.7%) said that they felt unsuitable for living in the city. These findings demonstrate that a community considers it challenging to accept the urban culture that has developed in urban areas. These respondents likely consisted of residents who had experienced living in the city. Then they return to the original settlement due to not being able to adapt to the city's culture. This crosstabulation table shows that the p-value is 0.28 (Table 5). Although this crosstabulation relationship is not accurate, it is enough to prove the respondents' views.

Table 4: Crosstabulation between Feel comfortable living in the city and Comfortable with your neighbours (n = 350)

			Comfortable with your neighbours			
			Yes	No	Others	Total
Feel comfortable living in the city	Yes	Count	224	11	1	236
		% Within Feel comfortable living in the city	94.9%	4.7%	0.4%	100.0%
	No	Count	100	14	0	114
		% Within Feel comfortable living in the city	87.7%	12.3%	0.0%	100.0%
Total		Count	324	25	1	350
		% Within Feel comfortable living in the city	92.6%	7.1%	0.3%	100.0%

(Source: Abdullah, 2021)

Table 19 reveals that the residents have established positive relationships with the community, where they feel at ease and as though the village is theirs. Even with the urbanisation process that has occurred, the relationship has been profoundly affected. Nonetheless, these relationships have fostered a sense of community in which they can engage in formal or informal activities together. This circumstance reflects, in some ways, the identity of the local community.

'*...Life here is more comfortable than in the big city. I have many good friends and close*

relatives here ...'(R-3)

These characters are not found elsewhere, giving meaning and a "sense of place" to the local environment in the Malay settlement. The sense of place is a testament to the village environment. The unique characters, which are not found elsewhere, reflect their activities and way of life in the surrounding context. The physical environment is an aspect that needs to be considered to ensure the local spirit remains. This results in vernacular design styles with different ways of being vernacular and modern (Rapoport, 1990). Traditional societies undergo cultural transformations as they transition from closed to open communities. Social values and norms are consequences of globalization, ranging from homogeneous values to pluralism. Science and technology have transformed the world in an instant (Abdullah et al., 2020).

4   Discussion

Cities are places where various social processes interact in multiple ways, influenced by globalisation and migration processes (Schmidt, 1998). When viewed in this light, the city can be considered (1) a locus of production: urbanisation is considered a means of commodity production. It gives meaning to the city's numerous activities. Cities are thus spatial divisions of labour within a more significant spatial division of labour. Cities serve as (2) a centre for finance and credit: the manipulation of money and power. Cities generate (3) consumption: as a provider of public goods and services, the state is regarded as an important ancestor of the city (e.g., schools, hospitals, etc.). Cities contribute to (4) subject reproduction: human socialisation is the result of complex interactions and other immeasurable influences that are difficult to reduce to theory. Finally, cities have their own (5) significance: they are a source of comprehension, a means of representation, or a cultural anchor. Because the city is still alive and inhabited by people, it is critical to capture the idea of the city in such a way that the active and social nature of its creation is emphasized. One method investigates the city's socio-cultural or political movements, how they perceive the city through their presence, and how the city writes about it. To achieve urban success, social policies must be conducive to "sustainability." Instability arises when there are social problems, contradictions in urban management, and contradictions in the economy. Several causes of instability can be traced back to the failure of high growth and the resulting inequalities in global capitalism. Politically, as the country's central paradigm, the city had to live in a state of tension between nationalist goals and its autonomy. When nation-building takes precedence, cities become more vulnerable to decisive national and state governments (Schmidt, 1998). On the other hand, globalisation can weaken countries while opening the door to more robust and

autonomous urban agents and institutions. At this point, we can look at a case in which globalisation, urban dynamics, and migration factors all impact Malays in urban Malaysia.

5 Conclusion

In conclusion, colonists attempted to shape urban communities by duplicating their own communities. The sole purpose of a colonial town is to discriminate against Malay culture. Historically, the majority of colonial cities were hospitable to Chinese and Indians. By that time, the Malay population had always lagged behind, despite the government's considerable efforts. The "exploration" cities of colonial Britain reflected their urban culture in order to exploit Malaya's wealth. The majority of cities have two-story shop houses with residential dwellings on the upper floors and commercial spaces on the lower floors. This finding is supported by previous research (Hadi & Idrus, 2014) indicating that the ground floor of shophouses is occupied by grocery stores, wholesale centres, wet markets, transportation service activities, and other businesses catering to the needs of immigrants. Thus, the city represents a symbolic exploitation of progress and modernity that can persuade natives to accept elements of Western culture (Wan Yusoff, 2005). In the Malay settlement, it is not a city designed for the Malay to suit their culture and way of life. It is essential if the village's natural environment is to be preserved in the future. In the process of urbanisation, it is necessary to preserve aspects that contribute to the rural character. In other words, development does not necessarily transform a village into a city and must consider the reaction of the local community.

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ANALYSIS OF PHYSICAL CHARACTERISTICS FROM THE PERSPECTIVE OF ARCHITECTURAL FEATURES IN THE FORMER TIN MINING TOWNS IN LEMBAH KINTA, PERAK TOWARDS FORMULATING CONSERVATION STRATEGIES

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Abstract

The formation of old tin mining towns in Malaysia is closely related to the development of economy activities which shows the mixture of cultural development between races through invention of building, with rich architectural features and its activities representing the historical and cultural value of the place. However, the present condition of the buildings in most of the old tin mining towns are being neglected due to rapid urbanization, uncontrolled urban encroachment which jeoperdized the old towns whilst the social structure and urban distinctiveness become dilapidated. This paper focuses on how the conservation strategies of former tin mining town in Malaysia which could contribute towards safekeeping the Malaysian cultural heritage entity. These exercises could be generated via the study of its physical building characteristics. Pekan Papan, Perak has been chosen as a case study due to its distinctive characteristics as an early tin mining town and its historical significance of Malaysia's economy activities and its relationship to the mixed culture heritage. The research will explore, identify and evaluate the tangible elements by reviewing the definitions and concept of physical characteristic and cultural values from the perspective of architecture towards recognizing the identity of the place by means of qualitative method. The recognition of the distinctive architectural features, and the understanding of the built forms in relation to the local activities will enhance the livelihood and essence of tin mining towns unique characteristics which could be unveiled by people as an essence of heritage, worth to conserve and to regenerate the cultural heritage value.

1.0 INTRODUCTION

The formation of old towns related closely to the development of economic activities which shows the mix cultural development between races and becomes an invaluable cultural heritage entity in the country for people to understand from the cultural and historical essence of place and its people. The heritage entity could be seen through its tangible and intangible factor which formed the cultural identity of the nation. According to Ahmad Basri & Suhana, 2007, from the social cultural aspect, tangible and intangible attributes enable people to sustain an old town's identity. From the perspective of tangible heritage, the evidence of old towns could be seen from the physical aspect of the township which have its own distinctive characteristic and historical significant including of its cultural landscape, architectural buildings and unique urban forms which pertain to a commercial or administrative centre .Obasli (200:13) denotes that urban heritage exist as the physical attributes of building forms, public spaces and urban morphology that experienced by the progenies in present day and creating the heritage for future generations. The uniqueness of the old towns also could be seen from the intangible aspects which play a pivotal role to support cultural values and local community. According to Ahmad Basri, Suhana, (2008), the cultural essence, economy and the way of life could be recognized from the way the local people using it for their daily activities. Ahmad (2006/5:3) also defined culture as a whole complex of district spiritual, intellectual, emotional and natural factors which symbolized a group of society and a way of life which could be accumulated in the physical settings to a social space and attachment. In present, most of these old towns are still exist and have undergone conservation process due to the awareness of its heritage and historical value and its contribution to cultural heritage under the effort of statutory body such as UNESCO, Jabatan Warisan Negara, Tourist Development Centre, local authorities and other NGO. However, the conservation process in some of the old towns especially which consist of simple built forms that do not stand as landmark or structural significant. Most of these buildings were neglected due to rapid urbanization which have altered the genuine identity and the original character of the old towns. As a result, the image of the old towns was jeopardized whilst the social structure and urban distinctiveness became dilapidated.

This research will explore the potential of conserving old town's urban area which have distinctive physical characteristics and historical value in Malaysia as cultural heritage entities. The former tin mining towns in Lembah Kinta, Perak which were built during colonial era has been chosen as case studies due to its distinctive characteristics as early towns in Malaysia and its historical significance of Malaysia's economy activities and

the mix culture heritage attribution on the development of the early towns and community in Malaysia. This research will explore, identify and evaluate the tangible elements in the former tin mining towns by reviewing the definition and concepts of physical characters in attributes to the cultural heritage identity of place. The recognition of heritage entity towards the presence of distinctive elements, from the understanding of the built forms, and its activities will enhance the unique characteristic which could be identifiable, recognized and remembered by people as an essence of heritage which will formulate a conservation strategies and could regenerate the nation cultural heritage identity.

2.0 STUDY OF ARCHITECTURAL FEATURES IN CONSERVATION

Study on architectural features in conservation mostly is related to the distinctive elements and unique characteristic on the intermediate space of building elements which connect to the streets which consists of the building's side, rear and frontage space from detail investigation which include aspects such as character, image, façade, monumental elements and building usage. In Malaysia, increasing number of old buildings that have been restored, reused for various purposes and were listed as National Heritage (Robiah and Ghaffar, 2010). There are always different ways of identifying the significant historic and heritage values that lie on a building. For Nelson (1988), every building portrays its own significant character, especially the shape, craftsmanship, materials, decorative details, interior spaces and features, and surrounding environment. A discussion on the quality of design came later which mentioned that the character of building design depends on the architectural approach that compliments the authenticity and integrity of its historical values. In Malaysia, shophouses are an archetypical characteristic of many early Southeast-Asian towns, amalgamating Southern Chinese shop layouts with European architectural concepts and building standards (Li, 2007). Character-defining elements (CDE) are interpreted as the tangible key features that express the heritage values that lie on a building and these include its unique character, sense of place, and time (Jandl, 1988;). Identifying the character defining elements that make a place significant and the types of significance it conveys is equally important (Azmi et al., 2015). Identifying, preserving, and maintaining these elements seems necessary as the matter of fact that CDE are taken as the consecutive conservation process and any radical actions that may destroy the elements can be avoided (Jandl, 1988)

3.0 RESEARCH METHODOLOGY

The study is focused on the physical characteristics of the towns which consist of the tangible quality in the former tin mining town. The aim of the research is to create strategies for the purpose of urban conservation and to regenerate the interpretation of cultural heritage value. The qualitative method will be used which mainly based on primary and secondary data The primary data will be collected focusing on case study of selective towns by using in depth investigation and observation towards a specific phenomenon setting of the urban structure and architectural features, development

process and relationship to the local cultural activities while the secondary data will be collected from others include reports, journal, articles and book.

There are many researches related to physical characteristic related to urban design and architectural features. The analysis of this research is based on thematic analysis with reference to the observation and cognitive mapping of the design approaches based on the legibility factor. The results are related to urban forms and activities which attributes on the tangible elements, focusing on physical characters and qualities based on the distinctiveness and recognizable elements. through urban structure and the architectural features. The recognizable physical qualities are identified as familiarity; historical significant; nostalgic memory; affinity; special quality of a place; dislikes; and association. The meaning and association experiential qualities will be measured by the vista; the human scale; the activity on the ground level; the mixture of activities; the historical significance; the quality of view from aesthetic appreciation of kinesthetic experience. All these qualities are the factors which contribute to the formulation of urban conservation strategies of the former tin mining towns in Lembah Kinta.

4.0 RESULT AND DISCUSSION

Pekan Papan was chosen as the study area of this research due to its entity as the first center for tin mining in Kinta Valley. It is located next to Batu Gajah and Pusing and once was known as the most developed tin mining town in Perak during British Colonial period. The town consists of varieties of built forms such as houses, school, houses of worships, public buildings, entertainment premises and recreational areas as a result of multi-cultural development. This could be seen from the existing built forms such as shophouses and town houses which were vacated by the Chinese and influenced by Malaysian Chinese and Colonial Architecture. The traditional Malay Architecture could be seen from the built structures in the Malay community area such as Istana Raja Billah, the mosque and the Malay houses. These buildings can be grouped together to form Pekan Papan that reflects the multi-cultural tradition of the local resident and as part of Malaysian architectural identity.

Figure 1 shows view of Pekan Papan in 1890 (Source: Ho Thean Fock)
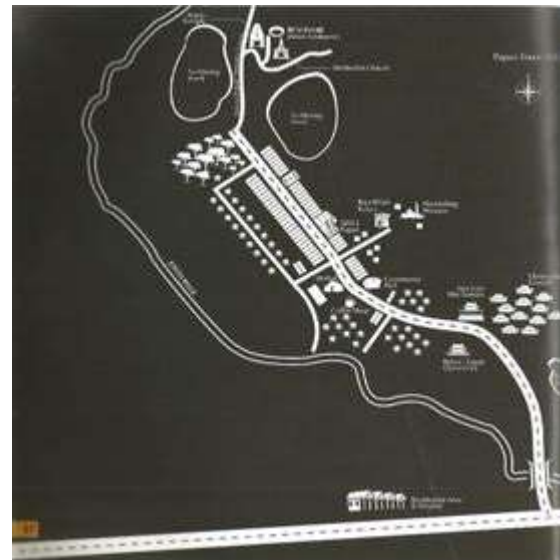
Figure 2   **Figure 3**

Figure 2 & Figure 3. The comparison between Pekan Papan in 1900 and 2011 shows the layout of buildings consists of variety-built forms influenced by mix culture development. In 1900 Pekan Papan consist of varieties of built form including Malay settlement, Strait Eclectic Shophouses, Chinese timber house and admin centre such as prison, police station and horse stable. In 2011 Some landmarks that noted Papan as a developed town such as prison and horse stable have been demolished. (Source: Ho Thean Fok.)

4.1 The Architecture Technology In Papan

In present day, built forms which still exist could be categorized into various architectural type:

No	Built Forms	Architecture Style

1	Malay Settlement - Istana Raja Billah - Masjid Papan - Malay House	- Mendailing Architecture - Eight Side column - Double tier roof - Colonial, Chinese and vernacular essence - Timber construction (pasak)
2	Chinese Settlement - Chinese Shophouse - Chinese timber house - Temple - Mansion and school	- Strait Eclectic - Simple timber construction - Chinese Architecture - Mix Palladian, Malay and Chinese architecture at façade.

Figure 4   **Figure 5**   **Figure 6**

Fig 4-6 shows the Archetype of the Malay settlement, Istana Raja Billah, Papan Mosque and Kampung House. (Source Author)

Figure 7
Figure 8
Figure 9

Figure 10
Figure 11
Figure 12

Figure 7-12 shows the Archetype of Chinese settlement, shophouses, Chinese timber house, School and mansion. (source: Author)

Figure 13
Figure 14
Figure 15

Figure 16
Figure 17
Figure 18

Figure 19
Figure 20
Figure 21

Figure 13 - 20 shows the architectural detail at the buildings in Papan. The fusion of detail could be seen either at Malay or Chinese Architecture. The usage of Tunjuk Langit, Tebar Layar and Papan camtik could be seen at mansion building. Detail of decoration element shows the tulip flower which shows Chinese Essence at Istana Raja Bilah and mix of colonial, Chinese and Malay architecture could be seen at detail design of column and opening at the shophouses. (Source: Author)

Figure 21

Figure 21 shows 7 type of facades identified on the shop houses in Papan, all of which rather typical Chinese, British and local design were combined and the distinct elements could be seen on several elements of the façade such as window grills, air ventilation frame, fascia board and pillars. (Source: JPBD Perak)

From this research, the Architectural features especially at building facade within the built forms helps in creating visual appropriateness and distinctive character in creating the town identity. The differences of building frontage will create variety and redefined the grain. The roofscape, façade treatment and material usage of the existing buildings can be analyzed to identify the harmonic visual experiences by recognizing the sense of rhythm and pattern. The sensitivity to the harmonic relationship which concerns the relationship between the parts and how the material fit together to form a coherent whole that can create a strong identity of places. The visual orientation also can be used in achieving a visual balance of the elements within the buildings. Colours are one of the syntheses of unifying elements that increase the distinctive visual identity. Unity within variety needs to be addressed in identifying the sameness in character. The effect of visual experience of place recognition is very important for identification of an area. A visual stop will be identified within the townscape area by promoting vista on

architectural detailing. The selected building will be the visual stop for cultural, place of worship and community function and these building carry meaning and association to the place. The sense of enclosure of built forms needs to be identify as to enhance the spatial volume which can determine the quality of perspective view of the area. Distinctive streetscapes elements will enhance the deflection effect and increase the imageability of the street.

5.0 CONCLUSIONS

This study is significant as a record and documentation of existing former tin mining towns which have been abandoned as an essence of nation cultural heritage resources. In order to create the awareness, the action through the process of urban conservation are important as strategies to regenerate the former tin mining towns as cultural heritage resources

In present condition these towns are in abandonment in dilapidated condition and might be demolished due to development. Distinctive physical characteristics of the former tin mining towns such as Papan should be understand by the stakeholders as an embodiment of economy and the close social culture in Malaysia. In current condition this street towns remains an interesting small town steeped in history and heritage of the days gone by. The unique of the old town's physical character with its richness of urban and architecture design, related to historical and cultural heritage as resources should be understand by future generations and stakeholders through the awareness from the process of conservation and could contribute as a guidelines for other abandon towns and various sector such as tourism and education

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MOBILITY IN CITIES: THE MALAY SETTLEMENT CHALLENGES

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Abstract

When an anthropologist discusses the concept of change in society, he typically refers to changes that are regarded as profound. The process that brings about the change encompasses a lengthy period of time, which the vast majority of society does not typically recognise. The majority of significant changes are typically caused by cultural contact, particularly the influence of large civilisations on small communities. Recent colonisation and international trade activities have resulted in the convergence of diverse cultures. Typically, these encounters result in the transformation of cultures that are subjugated or controlled in some way. The Malay culture is one example of a society that has undergone such transformations in the last thousand years or more. Malaysian society is a relatively recent historical phenomenon. Several Malay communities along the Kelantan River in Kota Bharu, Kelantan, were chosen for the research. This study's purpose is to examine the effects of the destruction of Malay settlements and the transformation of Malay transportation. A total of 350 respondents were chosen at random and supported by interviews, observation, and visual analysis to generate a discussion of the study. Destruction of Malay settlements and changes in transportation have contributed to the vulnerability of Malay identity in the face of urban experience.

1 Introduction

if a community is a house
I imagine the bricks as all its people,
each shaped uniquely and wedged in differently,
mundane as the sky but it falls and we are all screwed.

Cultural heritage is important in the development of a city, and when well-developed, it can increase the liveability of the surrounding area (Roders & Van Oers, 2011). Malay settlements, which have high historical and cultural value, are extremely crucial in a city. Malay settlements play an important role in shaping the history of a city's existence. As a result, it is important to preserve Malay settlements to preserve Malay culture and heritage and ensure that Malay settlements do not devolve into squatter areas (Musyawaroh et al., 2017). Kota Bharu still has several Malay settlements that currently exist. These settlements underwent physical and non-physical spatial changes over time. Kampung Atas Paloh, located near the Kelantan River, is one of them. Kampung Atas Paloh and its surroundings are one of the urban villages in Kota Bharu with high historical value due to its important role in the 18th and 19th centuries. The Malay settlement served as a hub for global trade in services and logistics. The presence of these centres impacts the development of Malay settlements populated by Malay people. However, as the use of transformation routes shifted to land transportation in the twentieth century, these settlements saw a decline in regional function. Rivers are no longer the primary mode of transportation. This contributed to the transformation of identity and culture in Malay settlements. From time to time, transformation occurs in the economic, political, and social structures and people's lifestyles. Finally, the pace of urbanisation continues to impact the river's function, which has an impact on the Malays' identity in the city.

1.2 Cultural Transformation

The transformation of functions in terms of economic, social, and cultural transformation is one of the impacts of globalisation. From time to time, changes occurred in the Malays' economic, political, and social structures and their way of life. Globalisation is a key term in the process of urban Malay settlement transformation. Globalisation has an impact on a region's environment and culture (Noha, 2014). Globalisation has a significant impact on urban development in various ways. The

current shape and arrangement of the city is a form of gradual transformation from generation to generation, in which inter-generational generations impact physical, political, economic, and social institutions (Thorns, 2002). The existence of settlement transformation is also due to various factors, such as an area's function or value, activities in it, and so on. This process is related to the presence of a tourist attraction and the value of a location's land (Dowall & Treffeisen, 1991). The causes and manifestations of functional transformation in a city or region can vary so widely that they cannot be generalised. Distribution and transformation patterns are difficult to generalise from one city to the next (Fang & Knox, 2015). Since the 18th century, rapid urban transformation has occurred gradually, on a large scale, and with destructive results. On the other hand, it raises serious issues concerning heritage city conservation, particularly in developing countries (Karimi, 2000). This has an impact on the Malays' way of life and culture in the city.

2 Methodology

This paper employed a mixed-method approach that is commonly employed in social research. A case study of a Malay settlement in Kota Bharu clarifies the scenario of the findings as a result of the rapid urbanisation, from which the recommendations and discussions are derived. This area was chosen because it is the oldest settlement in Kota Bharu and is both historically and culturally significant. This region is the birthplace of the metalworking and woodworking skills that became Kelantan's trademark. The primary data was obtained from the 2019 questionnaire administered during fieldwork. Using a random sampling technique, the case study area received the questionnaire. The techniques of direct and participant observation, visual analysis, and interviews were used to gain a better understanding of the environment and culture of the locals, which were heavily influenced by their daily activities. The researcher in the area distributed a total of 350 questionnaires through a variety of methods, including face-to-face interviews, group meetings, and research assistance from the local villagers, all of which impeded access in the region. With the assistance of the Drone Dji Mavic Mini 1 and the area's longitudinal history, the researcher was able to visualise the settlement change, which was then cross-examined with the theory and respondents' interviews.

3 Case Study: Malay Settlement in Kota Bharu, Kelantan

A significant aspect of Kampung Jalan Atas Paloh was the presence of multiple settlement units (Figure 1). The village's name derives from the influence of a particular person or activity that exemplified the greatness of the Malay community. People have a tradition of naming their villages after notable figures. Even though there

are only a few settlements, they report every activity or person in their neighbourhood to the village. Kampung Menuang is one of the surviving communities. The copper industry, which produces pottery and other copper-based products and also includes the production of gold coins known as "ufti" (tribute) for trade with the Siamese Kingdom, employed the majority of residents in these settlements historically.
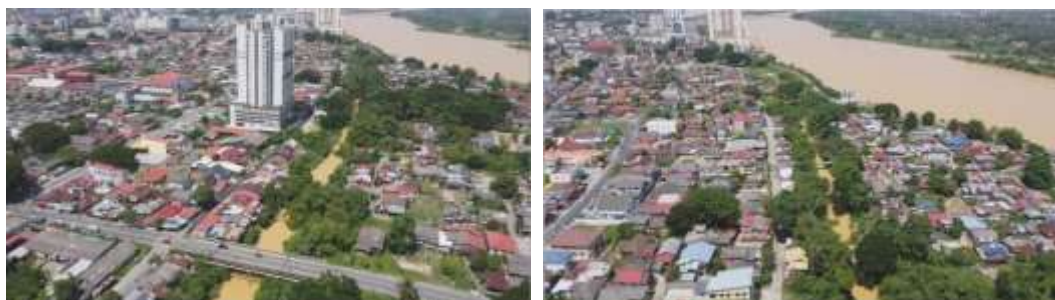
Figure 1: The image of the study area (Source: Abdullah, 2021)

The same situation happens at Kampung Haji Harun, adjacent to Tok Semian Road. Tok Aki Haji Harun, a religious figure in the neighbourhood, is responsible for the existence of this settlement. Consequently, his name has been perpetuated as a village name to honour his leadership. Kampung Haji Harun has long had kinship and strong brotherhood. The rest of the people that live here are connected to each other by blood. Tok Aki Haji Harun, the institution's founder, has invited his relatives to dwell near his family. It is believed that there were only three settlements at the beginning of this village. They even built small bridges, or *"titi,"* in the kitchen area to link one settlement to another because of their close bond. The Council School (Sekolah Majlis), now known as the Muzium Majlis dan Adat Istiadat Agama Islam Kelantan, and the traditional religious institution in Kampung Kubang Pasu, are among the religious institutions and schools at Jalan Post Office Lama that are badly affected by urbanisation.

4 Analysis: The Transportation System

Transportation is a means used by people to move from one place to another. Previously, boats were the main mode of transportation because the Kelantan River is rich in various socio-economic activities. However, after the Industrial Revolution, the use of boats by the Malay people slowly increased. This finding is supported by Table 2, which shows that 208 respondents (59.4%) use cars as transportation to the city. Currently, a car is regarded compulsory for a settlement owner, while 11 respondents (n = 3.1%) use taxis to go to the city.

Table 2: Vehicles to the city (n = 350)

Item	Frequency	Percentage
Boat / *Perahu*	5	1.4
Car	208	59.4
Taxi	11	3.1
Motorcycle	113	32.3
Bicycles	13	3.7
Total	350	100.0

This indicates that automobile use is prevalent in the study area. The primary reasons are that it is quick and safe from a weather perspective. In addition, this vehicle can accommodate a large number of passengers simultaneously. Observations revealed that the majority of Malay individuals owned a vehicle. Cars are now a necessity for settlement residents. It has changed from the previous instance. Nonetheless, their socioeconomic circumstances have not changed.

'...we went to town by car because it was faster and easier to move. There are many more vehicles on the road ...'(R-9).

The city only provides employment opportunities for them. Meanwhile, the level of infrastructure in the city is still at a terrible level. Observations found that the roads and parking lots in the area were also in bad condition. Most vehicles are parked on the side of the road, which will affect others. This situation also shows that urban planning now only focuses on the transportation sector, human lifestyle, and industrial development. But not to urban infrastructure. Although these settlements are located in the city, they do not feel the progress of life in the city because the progress only occurs in the urban economic sector. Therefore, their standard of living has not changed. In addition, their lives will always be stressful, and they will eventually fall into urban poverty.

This finding is consistent with Wahid's (2014) assertion that urban areas are a source of life for individuals with economic and educational capital. It differs for different groups. This group will be compelled to remain a part of the urbanisation process because it is also the epicentre of urban poverty. Formal squatting, or informal human settlement, causes unrest in the economy, the environment, and the health of individuals. These events have become a part of the developing world's urban environment. Thus, the perception of Malay settlement in the city becomes that of a squatter settlement.

4.1 The Change of Transportation

Traditional communities have relied on rivers as a mode of water transportation due to their significance and contribution to human life. The relationship between the city and the river became a factor in the development of Malay settlements. In addition to cities built along rivers, human settlements such as villages were also constructed along rivers and coastlines prior to the arrival of the colonisers (Ibrahim, 2018). In addition to being a natural transportation route, the river has several other advantages. In addition to amassing wealth in Kelantan after their arrival, the colonists also constructed roads. To expedite land communication, roads and vehicles are utilised regardless of their socioeconomic impact on the Malay population. Nowadays, the vast majority of Malay inhabitants reside in communities with cars. They utilise the vehicle to reach their destination.

Table 3: Vehicles that you own (n = 350)

Item	Frequency	Percentage
bicycle	36	10.3
motorcycle	98	28.0
car	211	60.3
others	5	1.4
Total	350	100.0

According to Table 3, the questionnaire results found that n = 211 (60.3%) respondents own a car. However, this does not mean they are comfortable living in the settlement. These findings also show that there are still respondents who use bicycles in daily life. A total of n = 36 (10.3%) only use bicycles as their main transportation. Observations found that this group could not afford a car and would use a taxi to get around. According to an interview with one respondent (R-33), he only uses bicycles and motorcycles to get to city areas. If he wants to go further with his family, a taxi service will be used. This situation indicates that the pace of urbanisation will make a group of minorities continue to lag behind. Although the city is a centre for creating opportunities, there are still people who are left behind. However, because the motivation to live in the city is high, this group tries to adapt to the environment. This finding is supported by the opinion of McGee (1975), stating that most migrants who move from rural to urban areas have the motivation to adapt to urban life. Although lagging in terms of technology, they still try to create opportunities and lives according to circumstances. However, the motivational push factor is an element of the push factor for migrants. It is different from the situation of the residents, the majority of

whom are native residents, who no longer see themselves using motivational factors to get on with life. This condition is a factor of life pressure and the ability to move on with their lives. They are seen to have no opportunity to migrate to other places as this area is a settlement that has been located in the city.

Finally, it appears the majority of the community has a vehicle for the city. The roads built by the colonials have managed to change the Malay community's pattern of life and culture. At the same time, they are seen to have to own a vehicle to go about their daily lives. If they do not have a vehicle, they will be considered left behind in the urban life system. This situation is due to the current urbanisation rate, which is increasing rapidly. It impacts directly on the Malay settlement. Previously, observations found that the formation of settlement concentrations with settlement patterns was along riverbanks. This situation is due to its main factors being geography and rivers.

4.2 The Impact of Transportation on Malay Settlement

Cars are an essential vehicle today. The Malay community no longer uses boats as a mode of transportation, if they did so in the past. The evolution of technology has altered and strained the lives of the community. Typically, the Malay settlement pattern does not include parking space. This circumstance is a result of the utilisation of boats that do not necessitate space in the settlement area. Typically, boats are moored on a nearby river. Now, they face difficulties due to densely populated areas. Due to the limited space, this community is unable to provide sufficient parking. Eventually, the area became congested as the number of cars increased. Consequently, it is determined that this settlement has two effects. The first is that the high-income group has a more comfortable, urbanisation-adapted settlement. The second issue is that the poor reside in slums that lack adequate facilities and a comfortable infrastructure.

Table 4: Vehicle on the settlement (Source: Abdullah, 2021)

	Total number of cars in the house (n = 350)		Total number of motorcycles in the house (n = 350)	
Item	Frequency	Percentage	Frequency	Percentage
1	216	61.7	208	59.4
2	62	17.7	77	22.0
3	26	7.4	12	3.4
4	2	.6	5	1.4
No	44	12.6	48	13.7

Tota l	350	100.0	350	100.0

According to the results of the survey, Table 4 reveals that n = 216 respondents (61.7% of the total) had 1 car per settlement. Among the n = 22 respondents, 12.6% indicated they do not own a vehicle. This demonstrates that the Malay community here relies on automobiles for daily life. Observations revealed that the limited parking space limited the number of cars (Figure 2). This conclusion is supported by Table 4, which reveals that only n = 2 respondents (0.6% of the population) have four cars in the community. As a result of the dense population, parking is seen as a significant issue. This factor is also viewed as limiting the number of cars each family can own. However, other factors, such as family economic factors, must also be taken into account. Even though the majority of the population belongs to the B40 demographic, they still require a car on a daily basis.

Figure 2: Limited parking in settlement areas (Source, Abdullah, 2021)

This finding is supported by Table 5, which shows that n = 140 respondents (40%) parked their cars outside of their settlement compound. Observations found this situation is dangerous for the traffic system due to most cars being parked on the side of the road. The problem of dense settlement areas makes parking spaces unavailable to homeowners. While n = 70 (20.9%) of respondents have a car porch, observations also found that most of the car porches were parked under the houses, as most of the settlements here were built with the silt on the ground. So, the house's ground floor is used for various functions, including parking and as a store.

Table 5: Vehicle storage (n = 350)

Item	Frequency	Percenta ge
Car porch	73	20.9
Under the house	137	39.1
Outside the house compound	140	40.0
Total	350	100.0

Roads and railways were constructed during colonial rule in the 1920s to exploit the economic wealth. The road will link rural and urban areas to improve land traffic flow. Then, settlement development began to concentrate along roads. This observation is supported by the findings of Kiroh and De Silva's study (2018). This circumstance also spurred the development of cities along roadways. Colonial urban planning began to cause difficulties for the Malay settlement. Rivers no longer play a significant role in the location of the city. This incident also occurred after independence. During the NEP, private developers implemented a new urbanisation programme that reoriented the river to face the rear of the house. The front porch is no longer a characteristic of Malay settlements. Almost all newly constructed towns are situated away from the river. After the Industrial Revolution, the river ceased to be the primary mode of transportation, leading to this situation.

Through observation, it is found that roads are now the main access in the study area. It is the result of the colonial planning of Kota Bharu. This finding is supported by Idrus et al. (2011), stating that roads are connected to all major cities even though, after independence, the cities continued to proliferate for economic and development purposes. Therefore, observations found that the role of rivers as communication waterways is declining. The connection between the rivers in the community is slowly disappearing. These findings align with previous studies (Hartanto & Ruly, 2020; Wicaksono, 2018) that posit rivers as no longer a critical element for community development. Observations also found that the settlement is now being built and renovated to no longer have the porch of the settlement facing the river. The settlement pattern has changed and is not as it was at the beginning of the settlement's existence. According to Wahid et al. (2021), the houses were built in line with the porch overlooking the river. Now all those identities have begun to disappear. Figure 3 shows the condition of the unconnected porch and river in the Malay settlement.

Figure 3: The river is no longer be used as a front porch in Malay settlements
(Source: Abdullah, 2021)

5 Discussion

The Industrial Revolution has impacted transportation eras such as trains, cars, and

aeroplanes (Mohajan, 2019 & Peterson, 2008). These changes have created a variety of effects on human settlement. Especially in terms of the history of human settlement and population growth, it has even led to the region's expansion (Doxiadis, 1974). In addition, some of these developments have eliminated the function of the water transport system for the Malays. The transportation system's loss also impacts the Malay expertise in producing boats, economic opportunity, and, more importantly, the place and character of the Malay settlement ecosystem. Life on the river is used as a water source and a source of food, transportation, communication, and cultural formation of the Malay settlement. Life on the river is also the basis for a better experience compared to other areas (Mumford, 1961; Choomgrant & Sukharomana, 2017). With these changes, the chances of improving the lives of Malay people in the city recede, and there is not much effort to restore the function of the river to provide opportunities for the Malay advancement of the Malay in the city. Besides, due to the current trends of urbanisation, distance is one of the factors that causes changes in human thought patterns. The effects of urbanisation can be seen physically and affect the mindset of the people. In current developments, the people here have had the experience of living in an urban system. Over time, they no longer adhere to the culture inherited from generations. The construction of roads by the colonialists is a factor that is able to separate the ideology of traditional thought. Although the distance to the city is close, it has encouraged people to use their vehicles as a means of transportation. The car has become a necessity for everyone. This development will have a significant impact on their settlement. This situation is due to the fact that the infrastructure system is still at a low level in urban areas. Urban areas cannot provide proper facilities for settlements as they do not care about people's comfort. Malay settlements will become like squatter settlements because the government is not able to develop better infrastructure in the future.

6 Conclusion

In conclusion, the relationship between the river and the Malay settlements has direct and substantial effects on the Malay settlement patterns. No longer concerned with the relationship between the river and the river, Malay settlement is no longer a porch overlooking the river. Due to the existence of roads, this change has occurred. In the meantime, the Malay community was required to modify their settlement to include at least one parking area. These alterations have an effect on the increasingly dense pattern of settlement. Each day, the growing population is now accompanied by an increase in the number of vehicles on the road. In the meantime, infrastructure is in poor condition.

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A POST-OCCUPANCY EVALUATION (POE): A CONCEPTUAL INSTRUMENT TO ASSESS MALAYSIAN JUVENILES ON THEIR CORRECTIONAL FACILITIES

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ABSTRACT

Ensuring healthy lives and promoting well-being for all at all ages, is one of the Sustainable Development Goals (SDG) emphasized by the United Nations (SDG 3: Good health and Well-being). Notably, there are groups of children occupying juvenile institutions for remand and rehabilitation purposes which has been less explored by built environment researchers. Within the discourse of health and well-being, it is posited that gauging the juveniles' perceptions and satisfactions during their occupancy period in correctional facilities would be useful as part of Post-Occupancy Evaluation (POE) procedures. By scrutinizing past survey instruments, this paper then adopts and adapts shortlisted items and merges them into an instrument for the aforesaid POE. It is anticipated that the integrated instrument would be useful in facilitating POE within Malaysian juvenile institutions, in which correctional facilities comprised of approved schools and probation hostels.

Keywords: Correctional facilities, health and well-being, juvenile institutions, Post-Occupancy Evaluation (POE), survey instrument.

1. INTRODUCTION

In most environmental research, researchers often pay more attention to common buildings evaluation such as residential, commercial, educational buildings, and so on. Researchers would pay attention in fulfilling end-user satisfaction with their living or working environment in order to create a comfortable space for the occupants. However, in our community, there is a group of children who occupies juvenile institutions for remand and rehabilitation purposes which has been less explored by environmental researcher, especially in Malaysia. Ensuring healthy lives and promoting well-being for all at all ages, is one of the Sustainable Development Goals (SDG) emphasised by the United Nations (SDG 3: Good health and Well-being). This goal proves that the health and well-being of juveniles in juvenile institutions should be addressed despite the fact that juveniles are part of our community. Besides, a study of previous literature reveals scant research on these correctional institutions. It is believed that environmental study on juveniles and their living institutions is close to zero, particularly in Malaysia. Therefore, it is necessary to explore on these correctional facilities from an environmental research point of view.

In Malaysia context, a child below 10 years old cannot commit a crime and the word "child" is defined under our Child Act 2001 as a person below 18 years old while in criminal proceedings, a juvenile is a person aged between 10-17 that attain criminal responsibility following section 82, Penal Code (Child Act (Act 611), 2001). Studies showed that environmental factors are crucial when it concerns a child's health and well-being. Places for them to eat, learn, play and sleep can substantially affect their children from physical health to emotional and mental well-being (How the Environment Affects Your Child's Wellbeing, 2020). Even though juveniles spend their early adulthood in juvenile institutions, it is important to provide them with a healthy living environment to ensure their health and well-being, as they are no different from normal children.

In typical environmental research, post-occupancy Evaluation (POE) is the most significant method used in conducting building evaluation that comprises occupants' satisfaction, building environmental performance, and its economic value (Sanni-Anibire, Hassanain, & Al-Hammad, 2016). Preiser et al. (1988) define Post-Occupancy Evaluation (POE) as "the process of evaluating buildings in a systematic and rigorous manner after they have been built and occupied for some time", which means that occupants' opinions and satisfaction play a role in defining the POE of building performance. In a similar manner, end-users satisfaction, in this case, the juveniles' satisfaction with their living environment, is as vital as the building and environmental performance of the juvenile institution as one's well-being is always preceded by satisfaction. End-users are the least utilised resource in POEs due to their time-consuming nature; nonetheless, occupants' feedback is the most critical aspect in analysing building performance (Alborzfard & Berardi, 2013).

However, in Malaysia, there are no designated survey instruments that specifically gauge juveniles' perceptions and satisfactions during their occupancy period in these correctional facilities even though occupants' satisfaction is important while conducting POE. Thus, in this paper, the researcher will be scrutinising past survey instruments, adopts and adapts shortlisted items, and merges them into an instrument for the aforesaid POE. It is anticipated that the integrated instrument would be useful in facilitating POE within Malaysian juvenile institutions, in which correctional facilities comprised of approved schools and probation hostels.

2. METHODOLOGY
2.1 POE SURVEY INSTRUMENT SELECTION
In order to bridge the gap between existing POE survey instrument and juvenile institutions, end-users' perceptions and satisfaction were focused upon while developing the conceptual POE survey instrument. This is because the end-users' satisfaction is the aspect where juveniles directly come across the building performance of these correctional facilities and are able to give precise feedback. Thus, the methodology used for the selection of the POE survey instrument for juvenile institutions encompassed a literature review of widely adopted scale and published scientific papers concerning end-users' well-being and their satisfaction with the living environment.

The research areas of the pieces of literature selected are mainly focusing on the general application of POEs in multiple buildings encompassing jails, prisons, student housings, Malaysian government and public buildings, and as well social rehabilitation-related instruments. The research area of literature incorporates environmental, social, and well-being factors in an effort to develop a more comprehensive POE survey instrument for juvenile institutions in Malaysia.

In short, 3 steps of instrument selection procedures have been carried out for the development of this conceptual POE survey instrument:

i.   Identification: A collection of papers from general topics that contains identified keywords such as jails, prison, POE, students, etc.
ii.   Shortlisting: A shortlisted survey instrument based on identified criteria such as journal type, publishing year, etc.
iii. Contextualising: Refinement of selected instruments through member checking by the professionals accordingly to Malaysian Juvenile Institutions' context.

2.1.1 POE SURVEY INSTRUMENT IDENTIFICATION AND COLLECTION

The majority of the scale and instrument collection comes from esteemed journals on Google Scholar, Scopus, Sage Journals, SpringerLink and other renowned sites. Keywords such as "Post-occupancy Evaluation", "Well-being", "Building performance", "Users satisfaction", "Indoor Environmental Quality", "Health", "Medical", "Nursing" and other similar search terms are being searched to obtain as many related published scientific publications as possible in general. Besides, the researcher also pays extra attention in searching for articles in Malaysian settings as this conceptual POE survey instrument is designated for Malaysian correctional institutions.

Through a massive collection of papers across renowned sites, over 30 papers were being identified have potential characteristics for the conceptual POE survey instruments generally.

2.1.2 SHORTLISTING OF POE SURVEY INSTRUMENT

In order to standardise the instruments, the researcher selects and shortlists suitable instruments that meet the criteria such as year of publication, journal type, data collection approach, as well as making sure it is suitable for the Malaysian context.

First of all, the researcher only focuses on qualitative data collection approaches, namely Likert scale questions while selecting the associated instruments. The survey instruments collected are focused on key stakeholders' points of view, in this case, it will be targeting the occupants' feedback. Occupant feedback provides more valuable information on human interaction with juvenile institutions and hence, a more comprehensive survey instrument will be developed to better comprehend the juveniles' perceptions, satisfaction, and well-being during their remand and rehabilitation period in Malaysian juvenile institutions.

In addition, even though older paper provides more comprehensive POE instruments, the researcher excludes papers dated more than 15 years to ensure the instruments are relevant

to the current context. Besides, all the publications selected are Scopus-indexed and above to make sure the instruments shortlisted are impactful and influential.

The collected papers will then be shortlisted and scrutinised by merging them into a conceptual POE survey instrument to be sent for member checking by professionals that would be useful in facilitating POE within Malaysian juvenile institutions.

2.1.3 CONTEXTUALISING OF POE SURVEY INSTRUMENTS FRAMEWORK

In order to contextualising the shortlisted instruments into a POE survey instrument that could cater to Malaysian juvenile institutions' context, a member checking approach will be carried out to alter and refine the instruments adopted. Member checking is one of the validation techniques in conducting qualitative research (Birt, Scott, Cavers, Campbell, & Walter, 2016).

In this case, a total of 3 experts and professionals are involved in the member-checking process. Table 2.1 describe the participants involved in the member checking session.

Table 2.1: Participants involved for member checking

Participant	Areas of Expertise	Affiliation
P1	Data visualisation and quantitative approach expert	Universiti Sains Malaysia (USM)
P2	Statistical method expert	Gombe State University, Nigeria
P3	Building evaluation and conservation expert	Universiti Sains Malaysia (USM)

During the member checking process, questions that are not relevant to the Malaysian juvenile institutions' context will be removed and suitable replacement and refinement of word usage will be installed accordingly.

3. RESULTS

After rounds of review of published studies and shortlisting procedures, the researcher has identified 5 survey instruments from 4 publications that are suitable and potential to be scrutinised in the conceptual POE survey instrument framework. The 5 shortlisted instruments adopted from existing literature are as below:

A. The Building Wellbeing Scale
B. Interaction between inmates and prison staff (IIPS index) and Prison environment and its repercussions in social rehabilitation (PERS index)
C. Satisfaction of Technical & Functional Elements of Performance for Student Housing
D. Occupants' Satisfaction on Building Performance of Malaysia Public and Government Buildings

The significance of the literature and surveys will be elaborated upon in the subsequent section.

A. The Building Wellbeing Scale

In recent years, well-being is gaining ground and slowly emerging to be a commercial priority in sustainable design and construction in the built environment (Jones & Grigoriou, 2014).

Increased well-being correlates with higher productivity and physical health (Alker , Malanca, Pottage, & O'Brien, 2014). The term "well-being" is being used wider in the built environment field in recent years where the literature that investigates well-being in the built environment can be divided into two scales: i. Research at urban planning scale; ii. Research at a post-occupancy building scale (Watson, 2018). Typically, wellbeing is equated with health, typically mental health and perhaps less frequently physical health.

The Building Wellbeing Scale (Appendix 1) proposed by Watson (2018) emphasises user-centered environmental design. It is a quantitative measurement well-being valuation approach that employs The Warwick-Edinburgh Mental Wellbeing Scale and The Questionnaire for Eudaimonic Wellbeing. Selected elements from these two scales are then put together to form The Building Wellbeing Scale to measure and quantify the well-being outcomes experienced by building users. According to Watson, it is a linkage between increased well-being to an increase in productivity or performance.

B. Interaction between inmates and prison staff (IIPS index) and Prison environment and its repercussions in social rehabilitation (PERS index)

Barquín et al., (2019) suggested in the paper that "quality of prison life" has gained ground in prison environment studies in Spain in recent years. They contend that the primary objective of prisoner treatment should be their social reintegration into society instead of focusing on other fields such as the cause of crime, the offender and etc. Thus, the team has conducted research that is solely focused on the prisoners themselves, to better understand the prisoners' perceptions of prison conditions and their well-being during their rehabilitation process.

Barquín et al., (2019) developed two indexes namely the Interaction between inmates and prison staff (IIPS index – 9 items) (Appendix 2.1) and the Prison environment and its repercussions in social rehabilitation (PERS index – 8 items) (Appendix 2.2) from the Measuring the Quality Prison Life (MQPL) Questionnaire. These indexes are designed to be used able to detect the quality of prison life and are intended to be used to analyse the effectiveness of prison treatment to reintegration into society programme. The main purpose of carrying out the study is to evaluate whether the most fundamental objectives — reeducation and social rehabilitation—are met in accordance with the Spanish Constitution.

C. Satisfaction of Technical & Functional Elements of Performance for Student Housing

Due to the lack of a comprehensive campus housing system, Hassanain (2008) conducted a Post-occupancy Evaluation (POE) for student housing facilities at the campus of King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia. He believes that POE is a versatile tool to provide users feedback on the design and operation of a building.

In addition, Hassanain (2008) stated that student performance may be enhanced by providing them with sustainable campus housing facilities. By concerning the occupants' satisfaction, in this case, the campus students, he carried out two steps of data collection:

1. Analysis of past maintenance work orders: Analyse archival documents pertaining to the maintenance of the student housing facilities.
2. User satisfactory survey: Obtain qualitative input from students regarding their living experience in the student housing facilities supplied.

For the user satisfaction survey (Appendix 3), he has proposed two major POE elements of building performance through a review of literature; technical and functional elements (Preiser, White, & Rabinowitz, 1988) where technical building performance elements are sensible, tangible, measurable elements that ensure occupants' comfort, for e.g.: thermal comfort, acoustic, visual, indoor air quality, fire safety while functional building performance elements deal with the efficiency of the designed and installed features available within a building, for e.g.: interior and exterior finishes, room layout, support services, circulation and proximity to other facilities. Occupants' satisfaction is the utmost important source of information on a building's performance.

According to him, this methodology will be a resourceful approach for evaluating the primary performance requirements of current student housing facilities as it quantifies the building performance features and provides design professionals with easy feedback.

D. Occupants' Satisfaction on Building Performance of Malaysia Public and Government Buildings

In Malaysia, government and public buildings lack POE practice guidelines (Nawawi & Khalil, 2008). Nawawi & Khalil (2008) opine that POE is necessary for investigating the sustainability of government and public buildings. The most vital target of a sustainable building is that it meets the needs of its end-users, hence occupant satisfaction was utilised as a standard in his research for conducting POE.

Nawawi & Khalil (2008) proposed a POE guideline that analyses the performance of government and public buildings in Malaysia, determines the level of occupant satisfaction, and concludes that building performance is highly correlated with the occupants' satisfaction. In his study, he concludes that the proposed POE guideline is effective, relevant, and useful for evaluating the performance of the Malaysian government and public buildings by the public sector (Appendix 4).

4. DISCUSSIONS

A series of POE survey instruments were selected based on the review of several published studies addressed previously. The researcher then adopts and adapts shortlisted items and merges them into an instrument by scrutinising these past survey instruments for the aforementioned POE for the juvenile institutions in Malaysia. Adopting is to accept an instrument almost unchanged, whereas adapting means modifying the instrument accordingly (A. Korb, 2012). In this case, the selected POE survey instruments will undergo member checking by experts and minor alterations to meet the notion of juvenile institutions in Malaysia.

A. The Building Wellbeing Scale

The Building Wellbeing Scale is developed by Watson (2018), Validity evidence was provided by her in her paper using the SROI methodology. The purpose of this scale is to determine the well-being of end-users in order to acquire new knowledge about a building's performance and experience, hence boosting practitioners' ability to positively influence the built environment.

The Building Wellbeing Scale was only slightly modified to fit the Malaysian juvenile institutions' context. All factors were identical to the original Building Wellbeing Scale

instrument except for two. Watson identified some well-being behaviour such as "I feel empowered when I'm in this building" and "I feel successful when I'm in this building." These were judged as not applicable to Malaysian juveniles as they are underage and still under surveillance. Furthermore, negative questions were added to the instrument to determine whether the well-being will affect the juvenile psychologically such as "I feel irritable when I'm in this building," "I feel nervous when I'm in this building," and "I feel distressed when I'm in this building." (Table 4.1).

Table 4.1: The Building Wellbeing scale (Malaysian Juvenile Institution version)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I feel optimistic when I'm in this building					
I have purpose when I'm in this building					
I feel rewarded when I'm in this building					
I feel at ease when I'm in this building					
I feel interested in other people when I'm in this building					
I can be myself when I'm in this building					
I feel worthwhile when I'm in this building					
I deal with problems well when I'm in this building					
I think clearly when I'm in this building					
I feel inspired when I'm in this building					
I feel useful when I'm in this building					
I feel close to other people when I'm in this building					
I feel fulfilled when I'm in this building					
I can make up my own mind about things when I'm in this building					
I feel valued when I'm in this building					
I can apply myself to what I'm doing when I'm in this building					

I feel joyful when I'm in this building					
I feel in control of my own decisions when I'm in this building					
I feel energised when I'm in this building					
I feel at my best when I'm in this building					
I feel irritable when I'm in this building					
I feel nervous when I'm in this building					
I feel distressed when I'm in this building					

B. Interaction between inmates and prison staff (IIPS index) and Prison environment and its repercussions in social rehabilitation (PERS index)

The IIPS index and PERS index is developed by Barquín et al., (2019), and created through the Measuring the Quality of Prison Life (MQPL) Questionnaire. Validity evidence was provided in the paper as the MQPL survey developed by Alison Liebling has been validated by many authors. For instance, Harding validated the instrument through successive investigations (Harding, 2014). The purpose of the IIPS index is to comprehend the interaction between inmates and prison staff while the PERS index is to comprehend the prison environment with the social rehabilitation process.

In developing the conceptual POE survey instrument focusing on the occupants' satisfaction, only the PERS index was selected to be adapted into this framework as the IIPS index measures the relationship between prison staff and inmates, whereas the PERS index focuses primarily on the inmates-environment relationship. PERS index suits the objective of this paper better.

The PERS index was only slightly modified to fit the Malaysian juvenile institutions' context. All factors were identical to the original PERS index instrument except for replacing all the "prisons" with "juvenile institutions," "prisoners," and "inmates" with "juveniles," and "drug problems" with "various problems." Additionally, an environmental-wellbeing question was added to the instrument to better understand juveniles' perceptions of juvenile institutions which is "The environment of the institution is good for transforming to be a better person." (Table 4.2).

Table 4.2: Prison environment and its repercussions in social rehabilitation (PERS index)

(Malaysian Juvenile Institution version)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
When I first came into this juvenile, I felt looked after					
I am being helped to lead a law-abiding life on release in the community					
My needs are being addressed in this juvenile institution					
The rules and regulations in this juvenile institution are made clear to me					
I am given adequate opportunities to keep myself clean and decent					
This juvenile institution is good at improving the wellbeing of juveniles who have various problems					
My legal rights as a juvenile are respected in this juvenile institution					
The regime in this juvenile institution is constructive					
The environment of the institution is good for transforming to be a better person.					

C. Satisfaction of Technical & Functional Elements of Performance for Student Housing
This user satisfaction survey on technical and functional elements of student housing is developed by Hassanain (2008) through categorisation characteristics suggested by Preiser (1988). The purpose of this survey form is to obtain qualitative input from students regarding their living experience in the student housing facilities supplied.

The user satisfaction survey was only slightly modified to fit the Malaysian juvenile institutions' context. All factors were identical to the original survey instrument except for two. Hassanain identified some of the elements such as "Conversation privacy at the room relative to other rooms" and "Flexibility of IT connection points." These elements were judged as not applicable to Malaysian juvenile institutions as juveniles do not have their own room and have

no access to the internet in the institutions. Besides, wording replacement is also done to suit the notion of Malaysia, such as replacing "summer" and "winter" with "daytime" and "nighttime" as Malaysia has no four seasons; "air-conditioning system" with "mechanical ventilation-fans" because there is no air-conditioning system in their dormitories; "campus" with "institution," and "campus restaurant" with "other important facilities." (Table 4.3).

Table 4.3: Satisfaction of Technical & Functional Elements of Performance for Juvenile Institutions

(Malaysian Juvenile Institution version)

Technical elements of performance				
	Strongly agree	**Agree**	**Disagree**	**Strongly Disagree**
1. Thermal comfort				
1. Room temperature during daytime				
2. Room temperature during nighttime				
3. Overall perception of the thermal environment in the building				
2. Acoustical comfort				
5. Level of noise generated from the mechanical ventilation (fans)				
6. Level of noise generated from the lighting fixtures in the room				
7. Level of noise generated from outside the room				
8. Overall perception of the acoustical environment in the room				
3. Visual comfort				
9. Adequacy of natural lighting reaching the room				
10. Adequacy of artificial lighting above study-living areas				
11. Control of artificial lighting levels in the room				
12. Adequacy of lighting levels in the corridors of the building				
13. Overall perception of the quality of lighting in the building				
4. Indoor Air Quality				
14. Quality of air inside the room				

15. Quality of air throughout the corridors				
16. Control of mechanical ventilation levels in the room				
17. Control of natural ventilation by means of opening windows				
18. Overall perception of the quality of indoor air in the building				
5. Fire safety				
19. Ease to identify emergency exits to occupants and visitors				
20. Ease of exiting the building in cases of fire emergencies				
21. Ease to identify and reach fire alarm systems				
22. Quality and perception of fire safety systems in the building				
Functional elements of performance				
6. Interior and exterior finish systems				
23. Quality and presentation of the interior finishes of the room				
24. Quality and ease of use of doors and windows in the room				
25. Quality and presentation of finishes in common spaces				
26. Quality and presentation of building finishes				
7. Room layout and furniture quality				
27. Amount of living-study space in the room				
28. Type of chair where you sit				
29. Type and size of desk where you study				
30. Type of bed where you sleep				
31. Capacity of wardrobe				
32. Furniture arrangement in the room				
33. Adequacy of personal storage space in the room				
34. Colour of furniture and surface finishes in the room				
35 Overall perception of the quality of furniture in the room				

8. Support services				
36. Adequacy of washroom facilities for occupants				
37. Cleanliness and trash removal on your floor or building				
38. Stability of power supply to the building				
39. Adequacy of power sockets required for equipment				
41. Adequacy of circulation routes around the building				
9. Efficiency of circulation				
42. Arrangement of rooms in each level in the building				
43. Width of corridors for circulation inside the building				
44. Location and number of stairs in the building				
45. Ease by which visitors can locate rooms in the building				
10. Proximity to other facilities on institution				
46. Position of the building relative to learning facilities				
47. Position of the building relative to sports facilities				
48. Position of the building relative to other important facilities in the institution				

D. Occupants' Satisfaction on Building Performance of Malaysia Public and Government Buildings

This occupants' satisfaction survey is developed to focus mainly on Malaysian public and government buildings (Nawawi & Khalil, 2008). This survey is compatible with Malaysian juvenile institutions as they are recognised as Malaysian government-owned public buildings under the Malaysia Social Welfare Department. Validity evidence was provided by Nawawi & Khalil in the results of their paper. The purpose of this occupants' satisfaction survey is that Nawawi & Khalil believe that POE on Malaysian government and public buildings is necessary, and occupants' satisfaction is the utmost aspect, and have to quantify the living experience of the occupants within a building.

. The occupants' satisfaction survey was only slightly modified to fit the Malaysian juvenile institutions' context. All factors were identical to the original survey instrument except for one. Nawawi & Khalil included a question with the identified element in common Malaysian public buildings which is "How satisfied are you with the lift/escalators system?" This factor was judged as not applicable to Malaysian juvenile institutions as juvenile institutions are not provided with lifts and escalators. Moreover, "air-conditioning" was replaced by "fans" because there is no air-conditioning system in juveniles' dormitories. (Table 4.4).

Table 4.4: Occupants' Satisfaction on Building Performance of Malaysia Public and Government Buildings

(Malaysian Juvenile Institution version)

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied
Q1—How satisfied are you with the finishes of the floor (its aesthetics, durability, suitability)?					
Q2 —How satisfied are you with the finishes of the wall (its aesthetics, durability, suitability)?					
Q3 —How satisfied are you with the finishes of the ceiling (its aesthetics, durability, suitability)?					
Q4 —How satisfied are you with the provision of door (its aesthetics, durability, suitability)?					
Q5 —How satisfied are you with the provision of window (its aesthetics, durability, suitability)?					
Q6 —How satisfied are you with the provision of staircase (its aesthetics, suitability)?					
Q7 —How satisfied are you with the finishes of the roof (its aesthetics, suitability)?					

Q8 —How satisfied are you with the overall quality of finishes in this building?					
Q9 —How satisfied are you with the overall quality of structure in this building?					
Q10 —How satisfied are you with the physical maintenance in this building?					
Q11 —How satisfied are you with the safety and security in this building?					
Q12 —How satisfied are you with the level of cleanliness in this building?					
Q13 —How satisfied are you with the quality of lightings (natural and artificial) in this building?					
Q14 —How satisfied are you with the cooling system (fans) in this building?					
Q15 —How satisfied are you with indoor and outdoor landscape in this building?					
Q17 —How satisfied are you with quality of electrical and mechanical fittings in this building?					
Q18 —How satisfied are you with the water and plumbing services in this building?					
Q19 —How satisfied are you with the noise pollution or vibration? (eg: traffic, mechanical systems)					

5. CONCLUSIONS

It is critical that environmental researchers have not been paying sufficient attention in equipping themselves with the knowledge to promote Malaysian juvenile institutions for the

sake of juveniles' health and well-being. The POE assessments of many published papers are focusing on residential, commercial, educational, etc. buildings but do not mandate juvenile institutions. Juvenile institutions are in a unique position where it serves few purposes for the juveniles such as rehabilitation purpose, educational purpose, etc.

The lack of attention to correctional facilities from environmental researchers has inhibited the POE practices in Malaysian juvenile institutions. However, POE review is the key to enhancing the "status quo" of an existing building. Studies indicate that the fundamental to a POE evaluation process are the satisfaction, perceptions, and well-being of occupants and end-users within a building. Therefore, in Malaysian juvenile institutions' context, juveniles' well-being and opinions should be used as a benchmark while carrying out POE in their schools.

POE is a powerful approach for building performance evaluation. The chosen conceptual POE survey instrument for juveniles presented in this paper creates a basic yet comprehensive framework that is straightforward to conduct, collect and analyse. This conceptual POE survey instrument adopts and adapts suitable instruments for occupants and merges them into an instrument for Malaysian juvenile institutions' context. It is beneficial in gauging the juveniles' perceptions and satisfactions during their occupancy period in correctional facilities and believed that it would be useful as a part of POE procedures in the future.

Data collected through this proposed conceptual POE survey instrument can be further used to inform the Malaysian juvenile institutions' design as well as enhance the current setting of the juveniles' dormitories. The research result presented in this paper is applicable to all the juvenile institutions in Malaysia, to assess the juveniles' well-being during their rehabilitation process in correctional facilities.

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APPENDICES

The Building wellbeing scale					
Please answer based on your experience of spending time in this building					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I feel optimistic when I'm in this building	-2	-1	0	+1	+2
I have purpose when I'm in this building	-2	-1	0	+1	+2
I feel rewarded when I'm in this building	-2	-1	0	+1	+2
I feel at ease when I'm in this building	-2	-1	0	+1	+2
I feel interested in other people when I'm in this building	-2	-1	0	+1	+2
I can be myself when I'm in this building	-2	-1	0	+1	+2
I feel worthwhile when I'm in this building	-2	-1	0	+1	+2
I deal with problems well when I'm in this building	-2	-1	0	+1	+2
I feel empowered when I'm in this building	-2	-1	0	+1	+2
I think clearly when I'm in this building	-2	-1	0	+1	+2
I feel inspired when I'm in this building	-2	-1	0	+1	+2
I feel useful when I'm in this building	-2	-1	0	+1	+2
I feel close to other people when I'm in this building	-2	-1	0	+1	+2
I feel successful when I'm in this building	-2	-1	0	+1	+2
I feel fulfilled when I'm in this building	-2	-1	0	+1	+2
I can make up my own mind about things when I'm in this building	-2	-1	0	+1	+2
I feel valued when I'm in this building	-2	-1	0	+1	+2
I can apply myself to what I'm doing when I'm in this building	-2	-1	0	+1	+2
I feel joyful when I'm in this building	-2	-1	0	+1	+2
I feel in control of my own decisions when I'm in this building	-2	-1	0	+1	+2
I feel energised when I'm in this building	-2	-1	0	+1	+2
I feel at my best when I'm in this building	-2	-1	0	+1	+2

Appendix 1: The Building Wellbeing scale, current version. Copyright 2017 Kelly J. Watson. All Rights Reserved.

(Source: Watson, 2018)

Appendix 2.1: Interaction between inmates and prison staff (IIPS index)

(Source: Barquin et al., 2019)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Relationships between staff and prisoners in this prison are good					
I receive support from staff in this prison when I need it					
Staff here treat prisoners fairly when applying the rules					
Staff here treat prisoners fairly when distributing privileges					
I trust the officers in this prison					
I am treated as a human being in this prison					

Staff in this prison "tell it like it is"					
Staff here treat me with kindness					
I feel that I am treated with respect by staff in this prison					

Appendix 2.2: Prison environment and its repercussions in social rehabilitation (PERS index)

(Source: Barquin et al., 2019)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
When I first came in to this prison, I felt looked after					
I am being helped to lead a law-abiding life on release in the community					
My needs are being addressed in this prison					
The rules and regulations in this prison are made clear to me					
I am given adequate opportunities to keep myself clean and decent					
This prison is good at improving the well-being of prisoners who have drug problems					
My legal rights as a prisoner are respected in this prison					
The regime in this prison is constructive					

Appendix 3: Satisfaction of Technical & Functional Elements of Performance for Student Housing

(Source: Hassanain, 2008)

Technical elements of performance				
	Strongly agree	Agree	Disagree	Strongly Disagree
1. Thermal comfort				
1. Room temperature during summer				
2. Room temperature during winter				
3. Overall perception of the thermal environment in the building				
2. Acoustical comfort				
4. Conversation privacy at the room relative to other rooms				
5. Level of noise generated from the air conditioning system				
6. Level of noise generated from the lighting fixtures in the room				
7. Level of noise generated from outside the room				
8. Overall perception of the acoustical environment in the room				
3. Visual comfort				
9. Adequacy of natural lighting reaching the room				

10. Adequacy of artificial lighting above study-living areas				
11. Control of artificial lighting levels in the room				
12. Adequacy of lighting levels in the corridors of the building				
13. Overall perception of the quality of lighting in the building				
4. Indoor Air Quality				
14. Quality of air inside the room				
15. Quality of air throughout the corridors				
16. Control of mechanical ventilation levels in the room				
17. Control of natural ventilation by means of opening windows				
18. Overall perception of the quality of indoor air in the building				
5. Fire safety				
19. Ease to identify emergency exits to occupants and visitors				
20. Ease of exiting the building in cases of fire emergencies				
21. Ease to identify and reach fire alarm systems				
22. Quality and perception of fire safety systems in the building				
Functional elements of performance				
6. Interior and exterior finish systems				
23. Quality and presentation of the interior finishes of the room				
24. Quality and ease of use of doors and windows in the room				
25. Quality and presentation of finishes in common spaces				
26. Quality and presentation of building finishes				
7. Room layout and furniture quality				
27. Amount of living-study space in the room				
28. Type of chair where you sit				
29. Type and size of desk where you study				
30. Type of bed where you sleep				
31. Capacity of wardrobe				
32. Furniture arrangement in the room				
33. Adequacy of personal storage space in the room				
34. Colour of furniture and surface finishes in the room				
35 Overall perception of the quality of furniture in the room				
8. Support services				
36. Adequacy of washroom facilities for occupants and visitors				
37. Cleanliness and trash removal on your floor or building				

38. Stability of power supply to the building				
39. Adequacy of power sockets required for equipment				
40. Flexibility of IT connection points				
41. Adequacy of circulation routes around the building				
9. Efficiency of circulation				
42. Arrangement of rooms in each level in the building				
43. Width of corridors for circulation inside the building				
44. Location and number of stairs in the building				
45. Ease by which visitors can locate rooms in the building				
10. Proximity to other facilities on campus				
46. Position of the building relative to campus restaurant				
47. Position of the building relative to academic facilities				
48. Position of the building relative to sports facilities				

Appendix 4: Occupants' Satisfaction on Building Performance of Malaysia Public and Government Buildings

(Source: Nawawi & Khalil, 2008)

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied
Q1—How satisfied are you with the finishes of the floor (its aesthetics, durability, suitability)?					
Q2 —How satisfied are you with the finishes of the wall (its aesthetics, durability, suitability)?					
Q3 —How satisfied are you with the finishes of the ceiling (its aesthetics, durability, suitability)?					
Q4 —How satisfied are you with the provision of door (its aesthetics, durability, suitability)?					
Q5 —How satisfied are you with the provision of window (its aesthetics, durability, suitability)?					
Q6 —How satisfied are you with the provision of staircase (its aesthetics, suitability)?					
Q7 —How satisfied are you with the finishes of the roof (its aesthetics, suitability)?					
Q8 —How satisfied are you with the overall quality of finishes in this building?					
Q9 —How satisfied are you with the overall quality of structure in this building?					
Q10 —How satisfied are you with the physical maintenance in this building?					
Q11 —How satisfied are you with the safety and security in this building?					

Q12 —How satisfied are you with the level of cleanliness in this building?					
Q13 —How satisfied are you with the quality of lightings (natural and artificial) in this building?					
Q14 —How satisfied are you with the cooling system (air-conditioning) in this building?					
Q15 —How satisfied are you with indoor and outdoor landscape in this building?					
Q16 —How satisfied are you with the lift/escalators system?					
Q17 —How satisfied are you with quality of electrical and mechanical fittings in this building?					
Q18 —How satisfied are you with the water and plumbing services in this building?					
Q19 —How satisfied are you with the noise pollution or vibration? (eg: traffic, mechanical systems)					

THE DETERMINATION OF SYMBOLISM IN WOODCARVING AT ISTANA BALAI BESAR, KELANTAN

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Abstract

Wood carving is an art that has not been influenced by any other elements and blended with the Malay community especially in the Malay Peninsula to southern province of Thailand with no architectural elements. Back to olden days, carving activity is considered as part-time because it is solely done for the appliances of the dwellings themselves and it is also as one hobby during leisure. Existing research carried out by previous researcher generally explained on the function of this woodcarving art. Therefore, this study was conducted with the primary sole to discover the determination of symbolism in woodcarving at Istana Balai Besar Kelantan and whether it is designed to follow function or the other way round. A qualitative research approach was applied in collecting data through an analytical review from secondary data from existing journal, books and various sources besides conduct an interviews with previous local woodcarvers. The findings reveals that woodcarving at Istana Balai Besar was designed as malay ornamentation, for ventilation, highlight the social status and aethetics purpose.

Keywords: (Woodcarving, symbolism, Istana Balai Besar, heritage)

1 INTRODUCTION

Most Malay kings, their families, and chieftains lived in carved timber palaces or residences during the period of traditional Malay kingdoms. Craft, particularly carving, was used as a symbol in administration by the palace and aristocracy (Farish A. Noor & Eddin Khoo, 2003). Malay sculptors have traditionally created products for specific purposes, such as traditional musical instruments, boat heads, weapons, furniture, traditional transportation, and carpentry tools.

This type of traditional art was regarded as one hobby during leisure and sometimes to fulfil their home appliance and dwellings like kukuran, use to grating or scraping the coconut. Nevertheless, Wood carvings in Malays' homes are usually not as beautiful or as large as those found in the Malay nobles' royal palace. Carvings for the palace

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typically emphasised a number of factors, including aesthetics and meaning. Aesthetically, the art of carving has traditionally emphasised the artistic value and status symbols of the palace, whereas in terms of meaning, emphasis is placed on the obvious and hidden significance in the wood carving being done. (Haziyah, 2012). As stated by Muhaimin (2022) during personal interview, each aristocracy had its own skilled sculptor at the time.

The beautiful carvings produced at the palace are associated with the status symbol of an administration and indirectly had accorded recognition to the art of traditional Malay woodcarving under this system (Abd.Halim Nasir, 1987) in (Haziyah et al, 2012). The motifs and patterns expressly chosen for the palace had their own importance and philosophy that distinguished the ruling class from the common people. Abdul Halim Nasir, (1897) once stated that in the exquisite architecture of Sultan Mansor Shah (1459-1477) of Melaka's palace is described in *Sejarah Melayu* (Malay Annals) written by Tun Seri Lanang in the early 17th century. The palace was claimed to have been embellished with many exquisite carvings on its walls, *rembat* (apron rail), *bendul* (threshold), doors, windows, stairs, and so on, in addition to its magnificent and unique architecture. As a result, the palace became known as Istana Hawa Nafsu (Palace of Passion), and *Sejarah Melayu* suggests that it was the most magnificently carved palace in the entire region at the time. Research had been conducted to study on application of woodcarving at Istana Balai Besar with the primary sole to figure out the determination of symbolism in woodcarving at Istana Balai Besar, Kelantan.

2 LITERATURE REVIEW

2.1 Istana Balai Besar

Istana Balai Besar was built with 175 000 square foot around the year 1844 (1261 Hijri) by the late Sultan Muhammad II to replace *Istana Kota Lama*, the previous central government building of Kelantan that was in *Gunung* and frequently collapsed due to the seasonal floods. This factor drove the decision made by Sultan Muhammad II to erect a new palace. The second factor that caused the relocation was that Sultan Muhammad II needed a sturdier fort as there was an ongoing war between him and Long Jenal, his biological royal uncle. The location of the palace is picked based on its accessibility at the time as it was neither too far nor too near the river of Kelantan where traders used to do their business and also due to the belief that the nearby Calumpang tree was magical whereby when a Calumpang tree produces flowers, it will prevent flooding to the surrounding area.

Istana Balai Besar is a typical Malay palace made of wood with intricate carvings that enhance outstanding craftsmanship. The *Balairung Seri* at *Istana Balai Besar* was chosen as a research focus area because, in comparison to other areas in the palace, this space featured numerous forms of carving that represent great craftsmanship. Floral carvings, calligraphy, geometry, fauna, and cosmic features were carved into the *Balairung Seri* and are depicted in accordance with the shape, size, and dimension of the house's wall wooden panel. The space is locate at the middle of the palace itself and

it was designed with the void for the sense of welcoming and greatness of royalty. Since its earlier construction, the *Balairung Seri*, also previously known as *Balai Pasca Persada* is a place for the royal throne and the seats of royal relatives as well as ministers while having audiences with the Sultan additionally also functioned as a place to exhibited medal of greatness.

2.1 Woodcarving as Malay ornamentation

In architecture, an ornament is a type of decorative detail that is elegant enough to beautify and symbolise any object that is a part of it. Ornamentation conveys imagery of grandeur and royalty, particularly in earlier times, and as such has left a mark of symbolic, functional, and even cultural value. Ornamentation in architecture can be defined as the decorative identification of a structure. In Malay architecture, there are three types of ornamentation: arca, larik, and woodcarving, and thus woodcarving is regarded as one of the valuable yet pleasing elements.

As stated by Maisarah Ali, 2019, The function of ornamentation can be divided into three categories: structure, decoration, and functional component. Ornamentation that is directly carved to the structure and ornamentation that is a separate component from the structure but would support the structure structurally or decoratively are two types of ornamentation. One of the most important functions ornamentation could play in Malay architecture is as a decorative element. The function of a building is related to its regional and contextual area, such as natural daylighting and ventilation.

2.2 Woodcarving to enhance the hierarchy of space and social status

Woodcarving is a common ornamental feature in Malay vernacular houses, particularly those owned by prominent and wealthy residents. The placement of the carved elements within the interior and exterior fabric of the houses represents the social and economic status of the houses' residents. (Muhammad, 1995; Farish and Eddin, 2003). The intricacy of the woodcarving's details as a part of the house's aesthetic will indicate the identity of the house's owner, depicting the homeowner's personality and social status. The guest will be able to learn the owner's job or profession by looking at and understanding the message from the motives and elements of the woodworks (Mastor, 2013).

According to Noorhaiza, (2009) Decorated structural design in woodcarvings is a symbol of high social status in the Malay community. In the case of Malay palaces, ornamentation is used to display wealth, status, and power to the public. The king will be in charge of patronising these artisans or royal woodcarvers, who will live on palace grounds for the sole purpose of providing the Sultan with the most beautiful carvings for the palaces and other objects such as weapons and crafts (Nurhana et al, 2019). The Malay palace uses ornament to display wealth, status, and power to the people. During that time, it was common for a sultan to display his or her power through ornamentation. (Nangkula & Afandi, 2014). The Malay palace design is similar to that of a typical Malay house, but on a larger scale.

The placement of woodcarving varies with the function and importance of the space in terms of hierarchy. The nice, beautiful carvings, according to Rosnawati Othman (Aida K. Azmin et al, 2021) are located at certain spaces/ room only. For example, the "rumah ibu" (mother house), the main domain of the house.
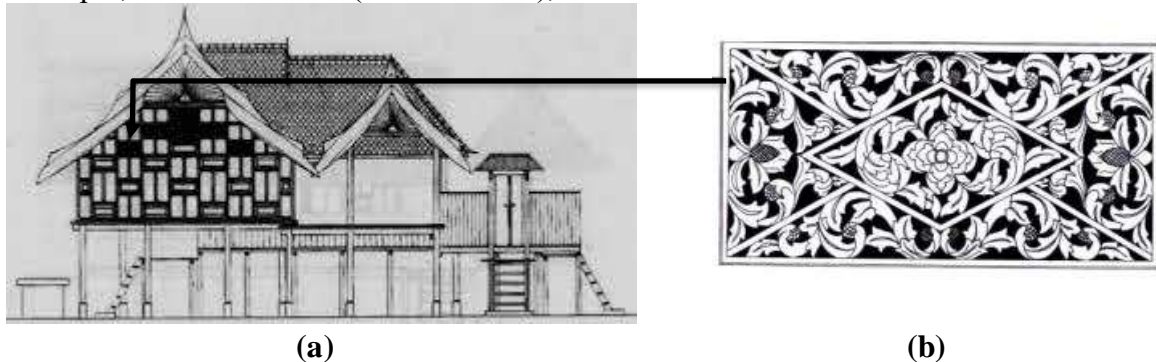

(a)   **(b)**

Figure 1: The layout of carved components at wall facade of rumah ibu at Mohamad Dobah's house (a) and one of carved ventilation panels (b) found on the wall

Source : Ismail Said & Zumahiran Kamaruddin (2010)

2.3 Woodcarving as a testamentary board

According to Mastor Surat (2013), Wood carvings have also been used as a testament to specify which modules of the house the children would inherit after the house's owner died. Ancient societies around the world whether in the west in the Middle East, in the Far East, in Latin America or in the Malay World have used symbolism in conveying messages especially those related to their respective religious beliefs and practices. This is because the decorative and symbolic style was the easiest tool (media) for the community to understand at the time, as opposed to writing, because it was in the form of sign language rather than spoken language. Thus, in addition to the calligraphy works, the building's owner carved a testamentary statement on the wood panels to support the message.

2.4 Woodcarving as physical function

Carvings should not be viewed as merely beautiful decorative elements on the building, but rather as natural ventilators, daylighting devices, structural, and decorative design elements.

In pierced through carving, it was functioned as the perfect air ventilator. So, if the house during the daytime, night time; hot or rainy weather; when we have to close our windows and everything, the carvings always allows the air to ventilation throughout the house. Apart from the big parts, from windows and doors, but the carvings help in terms of our comfort from the lowest level (floor), the middle level, or the upper level. If we look, from the floor level, we can see the lowered windows down to the floors. At the middle level, we have the windows that are usually holed whether

at the bottom, or carved walls, etc., and at the top level, there is a "Jejala" for ventilation" (Aida Kesuma et al, 2021).

Besides, The carving of a traditional Malay house also serves as a filter for daylight, as the outside sunlight causes discomfort such as glare and heat. The sunlight penetrating through the hollow part of the woodcarving creates a shadow pattern on the floor, giving these woodcarvings magnificent effects. (Hanita et al, 2020).

Rosnawati Othman mentioned that the carvings actually help from the aspect of lighting. When we open the windows, especially in the east-coast region during the hot season, the light is too bright. So, sometimes it makes us feel uncomfortable. When we have walls, it becomes very dark because if the material is 'Chengal', the wall is normally black. So the interior becomes extremely dark. So when we have one side intensely bright, and the other severely dark, our eyes become very uncomfortable. So the function of the carvings is to balance between an area that is too bright and another that is too dark with fascinating holes. That is why when we perceive the carvings, from the aesthetic aspect, during the daytime, it is from the inside-out; and from the night time, it is from the outside-in, because of the silhouette of the carvings (Aida K. Azmin et al, 2007)

2.5 Woodcarving as owner protection

An interview conducted by Aida Kesuma et al, (2021), According to Rosnawati Othman, carvings actually remind us of our Creator/God (Allah swt) because these carvings containing Quranic verses, which we hang at specific positions inside the house, act as reminders and always prompt us. That is why calligraphic verses are usually found above the door at the entrance, always praying for the safety of the homeowner, if one reads the verses, this is to avoid any calamities and so on. So, in this perspective, the presence of the verses would lead the occupants to believe that they are constantly being preyed upon. The calligraphic carvings cannot be placed on a lower level or anywhere else. There are specific placements and locations. That is its area of expertise. The Quranic verses of wood carvings and calligraphy (khat) are nothing more than a collection of meaningful decorations. (Aida K. Azmin et al, 2021).

2.6 Woodcarving as a Genius loci

Local Genius is a term used by anthropologists to refer to specific communities or cultures that practise a type of knowledge and understanding; this local knowledge can be either tangible or intangible, encompassing local beliefs, ideas, and behaviour; this local knowledge can be either tangible or intangible, encompassing local beliefs, ideas, and behaviour. (Osman Bakar in Asmah Omar, 2003 in Sabriza Rashid, 2014). Local geniuses in the built environment refer to Malay artisans and pawang who are directly involved in the design and construction of traditional Malay houses. The term 'Genius Loci' refers to the Genius of a place in Latin. Every location and settlement has its own distinct identity. not only from its physical manifestations, but also from the angle from which it is viewed (Aida kesuma et al, 2021). The unavoidable art and

construction techniques of the local scene are being replaced by modern cities that are unaware of the significance and tradition of their Genius loci. (Aida kesuma et al, 2021).

2.7 Woodcarving as beauty expression

Malay traditional aesthetic elements are unique, making them masterpiece concepts that cannot be found elsewhere. (Abd Aziz & Folasayo, 2014). (Baer, 1998 in Zumahiran, 2020) posits that one of the primary functions of ornaments fitted on buildings or applied on portable objects of art is to embellish their surface. It expresses and communicates contemporary ideas of beauty and aesthetic concepts through the use of forms, materials, and techniques that are fashionable at the time. Beauty is associated with intangible goals such as calmness, peacefulness, and pleasantness, in addition to aesthetic meaning. The love and appreciation for beauty has also resulted in the spread of traditional woodcarving from the nobility to ordinary people. (Zulkifli hanafi 2007; 2015)

3 METHODOLOGY

The first method is by conducting a site visit to site which is Istana Balai Besar, at Kota Bharu, Kelantan to collect data and visual study. Besides, an interview with a professional craftsman, Muhaimin Hasbollah from Pahang was carried out. Muhaimin Hasbollah is a former wood carver student of the famous wood carver, Latif Long who was one of the previous Adiguru. A site visit to the Inakraf workshop an open interview session with Mr Muhaimin was conducted through open-ended questionnaires and visual templates which were documented in voice record. Lastly, cross examination with literature review from secondary data such existing journals, books and other sources on the function of this traditional art.
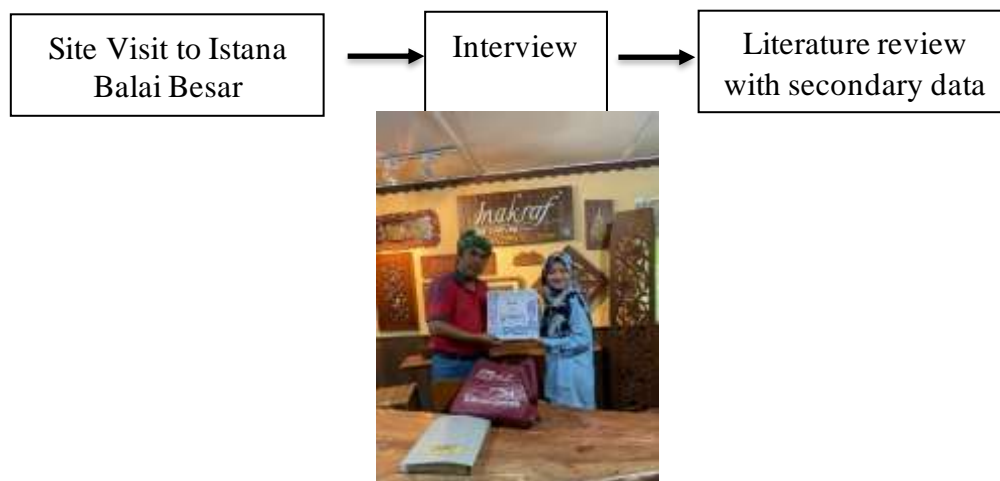

Figure 2: Interview with Adiguru Mr Muhaimin Hasbollah at Inakraf Woodcarving, Temerloh Pahang

Source: Author (2022)

4 RESULT AND FINDINGS

4.1 Application of woodcarving Istana Balai Besar, Kelantan

From the field survey and interview findings, almost every corner and space was decorated with massive and intricate carving. The detailing of the woodcarving itself truly impressive and it totally differs with one from the vernacular house. There are three types of forms of woodcarving and for Istana Balai Besar only two types of forms involved namely *jejala* and also panels.

Figure 3: Example of woodcarving in panel form at Istana Balai Besar
Source : Author (2022)
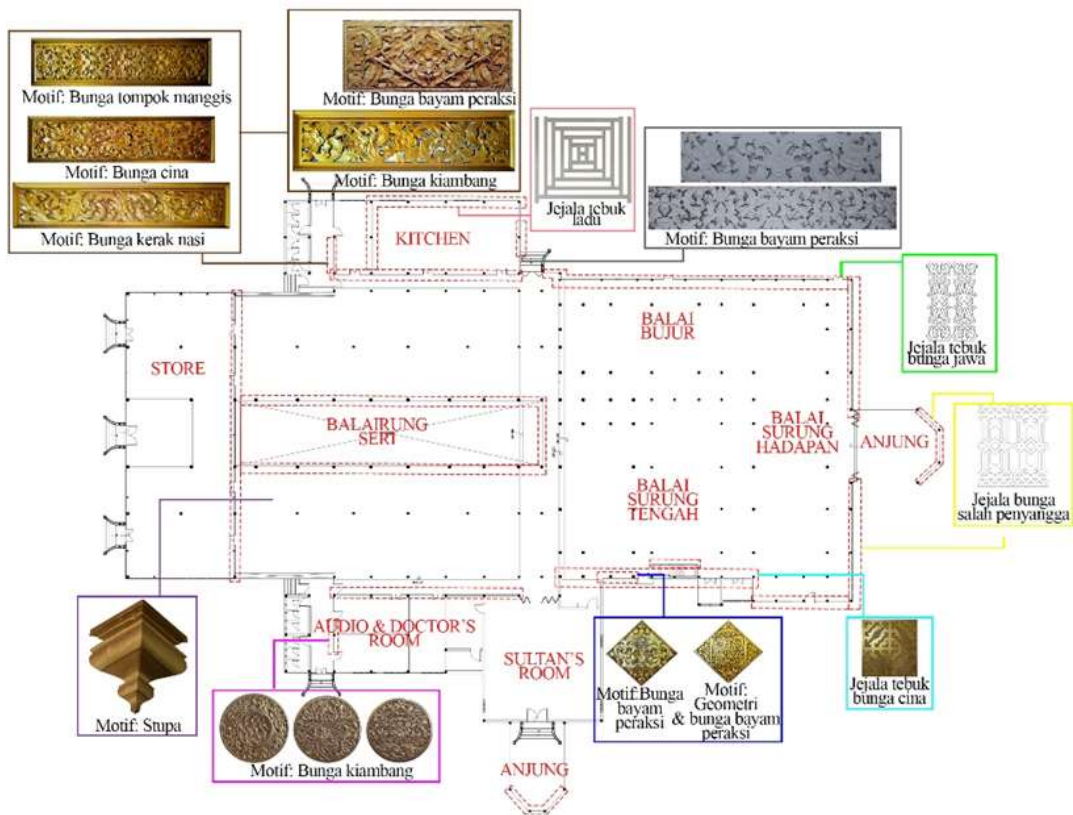
Figure 4: Application of woodcarving at Istana Balai Besar
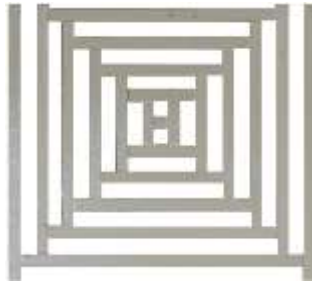Source: Author (2022)

Figure 5: Example of woodcarving in *jejala (jejala tebuk ladu)* form at Istana
Balai Besar

Source: Author (2022)

As for jejala there are four types of jejala involved which is   *jejala tebuk bunga cina*, located at the centre point of the palaces, Balairung Seri. The motif was inspired from *bunga kembang cina* was chosen as one of the motifs since it represents purity. This flower's distinctiveness is also known as Ban Jien Jieng, which means the young throughout the year in Malay. It is also renowned for its longevity, tolerance, and wisdom. It is also regarded as a symbol of friendliness in malay culture and often used as women decoration. This decoration is said to symbolize lightning bolts associated with joy and as one emblem to the Buddhist swastika representing the sun.

(a)   **(b)**

Figure 6: (a) *Jejala bunga kembang cina* located at the Balairung Seri (b) *Bunga kembang cina* (Gardenia augusta/jasminoides)

Source : Author (2022)

Another types of jejala at Istana Balai Besar is *Jejala bunga salah penyangga* that located as railing *(pagar musang)* in the entrance of the palaces. This types of *jejala* was designed with geometry motifs to gives sense of symmetry and balance for welcoming the king and also chieftains. Lastly, another types of jejala at Istana Balai Besar is *Jejala tebuk ladu* **(Figure 5)** that is located at exterior of kitchen walls with geometry pattern

As for the panel types of form, almost woodcarving at Istana Balai Besar was created in a panel despite in single pattern, frame pattern of complete pattern. Example

for single pattern is woodcarving located at the interior column whereby every column is decorated with single pattern of bunga kembang cina. As for frame pattern, example of woodcarving with this type of pattern is located at the top of interior kitchen and audio room. Meanwhile for complete pattern, example of woodcarving is located at the balairung seri, balai bujur hadapan, kitchen, doctors room, toilet and audio rooms.

(a)   **(b)**

(c)

Figure 7: (a) Example of single pattern at Istana Balai Besar (b) Example of frame pattern at Istana Balai Besar (c) Example of complete pattern at Istana Balai Besar

Source: Author (2021)

5 DISCUSSION

5.1 Woodcarving as physical function at Istana Balai Besar

For Istana Balai Besar, woodcarving also was functioned as a physical function such as for natural ventilation and sunlight penetration. Ventilation panel is an important component for ventilation purposes in allowing the exchange of airflow in and out of the building. The wisdom of past Malay craftsmen is on their consideration of applying the ornamentation as not only as decoration but also as a natural lighting and ventilation panel. For example is the jejala tebuk ladu located at the exterior of the kitchen that utilizes the technique of *tebuk tembus* carving (full incision) to allow natural light and ventilation to pass through this ornamentation into the building.

5.2 Woodcarving as beauty expression at Istana Balai Besar

The woodcarving at Istana Balai Besar can be regarded as beauty expression and it was designed to make it aesthetics within the palaces. The elements at the woodcarving namely motifs, incision, source, philosophy, decorative manners and also patterns highlighted the design of the woodcarving itself. The complete pattern with awan larat pattern that located at the exterior kithen area shows the detailing and intricacy of woodcarving to express the magnifies feelings when look into it.
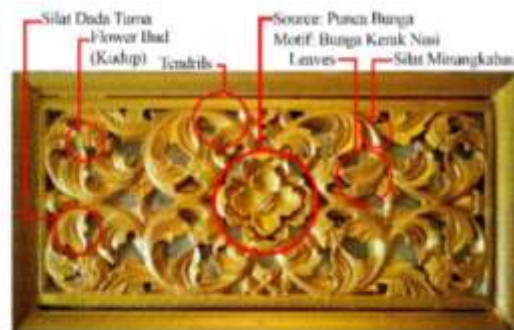

Figure 8: Example of woodcarving panel compsition at Istana Balai Besar with its element

Source: Author (2022)

5.3 Woodcarving to enhance the hierarchy of space and social status

Because of the complexity and intricacy of its woodcarving, as well as the placement of the royal throne in the centre of Balairung Seri, the woodcarving at Balairung Seri, Istana Balai Besar was considered the royal status of symbolization. A number of factors influence the choice of carving decoration and motif for the traditional Malay palace of Balairung Seri at Istana Balai Besar, including the intricacy and complexity of the carving itself. Traditionally, royal woodcarvers will only serve the king and will spend the majority of their lives serving the king, so the carving made by royal woodcarvers is specifically for the palace. Most woodcarvings were also painted with gold to represent wealth, and since the 16th and 19th centuries, high ranking or royal people were featured in these colours. The balairung seri is the only pace that was designed with double volume features, and the woodcarving was arranged in a harmonious composition at the walls of void. The detailing in the void area from the walls to the ceiling is intended to demonstrate the king's power during his government's era.

Apart from the royal throne in the centre of Balairung Seri, which is a royal seat only for the king and is forbidden to commoners. The throne will be given special attention in order to protect its power, purity, and greatness; on a typical day, the throne will be draped in royal cloth and a wooden panel screen will be installed around it.

It was regarded as a symbol of the relationship between the rule and the people who were subject to it. This is analogous to traditional Malay houses, which are revered as cultural and social representations of the Malay race because they mimic indigenous technology in terms of climate, human scale, and social necessities.

Figure 9: Front perspective of royal throne as indication to the symbolization of royal status

Source: Author (2022)

6 CONCLUSION

In summary, woodcarving is an important feature of Malay vernacular architecture and nonarchitectural features. It is an abstract but tangible representation of a craftsman's ideas of flora, geometry, calligraphy, fauna, and cosmic elements on wood. The carving motifs in the carved components of Istana Balai Besar, Kelantan were designed to represent physical function, beauty expression, and the hierarchy of space and social status. The findings of this study will undoubtedly help to preserve royal heritage and serve as a guideline for future woodcarvers interested in learning about these intangible precious gems.

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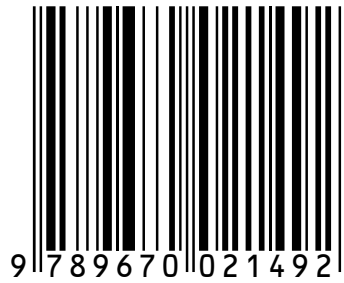
APPENDIX

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