Organised By
UNIVERSITI TEKNOLOGI MARA
25 TAHUN 1999-2024
UITM SEBUAH UNIVERSITI
e ISSN 3030-5543

Proceedings

Simpora XV

The 15th Regional Symposium of The MalayArchipelago

Resilience of Culture & Symbolism in Built Environment

Co organizer:
University Strategic Partners:

PROCEEDINGS OF THE 15TH REGIONAL SYMPOSIUM OF THE MALAY ARCHIPELAGO

SIMPORA XV: 2024

Organised by:

Centre for Knowledge and Understanding of Tropical Architectural and Interior (KUTAI)
Universiti Teknologi MARA Perak Branch
Seri Iskandar Campus, Perak, MALAYSIA

Diterbitkan oleh:

Unit Penerbitan UiTM Perak

Alamat:
Unit Penerbitan UiTM Perak,
Pejabat Jaringan Industri, Masyarakat dan Alumni (PJIMA)
Universiti Teknologi MARA, Perak Branch,
32610 Seri Iskandar Perak, Malaysia.

05-3742716

uitmperakpress@gmail.com

Perpustakaan Negara Malaysia Cataloguing in Publication Data

No e- ISSN: 3030-5543

Cover Design: Ts Dr Mohamed Nizam Bin Abd Aziz
Typesetting : Dr Nur Huzeima Mohd Hussain
Dr Wan Faida Binti Wan Mohd Azmi

PROCEEDINGS OF THE 15TH REGIONAL SYMPOSIUM OF THE MALAY ARCHIPELAGO SIMPORA XV: 2024

Organized by;

Centre for Knowledge and Understanding of Tropical Architectural and Interior (KUTAI)

Universiti Teknologi MARA Perak Branch
Seri Iskandar Campus, Perak, MALAYSIA

eISSN 3030-5543

ADAPTIVE REUSE OF TRADITIONAL MALAY HOUSE: CASE STUDY OF TOK ABU BAKAR ALANG KETAK (TABAK)

Kartina Alauddin[1*], Mohd Nurfaisal Baharuddin[2]

[1,2]Department of Built Environment Studies and Technology, College of Built Environment, Universiti Teknologi MARA, Perak Branch, 32610, Seri Iskandar, Perak, MALAYSIA

**Corresponding Author: karti540@uitm.edu.my*

Abstract: Adaptive reuse is a sustainable conservation strategy that preserves the cultural and historical significance of traditional buildings while accommodating contemporary functions. This study focuses on the adaptive reuse of the Tok Abu Bakar Alang Ketak (TABAK) house, a traditional Malay dwelling located in Bota, Perak, Malaysia. The TABAK house, an important example of Malay vernacular architecture, reflects cultural values, environmental responsibility, and heritage conservation. However, like many heritage structures, it faces challenges of obsolescence and potential neglect due to changing social and economic conditions. To address these challenges, it is essential to explore the issues of adapting traditional Malay houses for modern functions. Through single case study, this research investigates how adaptive reuse can breathe new life into the TABAK house while maintaining its architectural integrity and historical significance. The study examines the successful of house's transformation from a residence into a multifunctional space, including a gallery, research center, community hub, academic facility, and venue for cultural competitions. The findings demonstrate that, when executed with sensitivity, adaptive reuse can effectively preserve the core elements of traditional Malay architecture while integrating modern uses that ensure the building's continued relevance and sustainability. This research contributes to the growing body of knowledge on sustainable heritage conservation and provides valuable insights for future efforts in adapting traditional Malay houses to meet contemporary functions and needs.

***Keywords*:** Adaptive Reuse, Traditional Malay Houses, Modern Functions, Case Study, TABAK

INTRODUCTION

The preservation of cultural heritage has gained significant attention in architectural conservation practices, particularly in the face of rapid urbanization and modernization.

eISSN 3030-5543

Traditional buildings are often at risk of obsolescence or demolition due to evolving social, economic, and technological factors. Adaptive reuse offers a sustainable solution by integrating modern functions into heritage buildings while preserving their historical and cultural significance (Kayhan Tunalı & Güneş, 2024). This approach not only extends the lifespan of such structures but also revitalizes them for contemporary use, fostering a deeper connection between the past and present (Alauddin et al, 2022). In Malaysia, traditional Malay houses are key examples of vernacular architecture, reflecting the cultural, social, and environmental values of the Malay community. These houses, characterized by elevated wooden structures, intricate craftsmanship, and climate-responsive designs, represent an important part of the nation's cultural heritage. However, many of these structures face the threat of neglect or irrelevance as societal needs and expectations evolve. In this context, adaptive reuse emerges as a potential strategy to balance heritage conservation with modern functionality. This study focuses on the Tok Abu Bakar Alang Ketak (TABAK) house, a prominent example of traditional Malay architecture located in Bota, Perak. Originally designed as a typical Malay dwelling, the TABAK house has undergone significant changes to accommodate contemporary needs. It now functions as a gallery, research center, community hub, and venue for cultural competitions, while still retaining its architectural and historical essence. This case study aims to explore how adaptive reuse can effectively promote the cultural heritage of the TABAK house while ensuring its relevance in modern functions for contemporary society.

RESEARCH BACKGROUND

The concept of adaptive reuse, in architectural conservation, involves repurposing traditional Malay houses for new functions without compromising their historical and cultural significance. This sustainable practice helps reduce the environmental and economic costs associated with demolition and new construction (Gravagnuolo et.al, 2024; Foster & Kreinin, 2020). In recent years, adaptive reuse approach has gained popularity as a means of preserving heritage buildings, including traditional Malay houses in Malaysia, especially those that have lost their original function due to changing societal needs. By adapting these traditional malay houses to modern uses, they can remain functional and relevant in contemporary settings, contributing to cultural sustainability, economic vitality, and community engagement. Additionally, adaptive reuse can serve as an academic and research hub, attracting conservation practitioners and students from around the world, fostering knowledge exchange and education on heritage preservation.

In the case of Malaysia, traditional Malay houses are essential components of the nation's architectural heritage. These types of buildings are not only representative of the Malay way of life but also represent the environmental adaptation of local building techniques. However, with modernization, many of these houses have fallen into disuse or decay, often due to changes in family structures, economic pressures, or rural-to-urban migration (Yueqiang Feng, 2024). The challenge lies in finding ways to preserve these cultural assets while making them adaptable to modern needs.

eISSN 3030-5543

The Tok Abu Bakar Alang Ketak (TABAK) house is an exemplary model of successful adaptive reuse in Bota, Perak, Malaysia. Originally built as a traditional Malay dwelling known as Rumah Limas Bumbung Perak, the house has been transformed into a multifunctional space that serves various community and academic purposes. The TABAK house is now home to a gallery showcasing local history and art, a research center for traditional Malay architecture, and a community hub that hosts events and competitions aimed at celebrating and preserving Malay culture. This transformation highlights the potential of adaptive reuse to not only preserve heritage but also foster a sense of identity and belonging within the local community.

This research examines the effectiveness of adaptive reuse in the context of the TABAK house, assessing both its architectural adaptations and its socio-cultural impacts. By analyzing the post-conversion performance of the house and its role in community engagement, the study aims to contribute to the broader discourse on sustainable heritage conservation. Additionally, the research offers insights into the challenges and opportunities associated with adapting traditional Malay houses for modern functions, providing valuable lessons for future conservation efforts.

LITERATURE REVIEW

Adaptive reuse is recognized as a crucial strategy for addressing the obsolescence and deterioration of heritage buildings, particularly traditional Malay houses. These houses are especially vulnerable to obsolescence and loss due to their timber construction, which is more prone to decay over time. Adaptive reuse involves repurposing buildings by modifying their original functions to suit new needs. This practice, while not new, plays an important role in preserving historic buildings. Such structures are valuable assets, contributing significantly to the economic, cultural, and environmental sustainability of rural areas, towns, and cities (Mohamed & Alauddin, 2023).

3.1 Definition of Adaptive Reuse

Adaptive reuse refers to the process of repurposing a site or building for functions other than those originally intended or designed. According to Douglas (2006), adaptive reuse can be defined as "any building work and intervention to change its capacity, function, or performance to adjust, reuse, or upgrade a building to suit new conditions or requirements." This practice is a critical strategy in maintaining and revitalizing existing buildings, especially when they have reached maturity within their lifecycle. Adaptive reuse offers significant economic, social, and cultural benefits by providing new purposes for structures, thereby enhancing their relevance in contemporary settings (Yueqiang Feng,2024). Furthermore, adaptive reuse is a key approach to sustainability, as it preserves the durability of original building materials and reduces the carbon footprint associated with demolition and new construction (Kayhan Tunali, 2024). This practice also addresses the conservation and preservation of built heritage, aligning with broader strategies and policies for sustainable development. Once a building's original purpose becomes inadequate for current functional

eISSN 3030-5543

or programmatic needs, adaptive reuse emerges as a viable and sustainable option for repurposing sites.

In the context of building adaptation, the term "adaptive reuse" has been widely interpreted and defined by numerous researchers (Ball, 2002; Mansfield, 2002; Douglas, 2006; Bullen, 2007). The concept is often synonymous with terms such as conversion, retrofitting, adaptation, refurbishment, and rehabilitation. Bullen (2007) describes adaptive reuse as "rehabilitation, renovation, or restoration work that does not necessarily involve a change of use," emphasizing its role in extending the useful life of buildings through a combination of improvement and conversion. Wilkinson and Reed (2008) further define "adaptive" as the process of maintaining as much of the original structure as possible while improving its performance to meet modern standards and evolving needs. Mansfield (2002) supports this view, stating that refurbishment involves conversion and describes a change in use, suggesting that "refurbishment" and "adaptive reuse" can often be used interchangeably in certain contexts.

3.2 Issues Related to Reuse the Traditional Houses

Adaptive reuse involves repurposing existing buildings, particularly older or historic structures, for new functions or uses. When considering the adaptive reuse of traditional Malay houses, several key issues must be addressed to ensure a successful adaptation. These issues, illustrated in Figure 1, include the balance between preserving cultural heritage and modernizing the structure, difficulties in maintaining architectural and structural integrity, and compliance with building codes and regulations. Additional concerns involve functionality and space planning, the suitability of materials for sustainable application, integration of modern infrastructure and utilities, community and stakeholder involvement and financial. Each of these factors is critical in ensuring that traditional Malay houses can be effectively repurposed while preserving their cultural and historical significance.

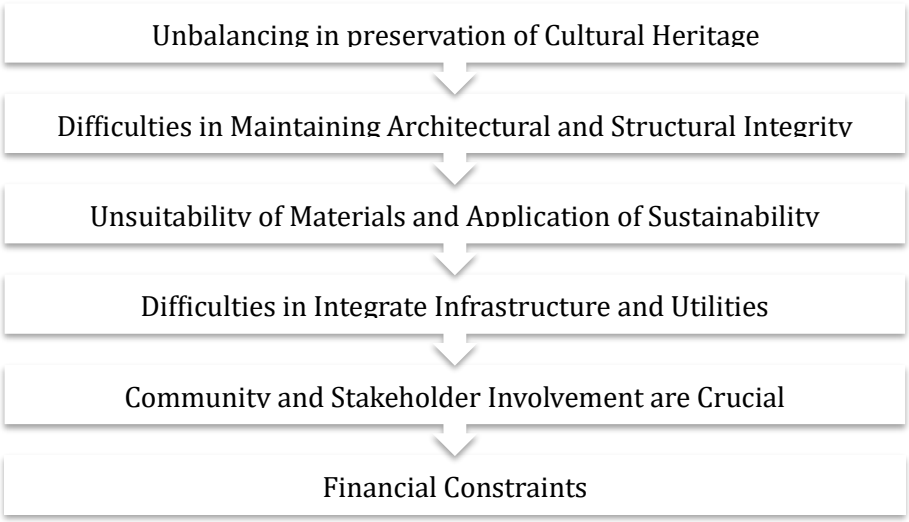

Figure 1: Issues in Adaptive reuse of Traditional Houses Source: Author

eISSN 3030-5543

Traditional Malay houses, distinguished by their unique architectural features and cultural significance, encounter considerable challenges during the adaptive reuse process, leading to potential unbalancing in their preservation. Key issues include structural modifications, where alterations made to meet modern needs may compromise the original design and craftsmanship. Additionally, the use of inappropriate materials during renovations can adversely affect both the longevity and aesthetic value of these traditional structures. Furthermore, as traditional uses evolve, there is a risk that the original cultural practices associated with these houses may be lost or diminished, thereby threatening their cultural relevance and heritage significance.

Maintaining the architectural and structural integrity of traditional Malay houses presents significant challenges during the adaptive reuse process. As these timber structures are repurposed for modern functions, they often require alterations that can compromise their original design, craftsmanship, and materials. The inherent characteristics of traditional Malay houses, such as their unique timber construction and intricate detailing related to symbolism, demand careful consideration to preserve their authenticity. Furthermore, ensuring the structural soundness of these aging buildings while implementing contemporary design elements can lead to conflicts that jeopardize both their historical value and functional viability (Yueqiang Feng, 2024). As a result, the delicate balance between modernization and preservation becomes increasingly difficult, underscoring the need for a thoughtful approach that respects the original architectural intent while accommodating contemporary needs.

The unsuitability of materials and the application of sustainability are critical factors in the adaptive reuse of traditional Malay houses. When adapting the traditional Malay houses, the choice of materials plays a pivotal role in maintaining their aesthetic and structural integrity. The use of modern materials that do not align with the original construction techniques can compromise the authenticity and longevity of the buildings, potentially leading to accelerated deterioration. Furthermore, the principles of sustainability must be integrated into the adaptive reuse process; this includes selecting eco-friendly materials that not only complement the traditional architecture but also enhance the building's energy efficiency (Sirror, 2024). A failure to prioritize suitable materials and sustainable practices can undermine the preservation efforts, diminishing the cultural value of these traditional Malay houses while also affecting their environmental impact.

ntegrating modern infrastructure and utilities into traditional Malay houses is a key difficulty throughout the adaptive reuse process. Traditional Malay houses were not initially built to accept modern utilities like plumbing, electrical wiring, and HVAC, which could compromise their architectural integrity. The introduction of modern services can necessitate costly alterations that may jeopardize the original design and craftsmanship of these structures (Yueqiang Feng, 2024). Furthermore, upgrading infrastructure to meet modern safety and building requirements might complicate integration, resulting in unpleasant installations that detract from the house's original charm. Furthermore, special effort must be paid to keeping the exterior's visual qualities while ensuring that necessary utilities are efficiently integrated. A careful approach is needed to strike a balance between the preservation of cultural heritage and modern conveniences. Solutions that respect the architectural elements and integrity of

traditional Malay houses while effectively satisfying modern utility requirements should be prioritized.

Community and stakeholder involvement are crucial for the successful adaptive reuse of traditional Malay houses. Engaging local communities in the decision-making process helps create a sense of ownership and connection to their cultural heritage, ensuring that preservation efforts reflect the values and needs of those most affected (Gravagnuolo et al, 2024). Additionally, involving local residents can help reduce resistance to change, as they are more likely to support projects that align with their cultural identity. Overall, encouraging participation strengthens community ties and enhances the success of adaptive reuse initiatives (Dasgupta & Shendkar, 2024), allowing traditional Malay houses to remain relevant while preserving the traditional Malay houses historic are importance.

Financial constraints significantly affect the adaptive reuse of traditional Malay houses, creating challenges that can hinder preservation efforts. Limited funding often restricts the scope of conservation projects, making it difficult to carry out necessary repairs or upgrades to meet modern standards. The costs associated with conserving these houses can be substantial, particularly when attempting to maintain their original architectural features and use appropriate materials. Additionally, securing financial support can be challenging, as funding sources typically prioritize new construction over the restoration of older buildings (Gravagnuolo et al, 2024). In many cases, owners must rely on their own funds to maintain these properties. Without adequate financial resources, the adaptive reuse process may lead to compromises that diminish the cultural and historical value of these houses. However, by addressing financial constraints through strategic planning and resource allocation, stakeholders and owners can ensure that traditional Malay houses are preserved and adapted for contemporary use while retaining their heritage significance.

3.3 Suitability of New Functions for Traditional Malay Houses

According to the layout of this traditional Malay house, its reuse potential is quite limited. Nevertheless, the concept of adaptive reuse remains flexible and can be seamlessly integrated with modernity to appropriately repurpose traditional Malay houses. As a result of the initial review through previous research, many traditional houses can be adapted for various functions, as illustrated in figure 2.

Figure 2 shows the most and east functions that used in traditional Malay Houses around Malaysia. The adaptive reuse of traditional Malay houses varies in terms of the functions assigned to these heritage structures. The most popular new functions typically include cultural centers, museums, galleries, and community hubs, where the emphasis is placed on preserving cultural heritage while providing public access and engagement (Daramola et al, 2024). These functions not only retain the architectural essence of the houses but also support community activities and tourism. On the other hand, the least common new functions tend to be commercial ventures such as retail spaces or modern office facilities (Dasgupta & Shendkar, 2024). This is largely due to the challenges of integrating modern

infrastructure, the need for substantial structural modifications, and potential conflicts with preserving the traditional architectural aesthetics and cultural significance of the buildings. These less popular uses are often seen as detracting from the historical and cultural value of traditional Malay houses, leading to their limited adoption.

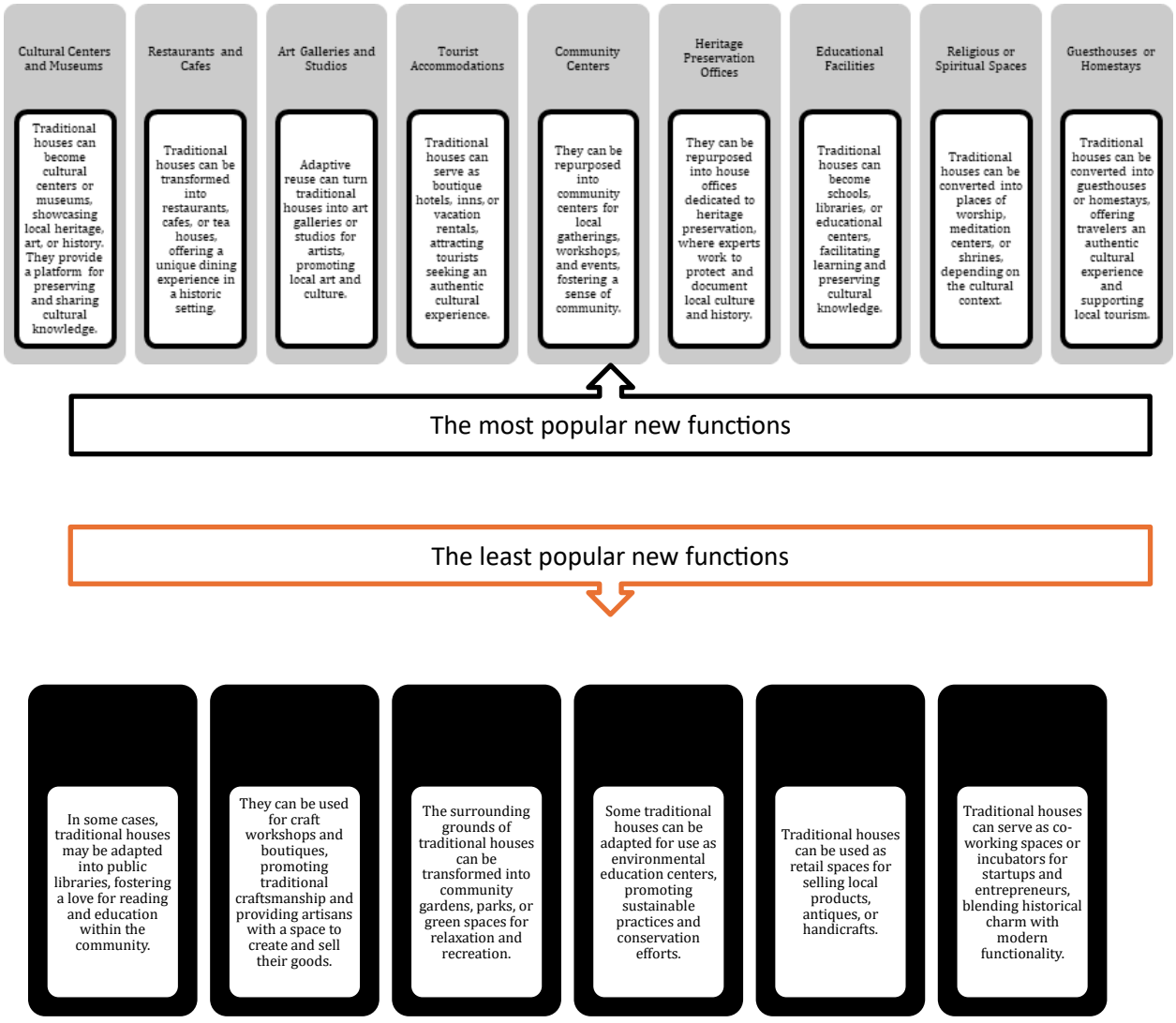

Figure 2: The Most and Least Popular New Functions for the Reuse of Traditional Malay Houses Source: Author

RESEARCH METHODOLOGY

Figure 3 shows how this study utilizes a combination of methodologies to execute and complete the research. The first step is development of research aim, research objective and research question. The next step involves an extensive review of scholarly literature on adaptive reuse and traditional houses in Malaysia, specifically focusing on the challenges that impede the reuse of traditional Malay houses. Next, targeted studies will be conducted to

explore viable new functions for repurposing these historic structures, identifying the most suitable modern uses. To provide practical insights, a case study of the Tok Abu Bakar Alang Ketak house in Bota, Perak, will be conducted. This case will serve as a successful example of adaptive reuse, demonstrating how the house has been reimagined for various contemporary functions, as shown in Figure 3.

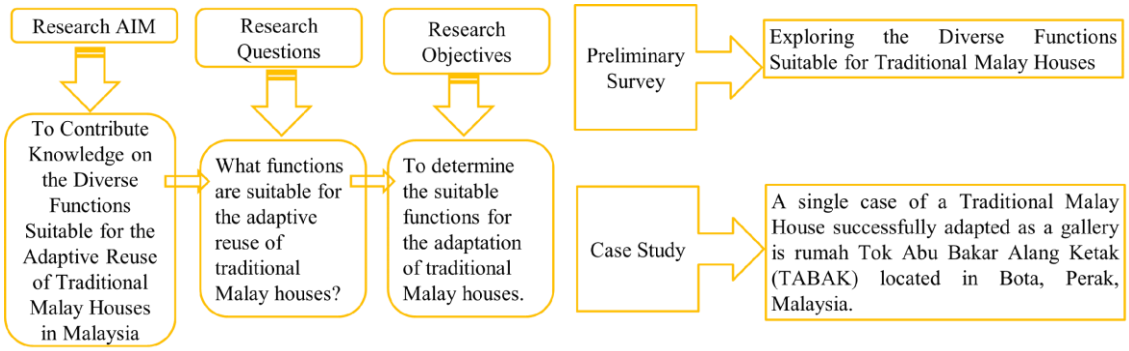

Figure 3: The Research Methodology Flow

CASE STUDY OF RUMAH TOK ABU BAKAR ALANG KETAK (TABAK), BOTA, PERAK

4.1 Background

This house is located on the banks of the Perak River in Bota Kiri within the sub-district of Bota, Perak Darul Ridzuan. It was built by the homeowner, Tok Abu Bakar Alang Ketak, along with several other craftsmen in the 1920s. The house was constructed in the architectural style known as the Perak Roofed Gabled House (Rumah Limas Bumbung Perak or RLBP). This architectural style is prevalent throughout the state of Perak, especially along the Perak River.

Figure 4: TABAK in 1920s Source: Owner's Document

From a geographical perspective, this house is situated on the banks of the Perak River at coordinates 4°20'47.6"N 100°52'35.6"E (4.346545, 100.876559) in Bota Kiri, Sub-District of

Bota, Central Perak District, Perak Darul Ridzuan. Similar to many traditional houses in Perak, it is river-oriented, with its front facing the river. The river is a significant element in the development of settlements. Besides being a water source, the river serves as the primary transportation route connecting villages and small towns along the Perak River. It is a vital source of local and regional economic activity. The TABAK house is designed with several essential spaces, including the veranda, entrance hall, the Mother's Room (Rumah Ibu), the Selang Room, and the Kitchen House (Rumah Dapur).

4.2 Conservation Works

In 2019, TABAK underwent a conservation effort, transforming it into a gallery and educational hub dedicated to traditional houses, traditional architecture, and related subjects. Since then, a range of activities and events have taken place at TABAK from 2019 to 2023.

Figure 5: TABAK house at Bota, Perak Source: Owner's Document

4.3 Reuse Activities in TABAK

Since the pandemic, the TABAK house has hosted numerous activities, particularly related to education and research. UiTM and other local universities have participated in these events, including painting competitions, which have significantly increased the house's visibility and popularity. As previously mentioned, traditional Malay houses can be adapted for various new functions. The TABAK house exemplifies this success, having undergone conservation and been repurposed for multiple uses. It now serves as a center for academic activities, history workshops, and painting contests, where it acts as the competition hub. Additionally, TABAK has been transformed into a gallery showcasing paintings and artwork, attracting history enthusiasts and art lovers alike.

eISSN 3030-5543

4.4 Educational Activities

Through participant observation and photo documentation, it was found that educational activities at TABAK have involved architecture and art students from both private and government universities. TABAK has become a focal point and model for students, serving as the inspiration for their drawings and artwork, particularly in painting and drawing competitions. In addition, lecturers and presenters have used the site to demonstrate drawing techniques to new students, offering a hands-on learning experience that differs from traditional studio or classroom settings. This approach provides a direct and immersive connection to traditional architecture, allowing students to incorporate real-life elements of the TABAK house into their creative work. This has enhanced their understanding of traditional Malay architectural forms in a practical and engaging manner.

Figure 6: Drawings Competition and Sketching demonstration in TABAK

4.5 Workshop and Gallery Activities

Between 2022 and 2024, TABAK has actively served as a venue for workshops involving both government and private sector participants. Among the activities held was an archaeology workshop that utilized equipment to identify historical artifacts potentially buried around the TABAK house. The workshop participants included local community members, university lecturers, and government bodies such as the Ipoh City Council. Through these archaeological activities, several artifacts were uncovered, including old coins and broken pottery around the TABAK grounds. This discovery marked a significant achievement for TABAK, successfully engaging with the broader industry in heritage conservation efforts.

Figure 7: The Workshop and Galleries at TABAK

4.6 Competition Activities

In early 2023, TABAK became the venue for a notable coloring competition organized by the Fine Arts Department of Universiti Teknologi MARA (UiTM). This competition was not limited to students but was open to participants nationwide, attracting both enthusiasts of traditional Malay houses and those studying Malay heritage architecture. The contest focused on the unique symbols and motifs present in TABAK, which served as the central theme for the coloring entries. The event gained attention in newspaper articles, promoting it to a broader audience and recognizing it as a successful initiative that rebranded TABAK with new functions. This effort has also helped inspire younger generations to engage with and appreciate the historical significance of TABAK.

lokal

Perkenal nama Rumah Tabak

Pensyarah anjur pertandingan lukis rumah limas bumbung Perak untuk dedah keunikan seni bina

Figure 8: The Painting Competition Activities at TABAK

4.7 Arts and Research Galleries

TABAK also hosts exhibitions of paintings and posters that evaluate the history of the Malay Peninsula, including the architecture of Malay houses. These exhibitions are ongoing, attracting academics who visit to view the informative displays. In addition to the exhibitions, there are briefings on conservation efforts conducted by the owner of TABAK, who is passionate about Malay architecture. These activities not only enhance knowledge but also foster a deeper appreciation for the cultural heritage represented in the displays.

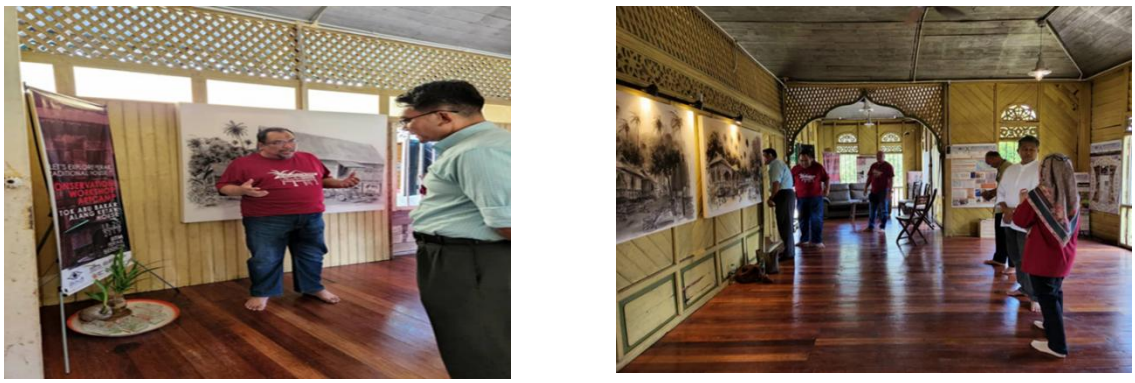

Figure 9: Art and Research Gallery in TABAK

eISSN 3030-5543

4.8 International Student Workshop of Vernacular Architecture

The latest function of TABAK is to serve as a venue for international student workshops, which are part of the 15th Nusantara Symposium held on October 7 and 8, 2024. This event features various activities involving UiTM alumni and international students from Indonesia, particularly those from Universitas Bung Hatta and Universitas Islam Negeri Alauddin Makassar. Among the activities conducted are conservation efforts, bamboo house construction, bamboo sculptures, and paintings that incorporate the architectural elements of TABAK. This initiative not only positions TABAK as a catalyst for international collaboration among students but also promotes similar academic activities. Additionally, artists have gathered at TABAK for the same purpose, further enriching the cultural exchange and learning experience.

Figure 10: International Students Workshop on Vernacular Architecture in TABAT

CONCLUSION

Adaptive reuse of traditional houses provides an opportunity to celebrate and preserve cultural heritage while revitalizing historic structures. However, successful transformation requires careful planning, collaboration with experts, and a profound understanding of the cultural, architectural, and historical significance of the house. Additionally, adaptive reuse enriches communities by creating spaces for cultural, educational, and economic activities. The selection of new functions typically depends on the house's location, its historical significance, and the needs and aspirations of the local community. This research serves as a preliminary step towards future heritage national grant applications.

ACKNOWLEDGEMENT

This research extends special acknowledgments to Puan Noor Asiah, the owner of TABAK, and Associate Professor Mohd Sabrizaa Abd Rashid for providing detailed information about TABAK.

REFERENCES

Alauddin K, Mohd Nusa F.N, Baharuddin MN, Abdul Rashid MS, Ramli RR, (2022). The Application of Green Adaptive Reuse Of Historical Buildings In Unesco Cities. Journal of the Malaysian Institute of Planners, volume 20 Issue 3, Page, 184–195

Ball, R. M. (2002). Re-use potential and vacant industrial premises: revisiting the regeneration issue in Stoke-on-Trent. Journal of Property Research, vol 19, no. 2, pp. :93-110.

Bullen, P. A. (2007). Adaptive reuse and sustainability of commercial buildings. Journal of Facilities, Vol. 25,no. ½, pp. :20 - 31.

Daramola O. F., Babamboni A. S., Owolabi T. O. S., Ajayi O. O (PhD), 2024, Exploring The Integration Of Adaptive Reuse In Interior Design: A Case Study Of Caleb University Administrative Building, Volume 7, Issue 1(06 - 2024), https://www.doi.org/10.26772/cijds-2024-07-01-015

Dasgupta N. & Shendkar Eesha M., 2024, Preserving The Past, Shaping The Future: Strategic Planning For Adaptive Reuse In India's Heritage Precincts And Its Impact On Heritage Areas, Proceeding International Conference On Climate Change, Cultural Heritage and Sustainable Habitat, February 17 – 18, 2024, Patna, India

Douglas, J (2006). Building Adaptation. 2nd edn. Butterworth-Heinemann, Oxford and Burlington, MA.Elsevier, Ltd. Available from: Elsevier books [15 November 2015]

Foster G., H. Kreinin 2020, A review of environmental impact indicators of cultural heritage buildings: A circular economy perspective, Environmental research letters, 10.1088/1748-9326/ab751e

Gravagnuolo A, M. Angrisano, M. Bosone, F. Buglione, P. De Toro, L. Fusco Girard, 2024. Participatory evaluation of cultural heritage adaptive reuse interventions in the circular economy perspective: A case study of historic buildings in Salerno (Italy), Journal of Urban Management, Volume 13, Issue 1, Pages 107-139, ISSN 2226-5856

Kayhan Tunalı, S., & Güneş, S. (2024). Sustainability of Historical Buildings Through Reuse Projects: A Case Study of the Kadıköy District in İstanbul. DEPARCH Journal of Design Planning and Aesthetics Research, 3(1), 97-121.

Mansfield, J. R. (2002). What's in a name? Complexities in the definition of 'refurbishment', Journal of Property Management, vol. 20, no. 1, pp. :23-30.

Mohamed N, K Alauddin (2023), Decision making criteria for adaptive reuse strategy in UNESCO world heritage city. Journal of Facilities Management 21 (2), 169-181

Sirror, Hala. 2024. "Lessons Learned from the Past: Tracing Sustainable Strategies in the Architecture of Al-Ula Heritage Village" Sustainability 16, no. 13: 5463. https://doi.org/10.3390/su16135463

eISSN 3030-5543

Wilkinson, S. J. and Reed, R. G. (2008). 'The Business Case for incorporating Sustainability in Office Buildings: The Adaptive Reuse of Existing Buildings', Proceedings of 14th Annual Pacific Rim Real Estate Conference 2008, Kuala Lumpur, Malaysia, pp. :1-18.

Yueqiang Feng (2024), Architectural challenges of urban heritage conservation from a sustainable development perspective, Journal of Civil Engineering and Urban Planning, Clausius Scientific Press, Canada, ISSN 2616-3969 Vol. 6 Num. 1 DOI: 10.23977/jceup.2024.060107

MAIN AUTHORS' PROFILE

	Associate Professor Dr. Mohamad Sabrizaa Abdul Rashid is a distinguished academic at Universiti Teknologi MARA (UiTM) in Perak, Malaysia, specializing in architectural design, heritage conservation, and sustainable urban development. He has contributed significantly to research on architectural heritage and community engagement, emphasizing the integration of local culture and sustainability in architecture. As the director of the Centre for Knowledge and Understanding of Tropical Architecture and Interior (KUTAI), he leads initiatives in tropical architecture studies, research, and various notable publications. Dr. Sabrizaa is also active in academic conferences, sharing his insights with peers and students globally.
	Dr. Kartina Alauddin is an Associate Professor in the Quantity Surveying Program at Universiti Teknologi MARA, Perak Branch, Malaysia. She earned her PhD in Built Environment from the Royal Melbourne Institute of Technology (RMIT), Melbourne, Australia. Her research focuses on intellectual capital for the adaptive reuse of historical buildings, and she has made significant contributions to the field through her publications in peer-reviewed journals, conference papers, and book chapters. Additionally, she is a researcher for the Knowledge and Understanding of Tropical Architectural and Interior (KUTAI) research interest group. With over 26 years of teaching experience at both undergraduate and graduate levels, Dr. Kartina has instructed a variety of courses in quantity surveying and project management. Her dedication to research excellence, teaching, and student mentorship underscores her invaluable role in the academic community.
	Mohd Azri Mohd Jain Noordin earned his Diploma in Interior Design in 2010 from Universiti Teknologi MARA (UiTM), Seri Iskandar Branch, followed by a BSc (Hons) in 2012 and an MSc in 2017 from UiTM, Shah Alam Branch, and Universiti Sains Malaysia (USM), respectively. He is currently pursuing his PhD at USM and has been a young lecturer in the Department of Interior Architecture at Universiti Malaysia Kelantan (UMK) for six years. Since 2018, he has focused on Interior Design, the Built Environment, and the intersection of Design and Culture, serving as Program Coordinator and Head of Program. His notable contributions to research and innovation include two Best Presenter Awards at conferences and several innovation awards at research carnivals from 2020 to the present.
	Associates Professor Sr Dr. Yuhainis Abdul Talib is an Associates Professor at the Department of Quantity Surveying, Department of Built Environment Studies and Technology, College of Built Environment, Universiti Teknologi MARA (UiTM Perak). She has served UiTM for 23 years. Her higher education background started with a Degree in Quantity Surveying from The Robert Gordon University, United Kingdom in 1997. In 2005, she received Master in Project Management from Universiti Sains Malaysia. She was awarded a Doctor of Philosophy (PhD) in Architecture (Facilities Management) from Deakin University, Australia in 2013. She has a a professional membership from The Royal Institute of Surveyor Malaysia (RISM) and Board of Quantity Surveying (BQSM) since 2017. She has been active in three research grants FRGS She is involved in both undergraduate and postgraduate teaching and supervision research. She has graduates 5 postgraduates students.

	Andi Yusdy Dwiasta is a senior lecturer in Architecture Study Program. He finished bachelor program in Gadja Mada University, and continued master's degree in Institute technology of Bandung. He interests research about Architecture and technology, urban design, and public space.
	Andi Abidah Finished Undergraduate of Architecture program in Hasanuddin University 1998, Master degree of Urban Design in Institute Technology of Bandung 2005, And Doctorate degree finished jn TU Wien. Her Research interes about Architecture culture of Asia, tradisional settlement or city.
	Associate Professor Sr Dr Haryati bt Mohd Isa holds a PhD in The Specialisms of Built Environment from Universiti Teknologi MARA (UiTM). Dr. Haryati is a Full-Time Associate Professor with UiTM and a Professional Quantity Surveyor registered with the Board of Quantity Surveyor Malaysia (BQSM). She is also member of Royal Institution of Surveyors, Malaysia (RISM). She is an active researcher, securing grants for projects focusing on defect liability management and cultural architecture documentation. As a recognized expert, she has been invited as a guest speaker at various institutions and conferences, sharing her knowledge on research writing, defects management and public-private partnerships. Dr. Haryati has also held several administrative positions within UiTM Perak, including Head of Centre for Postgraduate Studies and coordinator roles for various academic programs
	Nordin Misnat is a senior lecturer of Interior Design Technology Programme in UiTM Perak Branch. PhD student in Architecture Department of Built Environment and Engineering Faculty, Universiti Kebangsaan Malaysia (UKM) after obtained his MSc in Facility Management in 2006 from University Teknologi MARA (UiTM), Shah Alam, Malaysia. He has experienced working with interior design firm with interior design professional qualification in commercial design, corporate office, residential and hospital design before started lecturing in UiTM Perak Branch for almost 17 years. He has had a distinguished career in teaching and learning, participating multi-disciplinary research and community projects.

	Zamil has been a lecturer for over 15 years at the Universiti Teknologi MARA Perak Branch. He is a qualified Professional Landscape Architect registered with the Institute of Landscape Architects of Malaysia (ILAM). Zamil is also a researcher at the Center of Knowledge and Understanding of Tropical Architecture and Interior (KUTAI) at UiTM Perak Branch. His research interests include cultural landscapes, Malay gardens, Malaysian gardens, and tourism development. He has received funding for his studies from various government bodies, including MOSTI (eScience fund) and MOHE (FRGS). Additionally, he has contributed to over 50 scientific articles in his field of specialization. His recent study is titled "Malaysian Garden Concept" design guidelines and criteria. Furthermore, he serves as the Deputy Chairman of the ILAM Northern Chapter for the 2024-2026 session
	Nurrajwani Binti Abdul Halim brings over 21 years of experience as a senior academic in the Department of Interior Design Technology at the College of Built Environment, Universiti Teknologi MARA (UiTM), Perak Branch, located in Seri Iskandar, Perak, Malaysia. Her expertise spans Interior Finishes and Materials, Building Construction, Consumer Behaviour, Interior Landscaping, among other areas. Through her research, she aims to contribute meaningfully to the academic body of knowledge and provide valuable insights for the researchers, students, professional bodies, professional construction members including manufacturers, interior designers, architects, suppliers, and other industry professionals in assisting them in to promote sustainable living environments
	Marisa Hajrina, S.T., M.T., a lecturer with an architectural and urban background, currently teaches at the Architecture Study Program, Faculty of Engineering, Almuslim University. He obtained his Bachelor of Engineering degree in Architectural Engineering at Maulana Malik Ibrahim State Islamic University Malang in 2011 and continued his Masters studies at the University of North Sumatra, obtaining a Master of Engineering degree in the Architectural Engineering study program with a specialization in Urban Development Management in 2018.
	Moh Sutrisno received a Doctorate 2020 in Architectural Engineering and Planning at Gadjah Mada University. Previously he also earned a master's degree at the same campus in 2014 with cum laude predicate. He has taught architectural theory and criticism at UIN Alauddin Makassar since 2019 and has been the main subject in his functional position since being an expert assistant. The courses included the scientific fields of history and architectural theory. His research includes the theory of iconic architecture since 2012. He studied iconic buildings in various parts of the world, heritage architecture as an icon of its time in the old city space of Palopo (2015-2020), Icons of Islamic architecture in South Sulawesi (2020-2022), Currently, he is interested in Heritage building preservation methods using HBIM (2022-2023).

	Muhamad Ferdhaus is a senior lecturer in the Urban and Regional Planning Department at the UiTM Perak Branch. He graduated with a Ph.D. in Urban Geography in 2018 from the Universiti Sains Malaysia (USM), after obtaining his MSc in Sustainable City and Community in 2013 from the Universiti Sains Malaysia (USM). He received a bachelor's degree in urban and regional planning from the International Islamic University Malaysia (IIUM) in 2011. His field(s) of interest focus on sustainable cities and communities, Islamic planning and development, urban geography and metropolitan areas, tourism planning and development, and heritage and conservation
	Othman Bin Mohd Nor is a senior lecturer in the Interior Architecture Department at the UiTM Perak Branch. He graduated with a Ph.D. in Architecture in 2018 from the Universiti Teknologi Malaysia (UTM), after obtaining his MSc in Design in 2013 from the Institut Teknologi Bandung (ITB). He received a bachelor's degree in Interior Architecture from the Universiti Teknologi Mara (UiTM) in 2000 and a Diploma in Interior Design (ITM) in 2006. His field(s) of interest focus on Interior Design, Interior Architecture, Identity Architecture, Traditional, heritage, and conservation
	Ir. Zuraihan, S.T., M.T., a lecturer with a background in architecture and environment, is currently teaching in the Architecture Study Program, Faculty of Engineering, Almuslim University. He obtained his Bachelor's degree in Architecture from Syiah Kuala University in 2006 and continued his Master's studies at the same university, earning a Master's Degree in Engineering with a specialization in Environmental Technology and Management in 2012
	Afzanizam bin Muhammad received his Diploma in Interior Design in 1999 from Institut Teknologi MARA, followed by a BSc (Hons) in Furniture Technology in 2001 and an MSc in Heritage and Conservation Management in 2009, both from Universiti Teknologi MARA, Shah Alam Branch. Over the past 15 years, he has served as a lecturer at Universiti Teknologi MARA, Perak Branch. In 2017, he was appointed Assistant Conservator for heritage building conservation projects in Kuala Kangsar, Perak, an opportunity he used as the basis for his PhD research. He earned his PhD in Design and Built Environment in 2022 from the Faculty of Architecture, Planning, and Surveying, Universiti Teknologi MARA, Perak Branch. Since 2009, Afzanizam has been dedicated to academia, specializing in heritage conservation, particularly in timber buildings. His contributions to research are significant, and in 2018, he received the 'Best Research Paper Award' at the Third International Conference on Rebuilding Place (ICRP). Starting in 2024, he is officially accredited as a Conservator by the Malaysia Heritage Department

	Nur Huzeima Mohd Hussain is a senior lecturer in the Landscape Architecture Department at UiTM Perak Branch. She earned her PhD in Architecture from The University of Auckland, New Zealand, in 2015, following her MSc in Landscape Architecture from Universiti Sains Malaysia in 2004. Before joining academia, she gained professional experience in a landscape architecture firm and has since dedicated her 20th years of teaching in UiTM Perak. Her career spans teaching, multidisciplinary research, and community projects, with several secured FRGS research grants, university academic awards (AAU2019), published books, and postgraduate supervision. She has successfully graduated seven postgraduate students and is currently supervising five local and international students. Her research interests include Landscape Sociology, Sustainable Cultural Landscapes & Architecture, and Green Initiatives.
	Dr. Wan Faida Wan Mohd Azmi is a senior lecturer in the Quantity Surveying Department at Universiti Teknologi MARA (UiTM) Perak Branch, Seri Iskandar Campus. She earned her PhD in Quantity Surveying from Universiti Teknologi Malaysia in 2021. Her academic career spans teaching, research, and postgraduate supervision, with a focus on construction safety, design safety, and safety education. She has been actively involved in research projects, securing grants, and contributing to knowledge in her field. She is also involved in postgraduate supervision, guiding students in areas related to her research interests.

Co-organizer:

eISSN 3030-5543