



Cawangan Kedah
Kampus Sungai Petani

Faculty of Administrative
Science and Policy Studies

i-SPIKE 2021

Leading An Artificial Innovation In Knowledge, Education And Design

i-SPIKE 2021 INTERNATIONAL EXHIBITION & SYMPOSIUM E-PROCEEDINGS

<https://ispike2021.uitm.edu.my/>

e-ISBN 978-967-2948-20-9

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Copy Editors : Azni Syafena Andin Salamat, Syazliiyati Ibrahim, Asrol Hasan, Nor Zaini Zainal Abidin, Fatihah Norazami Abdullah, Chaleeda Som Sak, Nor Asni Syahriza Abu Hassan & Muhamad Khairul Anuar Zulkepli

Layout Editor : Asrol Hasan

Cover Design : Syahrini Shawalludin

Published by : Universiti Teknologi MARA Cawangan Kedah,
Kampus Merbok,
08400 Merbok,
Kedah,
Malaysia.

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REVITALISING HERITAGE SHOPHOUSES OF KOTA BHARU KELANTAN

Yasmin Mohd Faudzi
Faculty of Architecture and Ekistics,
University Malaysia Kelantan
yasmin.mf@umk.edu.my

Najah Md Alwi
Faculty of Architecture and Ekistics,
University Malaysia Kelantan
najah.ma@umk.edu.my

Nor Hafizah Anuar
Faculty of Architecture and Ekistics,
University Malaysia Kelantan
norhafizah@umk.edu.my

Juliza Mohamad
Faculty of Architecture and Ekistics,
University Malaysia Kelantan
juliza@umk.edu.my

Nik Nurul Hana Hanafi
Faculty of Architecture and Ekistics,
University Malaysia Kelantan
hana.h@umk.edu.my

ABSTRACT

This project highlights how the exterior facade of a heritage shophouse building, including their associated signage and advertising, as a crucial element in retaining and safeguarding the features of local and traditional cityscape. The focused concern is on maintaining the very few last remaining historical pieces of architecture in the old city of Kota Bharu by finding ways to fit them back into the changing urban environment they are located in. Armed with city heritage guidelines provided by the local authorities of MPKB, twenty new design proposals of two rows of shophouses in Jalan Temenggung were presented as an alternative to the current existing sites by the second-year architecture students. The results showed a highly viable solution that would bring gains to many different stakeholders. Undoubtedly, the process for enforcement, application and continued maintenance of these heritage buildings will constantly be competing with factors such as private ownership, finances, and relevance of placement in its surroundings. This study reveals, however, how the intrinsic value of these historical pieces is more likely to go up when investments are made to communicate their worth.

Keywords: Shophouse Façade, Heritage Façade, Building Conservation History (maximum 5 words, 10 font size and separated with commas)

INTRODUCTION

The remarkable history of the past architectural style of a city is known to be shaped by the number of significant architectural heritage property which stands as a prominent artefact. These selected heritage assets owned their physical and spiritual strength, yet exists without the protection from urban growth and architecture interventions to uphold their qualities of heritage elements and property will deteriorate due to natural causes and other factors. An important part of Architectural Heritage studies is to highlight how heritage property has an intrinsic form and visual value of urban heritage pattern, which should be wisely sustained and conserved.

As appointed by Mohga (2014), to implement heritage conservation by considering cultural context and qualified planning and design, local traditional and cultural values of communities for future generations can be a great challenge for the construction and design team to take responsibility for that issues. The challenges of an abandonment of the inner city, urban growth pressure, scarce lawmaking, and poor implementation affect urban conservation nowadays (Ahmad, 2008). In addition, inappropriate design of new township, urban lifestyle changes, and poor awareness of society are also among the significant issues in sustaining the heritage value currently (Ahmad, 2008).

Recent rapid expansion and modernisation have put the heritage shophouses in isolation because of the emergence of new modern buildings in the surrounding study area. Also, the flawed characters of the shophouse façade image have not been maintained and well emphasised by the local authority and owners. The shophouse owners' deficiency of maintenance and preservation has caused an inadequate and inappropriate image of the heritage shophouses. This project seeks ways to educate the students about noticing and observing the changes of function in heritage buildings also has distracted the ambience of the heritage site. Not only have the aesthetic value of the shophouse façade also been ignored by changing the strait eclectic style façade to modern façade causing a discontinuity of heritage façade, but also that the shophouse façade has been renovated to modern architecture style irrespective of the existing strait eclectic architectural style. The outcome of this study shares beneficial information to a range of stakeholders which includes the shophouses owners, the local authority, as well as other the heritage conservation practitioners and scholars interested in Kota Bharu, Kelantan.

LITERATURE REVIEW

Studies suggest that rapid growth and urbanisation in Malaysia have put the heritage buildings in an endangered situation, which might cause further demolition of the area's historical value. Mohamed et al. (2008) pointed out that economic development and urbanisation in developing countries with heritage significance are under threat due to rapid population growth. According to The Getty Conservation Institute (2009), due to fast urbanisation and growth consequences of cities worldwide, urban heritage has been confirmed to deteriorate during the last decade. Chun et al. (2005) added that there was a conflict between urban change and heritage, and this situation is physically evident in all the towns and cities in Malaysia today.

A study by Hülya. Y (2005) informs that the conservation intervention within the field of conservation may occur at many levels (from preservation to redevelopment), at different scales (from individual building elements to entire sites). In targeting each building, the scope of interventions uses several "upgrading" terminology classifications such as "protection and maintenance", "repair" or replacement of existing features, replacement of missing components, alteration, completion of the missing part, new constructions behind the exterior retained façades, new additions to historic buildings, and destruction of ruined historic buildings which according to small scale interventions to significant scale interventions.

Observation by Guan (2011), however, highlighted how shophouses comprised a line of similar units construct alongside the existence of party walls been built on one side of a street or city block, which eternally envisage as being merged to form a terrace. Demolition and alterations of heritage shophouses facade towards urban demand become one of the threats in conserving the existing historical building in Penang. As Herzog, et.al (1982) mentioned, historical building facades are preferred more over new ones. Hence, the historical building facade plays an imperative role as they resemblance the identity and image of the district and placemaking. Destruction and insensitive alteration on the original building façade is still happening, even though some conservation support is struggling to conserve heritage buildings (Wan Ismail et al., 2005).

METHODOLOGY

This study was executed as one of the design exercises of the University Malaysia Kelantan (UMK)'s second-year Architectural Design Studio 3 project in the second semester of 2019. This task is in accordance with the devised learning outcomes combined with the UMK university niche of Heritage Arts and the Council of Architectural Education Malaysia framework consisting of the following learning objectives: 1) the process of understanding of the history of a selected case study area; 2) implementation of selected façade study and spatial typologies through the case study methodology in Fig 1 and Fig 2 below.

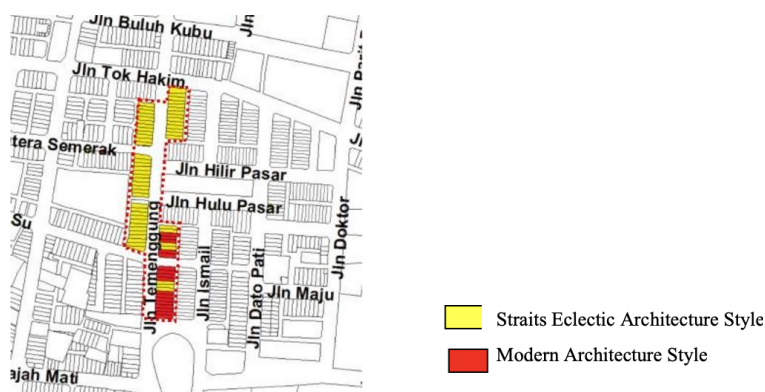


Figure 1. Location of identified Heritage Shop and Styles



Figure 2. Location plan of Jalan Temenggung's rows of selected shophouses
Source: Source: MPKB, Kaji Selidik Guna Tanah APUDG, 2005

This project also employed other means of qualitative methods such as interviewing the local authority and shophouses' owner/tenants as respondents to gain data and information regarding research matter and to validate data through triangulation. Each respondent selected for the interview are selected based on the scope of the study to specifically address issues of urban development control in Kota Bharu, Kelantan. The interview groups are divided into levels of stakeholders – Authorities (The Majlis Perbandaran Kota Bharu, as the local authority of Kota Bharu) and Shophouse owner/ tenants' owners of the heritage buildings.

A vital part of this process in architectural design involves students understanding a client's design requirement, which, in this case, the MPKB's guidelines, and then to be able to apply them as part of their design consideration. This project also provided an important opportunity for students to advance their understanding of ongoing issues in heritage and conservation studies by employing this type of interpretive inquiry into their design work.

ACKNOWLEDGMENT

The combined field of research expertise of conservation, history and sustainability in the team contributed immensely for the success of this project. We would like to acknowledge of UMK Internal Short Scheme SGJP Grant 2019-2020 in funding for this study.

REFERENCES

- Hülya. Y. (2005), An Evaluation of Interventions in Architectural Conservation: New Exterior Additions to Historic Buildings, Izmir Institute of Technology
- Mohga E. (2014), Heritage conservation and architectural education: 'An educational methodology for design studios', *HBRC Journal (2014)10*, 339–350, *Housing and Building National Research Center HBRC*
<http://dx.doi.org/10.1016/j.hbrcj.2013.12.007>
- Mohamed.B, Ahmad.A & Badarulzaman. N (2008), Challenges of Historic Cities in the New Millennium: Lessons from Malaysia.

MPKB, AJM Planning and Urban Design Groups Sdn.Bhd, (2005) Kajian Pelan Tindakan dan

- Garis Panduan Rekabentuk Bandar Kota Bharu Bandar Raya Islam (2005-2015) Raja-Shahminan R.N. (2007), Kajian Tipologi Rumah Kedai Awal Era Belanda Di B
- Raja-Shahminan R.N. (2007), Kajian Tipologi Rumah Kedai Awal Era Belanda Di Bandar Melaka: Sumbangan Kepada Bidang Pemuliharaan di Malaysia,
- Rashid. R. & Ahmad.A G. (2008), The Implementation of Maintenance Works for Historical Buildings – A Review on The Current Scenario, 2nd International Conference on Built Environment in Developing Countries (ICBEDC 2008), School of Housing, Building and Planning, Universiti Sains Malaysia, Penang, Malaysia
- The Getty Conservation Institute (2009), Historic Urban Environment Conservation Challenges and Priorities for Action Experts Meeting, March 12-14, 2009 Retrieved from: [http://www.getty.edu/conservation/our_projects/field_projects/historic/experts_mt_ma_r09 .pdf](http://www.getty.edu/conservation/our_projects/field_projects/historic/experts_mt_ma_r09.pdf)
- Wan Ismail W.H. & Shamsuddin. S., (2005), The Old Shophouses As Part of Malaysian Urban Heritage: The Current Dilemma, *8th International Conference of The Asian Planning Schools Association 11-14th September 2*



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