Tropical Architecture and Preservation in Malaysia

Dr. A. Ghafar Ahmad *highlights the architectural styles of the traditional and colonial buildings in Malaysia, and identifies some building features that are responsive to the local climatic conditions. He also discusses the preservation of heritage buildings in Malaysia.*

Overview of Malaysia

Situated in the central part of Southeast Asia, Malaysia has a warm-humid equatorial climate with high humidity and temperatures ranging from 22°C to 34°C. It has an annual rainfall of 80 to 100 inches with heavy monsoon rain. With a total population of 23 million (2000), Malaysia is one of the few countries in the world that has a multi-racial society. The country has 51% Malays, 35% Chinese, 10% Indians and 4% other ethnic groups, such as the Dayaks, Kadazans, Eurasians, Thais, Filipinos, Indonesians and Arabs.

Even though Islam is the official religion of the country, freedom of worship is enjoyed by all ethnic groups. This diversity is not only reflected in the beliefs and cultures but also in the architectural styles and building elements. Mosques, churches, temples, Malay vernacular houses, shophouses, terrace houses and clan houses or association buildings are some examples of building types which are found throughout the country. Once colonized by the Portuguese, Dutch and the British between 1511 and 1957, Malaysia also boasts a great number of colonial buildings which are still intact. Some of the colonial buildings have been converted into new uses while others have been listed by the Government under the present Antiquities Act of 1976 for greater protection and preservation.

With the country's current rapid development, in which the practice of demolishing old buildings has been the norm, greater efforts and commitments are being made by various authorities and local communities in Malaysia to ensure that the traditional and colonial buildings are well preserved and handed onto future generations in good condition. Such buildings also play a major role in keeping track of the country's development.

Traditional and Colonial Architecture

As far as the tropical architecture is concerned, both the traditional and colonial buildings in Malaysia are architecturally significant because they are designed and built with a sound understanding and respect for nature and the environment, incorporating and reflecting the local lifestyles and cultures. These buildings are considered as the architectural heritage of Malaysia and have been influenced by various architectural styles, including the Indian (7th to 14th century), Southern Chinese (15th century to the present), Portuguese (1511 to 1641), Dutch (1641 to 1795), Indonesian (18th century) and the British (1795 to 1957). The most prominent traditional architecture in Malaysia are the Malay Vernacular, Southern Chinese as well as the colonial buildings. Table 1.0 shows the different types and architectural influences of the traditional and colonial architecture in Malaysia.

Malay Vernacular Architecture

Early Malay houses were raised on timber stilts and made of materials which were easily available from the tropical forests such as timber, bamboo, rattan, tree roots and leaves. Usually the houses have pitched roofs, verandahs or porches in the front, high ceilings and many big openings for ventilation purposes. Although these characteristics are common in all Malay houses, their shapes and sizes can differ from

Architectural Styles		Periods	Building Types	Architectural Influences
Traditional	Malay Vernacular	14th century to present	- early houses (on-stilt) - mansions - timber mosques	- Regional - Indonesian - Moorish - Islamic
	Southern Chinese	15th century to present	- shophouses - terrace houses - temples - clan houses	- Chinese - Classical - Malay Vernacular
Colonial	Portuguese	1511 -1641	- fort (ruins) - church	- Classical - Portuguese influence
	Dutch	1641 - 1795	- fort (ruins) - Governor's house - churches	- Classical - Dutch influence
	British	1795 -1957	- forts - mosques - churches - prisons - schools - palaces - clock towers - court houses - museums	- Moorish - Neo-Gothic - Neo-Classical - Tudor - Art-Deco

Table 1.0 : Classifications of Traditional and Colonial Architecture in Malaysia

state to state. The Malay architecture has been influenced by the Indonesian Bugis, Riau and Java from the south; Siamese, British, Arab and Indian from the north; Portuguese, Dutch, Acheh, Minangkabau from the west; and Southern Chinese from the east. Thus, vernacular architecture has evolved and modified their styles to adapt to these influences. For example, some houses in Kelantan state have similar roof to that of Southern Thailand. This type of roof style is totally different from the ones in Negeri Sembilan state which have been greatly influenced by the Minangkabau of Indonesia.

As a whole, Malay vernacular architecture has been influenced by 4 major factors:

1. Material resources

With Malaysia's climate, building materials are easily available from tropical forests. Timber is used for building structure, rattan and tree roots for securing joints, and bamboo and leaves for floors and walls.

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2. Climatic conditions

With a steady rainfall all year round, the roofs of the Malay vernacular houses are very steep, allowing rainwater to run down onto the ground. Flooding is a common occurrence; to elevate the building above ground level, timber stilts are used. For ventilation purposes, many buildings have large openings on the sides and grilles are provided at high level in gable ends. Sun-shaded verandahs and canopies are designed in such a way to give protection from the sun and rain. The buildings raised on stilts also provide good natural ventilation.

3. Malay cultural and religious beliefs

Lavishly designed, buildings such as houses and palaces reflect the owners' status in Malay society. For instance, the old Kenangan Palace in Kuala Kangsar, Perak which was built by a Malay sultan, has magnificently-crafted walls. The Malays have adopted the Islamic principles of orientation of mosques, particularly the prayer halls which have to be designed facing Mecca. In other cases, some of the traditional Malay houses have floors at different levels, indicating the room functions. For instance, the living room floor is raised higher than the verandah room floor, providing a sense of spatial transition in the building.

4. Western influences

During the colonisation periods of the Portuguese, Dutch and British, the Malay vernacular architecture was exposed to new building technologies. These features are portrayed in the Alor Setar's Balai Besar (Audience Hall) in Kedah state. Built in 1898, the building - designed in the vernacular style - has clay tile roofs, brick and cement stairs, glass windows with brick and timber walls. It is clear that these building materials have had a profound impact on the Malay vernacular architecture. Nevertheless, the process of adopting new technologies in ancient architecture is not an entirely new idea. The vernacular architecture has been modified

through technological and cultural changes for many centuries.

Southern Chinese Culture

The Malaysian Chinese population historically were the descendants of immigrants from the southern provinces of China. They were divided into several different clans including the Hakkas, Foochows, Hainanese, Teochius and Cantonese. During the early 19th century, the Chinese, who had migrated to the Malay Peninsula via Penang, Malacca and Singapore, were mostly employed in tin mines and rubber estates. Some were hired

in trade, as craftsmen and skilled mechanics while others worked as shopkeepers. The Chinese who were hard-working labourers eventually changed the fabric of urban society in the Malay Peninsula. Many new settlements and urban centres were developed, among them Taiping, Ipoh and Kuala Lumpur. The Chinese had not only settled inland permanently but had brought along their customs, religion and language as well as the Southern Chinese architecture.

In the 20th century, Southern Chinese architecture in Malaysia had virtually combined the adaptation to the tropical climate with the influences of the Malay and the Europeans. Their styles can be classified into residential such as the traditional shophouses and terrace houses, religious such Buddhist temples; and public such as clan houses or association buildings. The traditional shophouses and terrace houses are the most popular residential buildings found in urban areas in the country. A shophouse, normally two or more storeys, is a commercial and private structure. The tenants usually use the first floor for commercial purposes such as sundry shop, light industry or warehouse, and reside in the upper floors. The building is not free standing; rather, it is connected to several other shophouses, which create a shophouse block. This shophouse unit is repeated to form streets and town squares. Building materials such as brick, plaster, concrete and timber are used.

A typical traditional terrace house is a single-storey building with a street-level porch in the front. Such a building usually has big entrance doors with timber bars locked into the door head, metal-bar and louvered-panel windows; and several openings. The building is often designed symmetrically with the entrance door located in the middle and windows on both sides. Depending on the tenant's wealth, the terrace house sometimes has glazed tiles at the base of the front walls. Like the shophouse, the terrace house uses brick, plaster, concrete and timber as the major building materials.

Although many Chinese have embraced Islam and Christianity, the majority are still Buddhists. Like the mosques, the Buddhist

temples can be found in villages as well as in small towns and cities. These temples possess significant characteristics that contribute to the Southern Chinese architecture. A typical Buddhist temple will have overhanging eaves made of clay tiles jointed by mortar, ornamented figures of people, angels, flowers or animals located on roof ridges; a big entrance door in the middle, windows of simple geometrical shape; and colourful mosaic tiles.

The Chinese are divided into several different clans and communities, and there are many kinds of Chinese association buildings intended for social gatherings, ethnic festivals and ceremonial functions. Architecturally, a typical Chinese association building is one-or two-storeyed; has an ornamented clay-tile roof similar to the ones on the Buddhist temples, a big entrance door, a front porch, large metal bars covering the windows which have both louvered panels and canopies. The building materials used in the association buildings are usually brick, concrete, plaster and timber.

Generally, the styles of the Southern Chinese architecture in Malaysia have been influenced by 3 major factors:

The Southern Chinese terrace houses and shophouses are the two most common buildings found in many urban areas in Malaysia. Each building is connected to several other houses to form a block with a street-level porch in the front. Building materials such as brick, plaster, concrete and timber are commonly found in the buildings.

1. History

Many traditional buildings including shophouses and association buildings have incorporated the local and colonial architecture into their building facades. Some have arches and classical columns to support the building structures. Another pertinent factor is the building by-laws, first introduced by Sir Frank Swettenham, a British resident of Selangor in 1884. These regulations were imposed after a fire episode in some shophouses in Penang and also after a period of building activity in Ipoh and Kuala Lumpur. The law, among other things, required the use of fire-resistant building materials.

2. Climatic conditions

Most buildings have large openings, louvered doors and covered walkways. These elements were designed in response to the warm and humid climate of Malaysia. Then, there is the jack-roof and air-wells that can be seen in many old shophouses and terrace houses. This segment of roof, separated from the main roof, has a clerestory opening or patterned grilles. It provides stack ventilation that reduces the internal heat build-up, especially during daytime.

3. Religious beliefs

Although the majority of the Malaysian Chinese are Buddhists, the belief in supernatural spirits has been a primary concern in designing and erecting any building. For example, the concept of "Feng Shui", which literally means wind-water, is a geometric system by which the orientation of sites are determined to encapsulate harmonic relationships with the cosmic forces. Ornamental symbolism plays an important part in the conveyance of meaning in placement. The use of bright colours such as red, orange and yellow has become a characteristic of the Chinese buildings which represent an ethnic rite. The emphasis of ornamentation on the temple and association buildings is considered important among Chinese believers.

Portuguese and Dutch architecture are primarily found in the historic city of Malacca. Some have been preserved and converted into museums.

Portuguese, Dutch and British Colonial Architecture

The Malay sultanate of Malacca came to an end when the Portuguese conquered Malacca in 1511. In 1641, the Dutch, who controlled most parts of Indonesia, defeated the Portuguese in Malacca and conquered the Malay Peninsula. The first British settlement and military support in the Malay Peninsula was in the island of Penang in 1795.

As a country which had been colonised, the remains of its colonial architecture can still be found in most major cities including Malacca, Georgetown, Kuala Lumpur, Johor Bahru, Taiping, Ipoh, Kuching and Kota Kinabalu. Portuguese and Dutch architecture is largely limited to Malacca. Examples of Portuguese architecture include Porta de Santiago Gate (1511) and the St. Paul's Church (1590). During the Dutch occupation, however, both buildings were destroyed. The Dutch architecture includes the Stadhuys building (1641-60) for the Dutch Governor and the Christ Church (1753). Today, these buildings remain intact and are well-maintained, with the Stadhuys building having been converted into a state museum.

The 160 years of British occupation in Malaysia brought major changes in the local architecture. British colonial buildings range from official residences of British resident-generals and Anglican churches to railway stations and public buildings. All these buildings portray distinctive design characteristics that are similar to their contemporary designs in England, but also contain interesting features which are responsive to the local climatic conditions. This can be seen in the use of louvered windows, big

openings, shaped gables, shading devices, internal courtyards, high ceilings, porticos, verandahs and air-wells in such buildings.

Aesthetically, British colonial architecture in Malaysia is essentially a hybrid, with four main architectural styles: Moorish, Tudor, Neo-Classical and Neo-Gothic. The buildings were designed and built by trained architects, contractors, bricklayers, soldiers and even priests. Some British architects and engineers, who had previously worked in India and other parts of the British Empire, were inspired by the Moghul architecture and had incorporated such architectural styles into the designs of government offices and railway stations in the Malay Peninsula. This was accomplished with due respect to the Islamic faith of the local Malays, particularly the sultans. The Moorish influence can be seen in many buildings in the heart of Kuala Lumpur city such as the majestic Sultan Abdul Samad Building (1897), Railway Station (1911) and Railway Administration Headquarters (1917). Even though the colonial buildings represent a relatively small part of Malaysian building heritage, their characteristics, design styles and building features have had a significant influence on modern residential and institutional buildings.

Situation of Preservation in Malaysia

In Malaysia, the practice of preserving buildings is relatively new in the local architectural scene. It has been of concern since the establishment of the Antiquities Act of 1976. In the past two decades, the Government has undertaken many initiatives through the channels of the Museum and Antiquities Department, Ministry of Works, local authorities as well as conservation bodies including the Heritage of Malaysia Trust and Penang Heritage Trust to preserve many traditional and colonial buildings.

British colonial architecture can be found in most major cities including Georgetown, Kuala Lumpur, Malacca, Ipoh, Taiping, Johor Bahru and Kuching. The British colonial buildings range from official residences of British resident-generals and Anglican churches to schools and railway stations.

During the early 1980's, the level of public awareness on the importance of preserving heritage buildings and monuments was less than encouraging. It was not until the successful project of adaptive re-use of Central Market in Kuala Lumpur in the late 1980's that the public had begun to develop a genuine concern. Based

on the concept of Covent Garden in London, a wet market built in the 1930's in an Art-Deco style with noisy stalls and unpleasant odours has been well-restored and converted into a pleasant and colourful handicraft centre. Today, the Kuala Lumpur Central Market is a favourite among locals and foreign tourists. This success has become a precedent to many other preservation

Building preservation practice is considered relatively new in the Malaysian architectural scene. Under the local Antiquities Act of 1976, many heritage buildings have been preserved and conserved.

projects in the country. The old mansions along Jalan Ampang, Kuala Lumpur have also been restored and converted into commercial, residential or office uses.

It is crucial to highlight the practice of urban conservation adopted by many city councils in Malaysia. Urban conservation is a concept of urban planning and development in which the unique historical, architectural and cultural values in the urban areas are accentuated. First introduced in Malaysia in the early 1980's, several cities such as Kuala Lumpur, Georgetown, Malacca, Taiping and Kota Bharu have since adopted it. The urban conservation policies have been implemented co-jointly by local authorities, Federal and State governments, Department of Museum and Antiquity, heritage trusts and other professionals. The Municipal Council of Penang, for instance, has shown a great effort in dealing with the issues of building preservation and conservation areas mainly in the inner city of Georgetown. The city, with a total of 12,000 traditional and colonial buildings including shophouses of all types, has designated six conservation areas. Similarly, the Municipal Council of Malacca has also identified its conservation areas and some roads in the old city have been converted into pedestrian malls to encourage preservation activities.

The practice of building preservation is also perceived as one of the main avenues to promote the Malaysian tourism industry. Tourists are often captivated by buildings of significant architectural and historical value. Rehabilitation or careful adaptive re-use of old buildings as shops, museums, restaurants and entertainment centres may help boost the tourism industry. With a wide array of traditional and colonial buildings located in most urban, rural and hillside areas, Malaysian architecture has much to offer.

It is, therefore, imperative to perceive all efforts geared towards the preservation of heritage buildings and cities in a positive manner. Preservation is not only crucial for national development but also to inculcate a sense of self-identity and pride for national heritage amongst the future generations.

Current Issues and Problems

Over the years, Government agencies and the public have rallied much effort towards

building preservation in Malaysia. Nonetheless, 3 major issues still persist in dealing with such practice:

1. Insufficient laws and legislations

Present laws and legislations are insufficient and unsuitable for the protection of heritage buildings from being demolished and destroyed forever. While there are currently acts and enactments addressing and documenting certain aspects of building preservation in Malaysia, it is felt however that the applications and formulations of these laws are too restrictive and are not intended to address the questions of heritage preservation adequately and extensively. Ironically, there is no current law that can prevent a developer from developing or demolishing an old building that has not been listed or gazetted for preservation. A building of significant architectural and historical value of less than 100 years old may not be protected outright under the present legislations. Therefore, it is critical that the present acts and enactments be revised and strengthened accordingly to protect and prevent any historic building from being demolished and destroyed.

2. Lack of knowledge and expertise in building preservation practice

There is also currently no system for discovering and recording historic buildings. As buildings are scattered throughout the country, building documentations, records and information tend to be collected and kept separately by various government agencies and local institutions. In effect, the Malaysian Government, through the channels of related agencies and conservation bodies, should compile and record historic buildings in the country for archival purposes. This can be achieved by conducting building surveys that involve local authorities, state museums and local communities. All information about the historic buildings including their structural conditions, architectural significance and historical information such as photographs, original drawings and written articles are invaluable data, particularly for the purposes of tender document preparations and planning applications.

3. Unsystematic system for discovering and recording historic buildings

Finally, there is an overall lack of skilled labourers and technical experts in the field, particularly in preservation methods and techniques. This is a major shortcoming since most preservation jobs involve both repair and maintenance stages, requiring an understanding of and analysis of building defect diagnoses. There are also the questions of testing and treating building materials, choosing appro-

The practice of building preservation is perceived as one of the main avenues to promote and enhance the heritage tourism industry.

priate tools and specifications, recording and documenting building conditions, introducing new technologies as well as meeting contemporary regulations and attitudes. There is a need for urban planners, conservation architects, landscape architects, quantity surveyors, specialized engineers, building contractors, archaeologists, art historians, antiquaries, skilled craftsmen, biologists, chemists and geologists. Obviously, when many disciplines are involved at work, the need to understand the basic principles, objectives and preservation methods are highly essential. The condition of an old building may be put at greater risk if handled by unskilled and inexperienced individuals.

Conclusions

With the advent of modern building technologies and rapid economic development, many of these buildings of historical value are at risk of demolition or haphazard redevelopment. As key issues and problems associated with building preservation practice in Malaysia have been examined here, some recommendations to allay such fears follow: the laws and regulations should be strengthened to safeguard historic buildings; the authorities concerned should adopt a more systematic and centralised documentation system of building and there is also an impending need to train and educate the workers in preservation and conservation jobs. It is clear that a concerted effort should be orchestrated to preserve traditional Malaysian architecture.

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Voice of Asia's Young

The youth of Southeast Asia and China, India, Japan, Korea and Taiwan have been invited to present the views of Asian young people, and submit an "Asian Youth Charter" to the United Nations later this year.

In January 2002, UNICEF, MTV Asia and the Levis Strauss Foundation initiated a "Speak Your Mind" campaign to provide opportunities for young members of the public to express their opinions on television, the Internet and at retail outlets.

They have been requested, as part of a contest, to suggest by mail or email, how to improve the world for their generation, and have also been encouraged to air their concerns and discuss issues relevant to them - with peers across the region.

Damrong Wong-Upraraj, Northern Village (Tempera) 1959.

MTV will be interviewing some of these youngsters, and, in March, eleven will be selected to present the Asian Youth Charter to UN. It is hoped that a clearer idea of what the young consider as important to them will emerge, and can contribute towards understanding the issues of HIV/Aids, education, economic consideration, etc. from their perspectives.

UNICEF and the Levi Strauss Foundation are committed to further identify and support projects relating to young people in Asia.

Art in digital print

Can art be mass-produced without devaluation? Through the contemporary technology of digital printing, thirteen Japanese artists are endeavouring to revive the historical practice of unlimited reproduction, as exemplified by the 'ukiyo-e' woodblock print images during the Edo Period (1600-1868).

Most of the works of these artists, exhibited at the Franco-Japanese Institute in December 2001, were created on computers with a 'paint box' programme, a pen sensor, a mouse or a touch screen, in a way similar to the ukiyo-e, which were engraved in wood and then printed as pictures, cards or book illustrations.

There are many who believe that digital printing is going to revolutionize art, reminiscent of how oil paints in tubes contributed to the birth of impressionism by allowing artists the freedom of experiencing natural light outside the confines of their studies.

Some of the advantages of using the computer to create art, say artists and graphic designers, are that a one-hundred percent clarity of line can be guaranteed, juxtaposition of texture imitating oils with that resembling water colours is possible; and that the size of the digital prints can be modified.