Change of Building Use in Old Residential Quarter of Melaka City, Malaysia as a UNESCO World Heritage Site

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世界遺産登録地としてのマラッカ市旧市街地における建物利用の変化

Rhan See CHUA* and Atsushi DEGUCHI**

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This paper discusses about the trend of building use change in the old residential quarter of Melaka City - a World Heritage Site. In late 2008, a study was conducted to access the situation of use change, by recording existing ground and second floor primary building uses, and compared them with uses recorded 10 years ago. Finding shows that over the past 10 years, warehouses, service uses and vacant buildings have increased, whereas residential and retail uses decreased. Finding also indicates the appearance of a large number of retail and service uses related to tourism, such as souvenir shops, restaurants and cafés, which are concentrated on a few particular streets in the study area.

Keywords: Historic city, Land use, Urban tourism, Colonial city, Preservation
歴史都市，土地利用，都市観光，植民都市，保全

1. INTRODUCTION

1.1 Background

The benefits of tourism in a historic city is well recognized[1][2]. Its negative impacts on the historic city and its host community were also observed[1)2)3)4)]. The more well acknowledged aspects of tourism are the deterioration of the historic physical environment, traffic congestion, visual and noise pollution, and conflicts between tourist and local people for amenities. Nevertheless, another implication of tourism which is less discussed among researches is the impact of building use change caused by tourism in a historic city.

1) The Importance of Building Use

The change of use in this context means the disappearance or dislocation of the original buildings uses of a historic city. These uses have been replaced by new uses found there not originally. In another way, the change of use can be related to the phenomenon of reuse of a heritage building.

Change of use, if happened excessively, will have adverse impacts on the historic city. The original identity and character of the city could be lost in the process of change, when old uses were replaced by new ones. This is especially critical if the historic city is of significant value, like one designated under UNESCO as World Heritage Site (WHS). The lost of character, historic value and unique function of the city will definitely reduce its attraction in the eyes of the tourist. More so, the local people's identi-

fication to the city where they have been living, working and recreating, could also be affected. Contrary, a historic city without modern day activities will have less appeal to the tourist[5]. Further more, a stagnant historic city also means that its local communities will be deprived of the amenities and facilities of modern day cities. No change could also hinders the historic city from living in a modern time, where urban heritage tourism is increasingly viewed as a strategy to achieve physical, social and economical improvement for the city[1)5)6)7)8)].

With these view, hence, it is important to manage use change in a historic city. The success in doing so will sustain the city's unique characteristic and identity, and at the same time provide services and uses that will meet the demand of tourist and local community.

2) Building Use Change in Melaka Historic City

Melaka City in Malaysia, is a historic city and one of the main heritage attraction of Malaysia. On 7th July 2008, this city together with the City of George Town in Penang, were inscribed as an UNESCO World Heritage Site, carrying the title - Historic Cities of the Straits of Malacca (Fig. 1). For Melaka City, the area listed as WHS consists of two cores. Core 1 is the old civic quarter, while Core 2 is the old residential and commercial quarter (Fig. 2).

Over the past several years, it was observed that new activities - mainly of tourist related uses like souvenir shops, restaurants, cafés and guest houses – appeared in large number in the old residential and commercial quarter. This phenomenon triggers the alarm that during the process of changing from old to new, some of the original and unique activities tied to the old residential quarter, such as the once influential Baba-Nyonya people's town houses, century-old trades and skilled craftsmanship like

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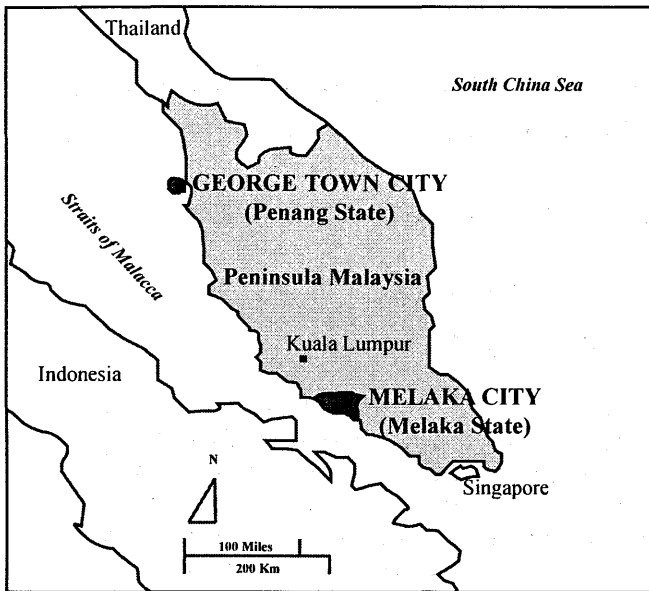**Department of Architecture and Urban Design
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Fig. 1 Historic Cities of the Straits of Malacca -
A UNESCO World Heritage Site

Fig. 2 Old Civic Quarter and Old Residential Quarter
of Melaka City

Chinese tea wholesaler and beaded shoes makers, might disappear and replace by these new activities. This change can be damaging as it could forever take away the characteristic and identity of the old residential quarter, which is one of the main justifications for the city's inscription into the WHS list in the first place.

By this observation, it is believed that change of buildings uses can be an important phenomenon to be observed in Melaka City, as it will have two-sided effects - that is to make the city more conducive or attractive for both local residents and tourist, or jeopardise it with new tourism related activities.

With this view in mind, this research is set to assess the current situation in the old residential quarter of Melaka City in relation to the subject of buildings uses change. This study confined its scope mainly to examining the types of new use found in the old residential quarter, the types of old uses that are being replaced and where the new uses took place. Only with such understanding of the current situation in the old residential quarter, can further discussion be made to find a suitable approach to manage buildings uses change in the city, with the aim to keep the character and identity of the old residential quarter for the benefits of the people living there and tourist, and also the sake of its status as a WHS.

1.2 Past Researches

The subject on building change of use has been carried out by a number of researchers. However research specifically on use change in a historic city is scarce, especially done empirically. Generally, literature on use change can be broadly divided into two groups. Group one mainly focuses on change of use in individual modern building[9] [10] and also heritage building[11] [12] [13] [14]. This group of literature largely deals with the architectural and structural aspects of building when use change takes place. The second group of literature focuses on change of use in a wider area, usually in a modern urban setting[15] [16] or in a historic
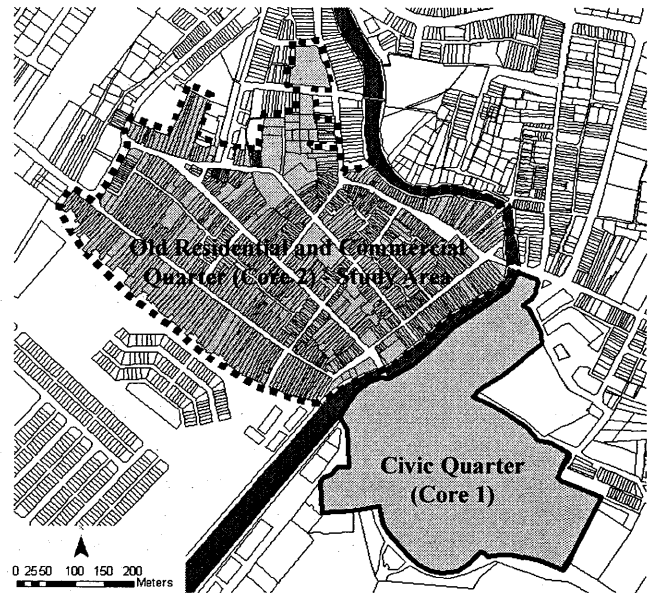
context[1] [4] [5] [6] [7] [8] [17] [18] [19] [20]. Often the subject of use change is related to other disciplines such as tourism, urban revitalisation and heritage conservation.

1) Tourism and Urban Revitalisation

Of the literature related to tourism and change of use in historic city, the works of Throsby[1], Wiendu[2], Bob McKercher et. al.[4], Ashworth et. al.[6] and Rodwell[17] are of important relevance. Law[5] in his article suggested that tourism and city has a symbiosis relationship. This relationship has worked to ensure the regeneration of the physical, economical and social aspects of a city. He offered that the prospect of tourism has motivated city to improve its physical condition to attract tourist. As a result of this and also place marketing, visitors flow into historic city.

The growth of tourism has created employments and increased the incomes of local people. The marketing of the city coupled with the increased in visitors volume have in turn created new image for the city, which subsequently triggered a few implications, such as the expansion of the city's economic activities, population growth and increased civic pride in the people. The continued improvement of the city for tourism purpose also benefited the local communities, as public amenities and facilities are provided, retained and enhanced. Whereas incomes generated from tourism are used to further re-invest and improve the city.

Law's view on the complimenting relationship between tourism and historic city is echoed by Throsby[1], who recognised the existence of such relationship for city with heritage and tourism values. From these views, it can be argued that change of use could happen in a historic city which is a tourist attraction. Change of use happen because economic expansion, population increase and the need to provide new amenities and services for people.

2) Change of Use and Tourism Demand

Jansen-Verbeke in 1988[5] [6] has listed out the types of

tourism resources that will draw tourist to a city. These elements are primary elements and secondary elements. Primary elements are elements that attract tourist to the city, like theatres, historic buildings, urbanscapes and special events. Whereas secondary elements enhance these attractions or assist in the process of attracting tourist, like shopping facilities, caterings and accommodations. This means a historic city need such elements to attract tourists. Contrary tourist will visit a historic city if the city provides such elements.

While Ashworth et. al.[6] further explained the four types of services that could exist in a historic city, by arguing that historic atmosphere, together with large number of potential customers, can attract private and public establishments to offer services in the city. These services are: -

i)   Services provided directly to individual customer, both private and public personal services, such as shopping; art, craft and antique, and catering.

ii)   Services provided indirectly and normally impersonally to customers.

iii)   Services officering culture, arts or entertainment to live audience.

iv)   Housing.

Based on the above views, it can be argued that, activities of different types and functions are important to the historic city, to attract tourist and to provide services.

3) Unharmonic Over-Change

Throsby[1] and Wiendu[2] have highlighted the trend to promote heritage tourism for economic gains in historic city. However, they also warned against the possible damage of tourism on heritage resources, when over development happened and tourism is meant only for financial gain. This view reflects the possible implications brought about by the phenomenon of use change in historic city, as excessive change not suitable to the history context and character of the city, could jeopardise its unique identity and eventually its sustainability.

From the views above, it can be concluded that the phenomenon of use change is a vital subject to be studies for the sake of historic city and its sustainability in modern time.

1.3 Objectives

This paper aims to assess the current situation in the old residential quarter of Melaka in relation to the phenomenon of buildings uses change. This research specifically wishes to examine: -

i)   The types of buildings uses that have been replaced in the study area;

ii)   The new uses found in the study area; and

ii)   The spatial concentrations of these new uses.

1.4 Research Methodology

To understand the change of buildings' uses in the old residential quarter of Melaka City, a visit was made to the city to gather relevant primary and secondary data. The primary data is targeted at the various types of current buildings uses found in the study area, and also some of the issues related to uses changes. While secondary data

mainly consists of buildings uses information, current policy and planning guidelines for Melaka City which were formulated by the government planning and heritage agencies at local and national levels.

1) Primary Data Collection

A survey has been conducted in the old residential quarter from late November 2008 to early January 2009, for about 25 working days, to record the different types of uses found in the buildings and land plots in the old residential quarter. The survey had recorded existing ground level and upper levels uses of 947 buildings and land plots.

Due to the limitation of man power as the survey was done by the researcher alone and the large number of buildings to be covered, the buildings uses information had been collected mainly via two general approaches – participatory observation and non-participatory observation approaches.

a) Participatory Observation Approach

Participatory observation approach in this study means observing the uses in a building by being inside the building and to see for oneself how the acidities were carried out. This approach was applied when entrance to a building was allowed by its occupant. In this kind of situation, all kinds of existing primary or secondary uses found in the building were recorded. Primary use in this context means use that is dominant and take up most space in a building, such as residential, retail, wholesale, service, artist workshop or industry activities. While secondary use mean activity other then the dominant activity found in the building, such as pastry making, local food production or painting workshop.

b) Non-Participatory Observation Approach

This approach involved observing the buildings uses without being inside the buildings. This approach was applied when the researcher did not enter a building, and can only make inferential from outside the building. Buildings uses were identified mainly by observing from outside, the activities that took place inside the buildings. Besides observing by the raw eyes, buildings uses were also identified through other senses like asking questions to the occupants of neighbouring buildings or people living nearby about the uses of certain buildings, smelling special smell that indicates the activity inside the building (for example cooking smell), and hearing sound or noise that indicated the interior activities such as sound of television programme or children playing. Most of the time, uses of a single building were identified via the combination of all sensing methods (Table 1).

The combined observation method was especially relevant when applied to building of certain conditions. For example, in this study it was found that certain types of buildings uses were easier to identify compare to others. Retail or service uses were relatively easy to determine as these activities are indicated by their business signage on the building, and also because they are open to the public. However, residential, store or vacant buildings were relatively difficult to determine, especially when the build-

Table 1 Observation Methods Used in Identifying Buildings Uses in the Study Area

Types of Situations	Time	Senses Involved	Building's Floor	Methods Applied	Building Uses Identified (by Observing or Inferring)
Building uses which can be determined from the inside or outside of the building.	Day	Viewing	Ground and upper floor(s)	**Close Proximity Observations** Observed the activities of the building from the outside and inside of the building in close proximity.	Uses were recorded as they appeared.
Building uses which cannot be determined from the inside of the building as the doors and windows were both closed.	Day	Verbal	Ground and upper floor(s)	**Verbal Interviews** Interviewed neighbouring residences or local people living nearby, if the neighbours and local people are available.	Uses were recorded as they were told by the neighbours or local people.
	Day	Viewing	Ground and upper floor(s)	**Close Proximity Observations** 1. Observed the condition of the building from the front or back of the building (for building with accessible back lane). Sometime involved peeping into the seams of the doors or windows.	If the building condition is dilapidated, it meant there is no inhabitant in the building. Hence this building will be categorised as vacant.
				2. Observed permanent or temporary fixture on the building that could indicate its uses, such as television satellite disc, Chinese lantern hung in front of the building, Chinese prayer stick holder, flower pots, clothes hanger, curtain or painting of the building.	If there is any such fixture on the building, the building will be indentified as residence. Otherwise it will be determined as vacant.
	Day	Viewing	Upper floor(s)	**Far-away Observations** Observed the inside of the building from a far, for some clues about their uses, such as storage boxes, hang clothes, ceiling fan, paintings, photo frames or any domestic items on the wall.	This method is used to decide the upper floor use of a building, and whether this building is used for residence, storage or is vacant.
	Day	Hearing	Ground and upper floor(s)	**Listening** Listening to any sound produced within the buildings, i.e. sound of television programme, radio, human conversation, children playing or cooking from the kitchen.	If there is some form of sound, it means there is inhabitant. This building is categorised as residential.
	Day	Smelling	Ground floor	**Smelling** Smell of cooking.	If there is smell, it means there is inhabitant. This building is categorised as residential.
	Night	Viewing	Ground and upper floor(s)	**Far-away Observations** Observed the internal lighting from outside the building.	If there is light, it means there is inhabitant. This building is categorised as residential.

ings' doors or windows were tightly closed. In this kind of situation, then various methods have to be applied to gather the required information.

c) Identification of Buildings Uses

Uses on the ground level and upper levels of a building were also determined differently using the observations approaches. Most of the time, uses on ground level were determined by making close-proximity visual observation, smelling, hearing or by making verbal enquiries to the local people. However, uses on the upper floors were mostly identified from a far by observation or hearing.

In some cases, observations were made at night to identify the types of uses for a building. For example a residence can be easily differentiated from a vacant building or store at night when there are lights coming out from inside the building. However, not many residences were being identified by this method as most uses can be identified during the day time.

In the study area, besides residential use, most of the buildings have a clear separation between the ground level use and upper levels uses. These buildings are typically the shop houses types that can be found in many Asian Cities. Majority of the shop houses in this study area have ground floor used for activities open to the public like retail shops, restaurant, offices and art gallery. While the upper levels are used mainly for residential purpose. This kind of mixed uses on found on different floor levels can be categorised as mixed vertical uses.

Besides this, there are also a number of buildings with different uses found on the same floor. Examples of this kind of mixed uses are residential use mixed with cottage industry uses like pastry making or curry power production; or artist studio mixed with residence. This type of use is categorised as the horizontal mixed uses. However, the number of buildings with such uses is believed to be small. Due to these reasons and the fact that not all buildings' primary and secondary uses could be gathered in detail during the survey because of man power limitation, hence when analysing the current uses of buildings in the study area, only the information about the primary uses found on each floor of a building were looked into.

d) Unstructured Interviews

Besides collecting information on current buildings uses, the research also engaged in 70 informal and unstructured interviews, mainly with local residents, premises owners and business operators in the study area. The purposes of these interviews were to understand the current situations in the study area in relation to change of use, the possible cause of change, and also what local communities think about this phenomenon, especially after the WHS inscription. Other than that, the researcher also made calls to urban planners and architects at the planning and conservation offices of Melaka City Council and the Ministry of Unity, Culture, Arts and Heritage, to understand the latest policies and rules governing the planning and conservation of WHS in Melaka and Malaysia.

2) Secondary Data Collection

The collected secondary data mainly consist of past buildings uses of the old residential quarter of Melaka City and some information on the profile of the study area.

Majority of this information were gathered from planning statutory plans, reports, guidelines, magazines and bulletins published by the urban planning, heritage and statistic agencies at local and national levels. From these reports and plans, it was understood that the last time a comprehensive survey of the various buildings uses in the old residential quarter was carried out in year 1999 and the survey results published in 2000[21] [22]. However, the past buildings uses records were not all perfect. Some discrepancies were detected, such as inaccuracies or unclear information about the uses. However, since this is the only comprehensive record available for the study area, it was used after the unreliable information were skimmed off and classified as 'no information' when the analysis was performed.

3) Storing and Sorting of Data

After the survey, all photos and data were sorted and recorded into computer system using mainly Microsoft Office, Statistical Package for Social Sciences (SPSS) and Geographical Information System (GIS) software – Arc Map.

4) Analysis and Display
a) Classification of Uses

The first part of the analysis process involved classifying the collected buildings uses information into a classification system that is both meaningful and useful. Such system is necessary because currently, there is no one comprehensive building use classification in Malaysia. Broader land use classification is more popularly used. However land use classification is not the same as building use, as the later need more detail and precise classes. In the context of the study area, the requirement for precision is more acute as many uses are related to the historicity, intensity and way of life in the area. Hence this type of 'context-based' uses might not be reflected well in general building or land use classification.

To make this classification, the North America Industrial Classification System (NAICS)[23] and Australia and New Zealand Standard Industrial Classification[24] [25] were used. Both NAICS and ANZSIC are in line with the International Standard Industrial Classification (ISIC) set by the United Nations, to categorise economic activities of its member countries[26]. In this study, NAICS and ANZSIC are particularly used as the reference because the use classes found in both systems are more suitable to the activities found in the study area, compare to the other standard, such as those used by the European Union (EU)[27] and Japan[28].

In this study, by making reference to classification systems that have already been established, the chances of putting uses into unrealistic classes can be avoided. However, use classes from NAICS or ANZSIC are not completely adopted without any change. Adjustments such as creating new sub-classes or renaming classes used by NAICS and ANSIC were made, to better suit to the study area.

b) Definitions of Uses

In this study, uses are grouped into a hierarchy of divisions, groups and classes. In the analysis of this study, uses are explained by the divisions they fall into, such as residential, retail, services, community uses and others. Table 2 contains the types of uses found in the study area, their divisions and definitions.

c) Analysis Techniques

The second part of the analysis involved analysing data using statistical techniques in SPSS and Microsoft Excel. In SPSS, buildings uses information were mainly processed using frequency and cross-tabulation commands, to examine the existing use situation and also past and present buildings uses change. Whereas Excel was used mostly to display analysis results in chart forms. Besides that, the processed information from SPSS were transferred into Excel and linked with GIS to display spatially, information of the profile and building use changes of the study area.

2. STUDY AREA
2.1 History of Melaka City

Melaka City is a city with long colonial history. The city was founded about 600 years ago in 1400, by Parameswara - an Indonesian prince from Palembang, Sumatra. Melaka then moved on to become a very important trading port for the spice route that connected East Asia and Europe. Because of this reason, Melaka later became a target of foreign controls (Table 3). Due to the long history of colonialisation, Melaka has rich legacies that are still evident even today in its people, culture, language, ways of life, architecture and urban form.

2.2 UNESOC World Heritage Site Designation

Melaka City was designated as a WHS based on three of the five UNESCO's criteria of universal values - Criterion (ii) Melaka represents exceptional examples of multicultural trading towns in East and Southeast Asia; Criterion (iii) the city is a living testimony to the multi-cultural heritage and tradition of Asia, and European colonial influences; and Criterion (iv) the city reflects a mixture of influences which have created a unique architecture, culture and townscape some originating in the Dutch or Portuguese periods[29]. For Melaka City, the inscription into the world heritage list means more responsibility to keep the heritage properties from being destroyed by rapid urban and tourism development[30].

2.3 Characteristics and Identity of the Old Residential and Commercial Quarter

The old residential quarter is an area of 25 acres. The estimated population in this area is about 3,500 to 4,000 people in the day time and 3,000 people at night. There are lesser people during night time because some of them do not stay in the old quarter, and only come to work during day time. The main ethnicity in the old residential quarter is Malaysian of Chinese descent (75.5%) (Fig. 3 and Fig. 4). And majority of the buildings here are two stories shop houses and town houses (88.5%) (Fig. 5 and Fig. 6).

The characteristic and identity of the old residential quarter are reflected by the different types of uses and activities found on different streets in the area[31] [21] [27]. For

Table 2 Use Divisions and Definitions

Use Divisions	Definitions	Examples of Uses from the Study Area
Residential	Place for living, accommodation.	Residence, ancestral home
Retail	Activity involves the selling of goods directly to the ultimate customers in small quantities, usually through shop or store[34)35)].	Gift and Souvenir, Art Products, Furniture, Clothing and Clothing Accessory, Shoe, Watch and Jewellery, Religious Goods, Grocery, Specialty Food, Wine and Liquor, Houseware, Antique and Used Merchandise, Agriculture Product, Hardware and Building Supplies, Recreational Goods, Health and Personal Care, Book, Periodical and Music, Textile and Ceremonial Goods.
Wholesale	Goods that are bought and sold in large quantity.	Chopping Board Wholesaler, Coffee Wholesaler, Dried Seafood Wholesaler, General Merchant Wholesaler, Grocery Wholesaler, Ratan Goods Wholesaler, Stationary Wholesaler, Tea Wholesaler, Titbits Wholesaler, Wine Wholesaler.
Service	Business whose work involves doing something for customers but not producing goods[34)].	Tourist Accommodation, Legal Services, Accounting Services, Architectural, Engineering and Technical Services, Specialty Skilled Services, Real Estate Agents, Managers and Appraisers, Collateral, Commodity Contacts Dealing, Full-Service Restaurant, Limited-Services Eating Place, Special Food Services, Drinking Places (Alcoholic and Non-alcoholic Beverages), Drinking Places(Non-alcoholic Beverages), Travel Arrangement and Reservation Services, Business Support Services, Ambulatory Health Care Services, Automotive Repair and Maintenance Services, Machinery and Equipment Repair and Maintenance Services,
Light and Service Industry	Production of goods from raw materials or people and activities involved in producing a particular thing, or providing a particular service[34)]	Pineapple Tarts Bakery, Local Food Products Shop, Coconut Grazing Shop, Batik Clothes Workshop, Tailoring, Engraving & Printing Shop, Printing Workshop, Engraving Shop, Hot-stamping Shop, Silversmith, Tinsmith, Chinese Lacquer Board Maker, Machine Tool Workshop, Stone Carving Workshop, Chinese Funeral Items Maker, Beaded Shoes Maker, Rubber Stamp Maker.
Agriculture	Activities related to producing farming goods or services[34)].	Bird Nest Cultivation
Religious	Connected with religion or has religious significance[34)].	Chinese Temple, Hindu Temple, Mosque, Church, Buddhism Centre.
Community	A place where people from the same area can meet for social event[34)] or places open to public.	Clan Association, Society Association, Community, Public Toilet.
Education	Connected with education or providing education[34)].	Conservation Showroom, University Research Showroom.
Arts, Entertainment and Recreation	Establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons[23)].	Artist Studio, Lottery Shop.
Information, Media and Telecommunications	Includes units mainly engaged in creating, enhancing and storing information products in media that allows for their dissemination; transmitting information products using analogue and digital signals; and providing transmission services and/or operating the infrastructure to enable the transmission and storage of information and information products[25)].	Library, Private Historical Museum.
Cemeteries	Area or land used for burying dead people.	Muslim Cemeteries.
Transportation and Warehousing	Industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation[23)].	Transportation Office, Store.
Parking	An area or land where motor vehicles are park, with or without payment.	Paid Public Parking, Private Parking.
Under Renovation	Building which is undergoing renovation.	Building Under Renovation.
Vacant	A building which is empty or without any activity.	Vacant Building.
Vacant Land	An area or land without any building or activity.	Vacant Land.

Table 3 Colonial History of Melaka City

Colonial Occupation	Period	Historical Events
Portuguese	1511-1641	Portuguese defeated the Sultan of Melaka in 1511 to begin the city's long colonial history.
Dutch	1641-1824	Portuguese control changed hand in 1641 when Dutch took over.
British	1824-1957	British took over Melaka in 1824 under the Anglo-Dutch Treaty. Under this Treaty, Melaka and all Dutch colonies above the Straits of Malacca were transferred to British rule. While all British colonies below the Straits of Malacca were given to the Dutch. British remained in Melaka and other parts of Malaysia until the country's independence in 1957.
Japanese	1942-1945	Melaka was briefly occupied by the Japanese during World War II for three years and eight months.

example Jalan Tun Tan Cheng Lock (formerly known as Heeren Street) is famous for its Straits-born-Chinese, also known as the Baba-Nyonya; buildings from the Dutch period and also very long and grand town houses. Whereas Jalan Hang Jebat (Jonker Street) is known for its history of mixed communities and activities since Dutch time.

These activities are strongly related to the history, character and people of Melaka City, which also gave the study area its unique identity. Fig. 7 contains information about some of the more well known streets in the study area and their historical identities[21)27)31)32)33)]. Fig. 8 illustrates some of the old activities that still exist in the study area.

3. CHANGE OF USE

After analysing the data, a few findings regarding building use changes in the old residential and commercial quarters of Melaka City were derived from the results.

3.1 The Replacement of Previous Uses in the Study Area

1) Existing Situation

From the survey, it was found that currently, about 30% of the use on the ground floor is retail uses. Retail uses
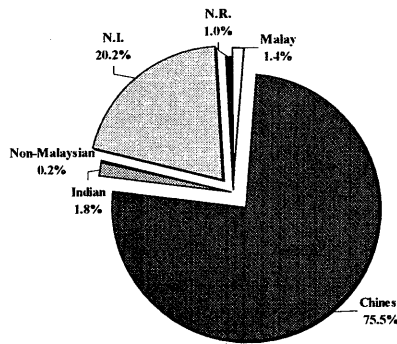
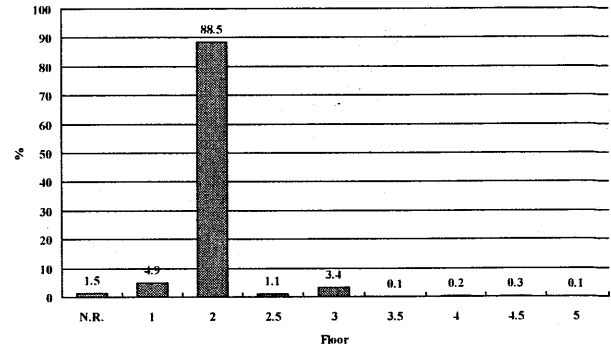Fig. 3 Ethnic Compositions in the Study Area (2008)
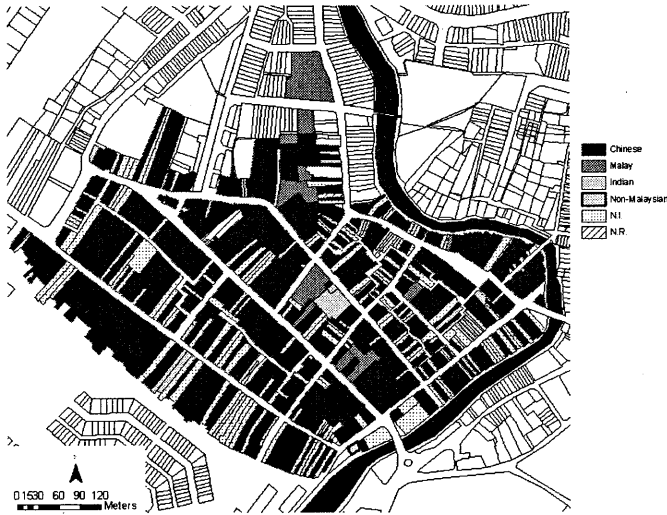

Fig. 5 Buildings Heights in the Study Area (2008)
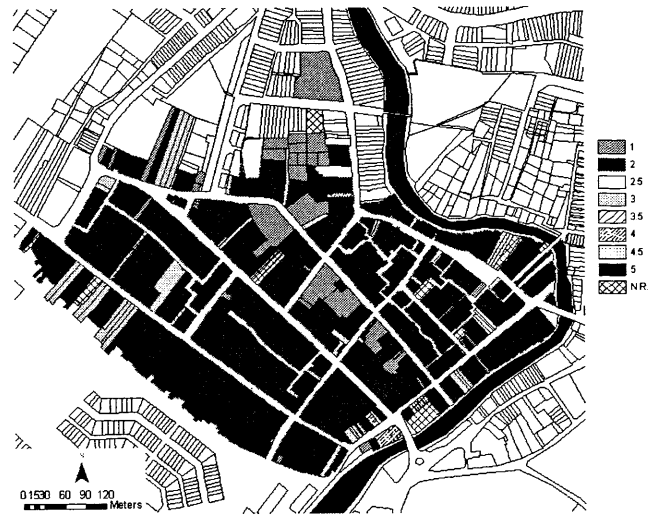

Fig. 4 Ethic Distributions in the Study Area (2008)

Fig. 6 Buildings Heights Distributions in the Study Area (2008)

Jalan Kampung Pantai – 250m
- This could possibly be the most original street in terms of use, with much of the activities remain unchanged for the past 80 -100 years.
- This are is dominated by wholesale business selling daily provisions like rice, teas, groceries, preserved food from China, household items and wine.
- Another prominent feature of this place is the number of storage place, related to the wholesale business.
- The architectural style is a mix, between old and modern.

Lorong Hang Jebat (First Cross Street) – 350m
- Historically, well known for its money lender community of Indian origin.
- Now, many of the furniture shops and hardware shops established during the 1950's are still in business. Other uses include residents, offices, services, souvenir shops and traditional coffee shops. The architectural styles vary, a mix of old and modern design.

Jalan Tokong (Temple Street) – 300m
Jalan Tukang Emas (Goldsmith Street) – 100m
Jalan Tukang Besi (Blacksmith Street) – 100m
- Collectively known as Harmony Street by the local.
- Three very old places of worships of different faith are found along these streets, i) Cheng Hoon Teng Temple (1600s), Kampung Kling Mosque (1748) and Sri Poyyatha Vinayar Moorthi Temple .
- These religious buildings are representation of vernacular architecture of Malay, Chinese, Indian and European origins.
- These streets is historically a mix of residents, general shops and Chinese prayer items sellers and makers.

Jalan Hang Jebat (Jonker Street) – 400m
- Means 'Gentlemen Street' in Dutch.
- Historically a mix between residence, antique shops, specialty stores, shops, school, burial ground and dominantly Chinese clan associations. Had a social mix of people, like rich and average, well-known and common. This is also the area of residence of the servants serving the wealth families in Heeren Street.
- A mix of architecture style and grandeur.

Streets in the Residential Quarter
1. Jalan Tun Tan Cheng Locl (Heeren Street)
2. Jalan Hang Jebat (Jonker Street)
3. Jalan Tukang Besi (Blacksmith Street)
4. Jalan Tukang Emas (Goldsmith Street)
5. Jalan Tokong (Temple Street)
6. Jalan Kampung Kuli
7. Jalan Kampung Pantai
8. Jalan Kampung Hulu
9. Lorong Hang Jebat (First Cross Street)
10. Jalan Hang Kasturi (Second Cross Street)
11. Jalan Hang Lekir (Third Cross Street)
12. Jalan Hang Lekiu (Fourth Cross Street)
13. Lorong Jambatan
14. Jalan Kubu

Jalan Tun Tang Cheng Lock (Heeren Street) – 400m
- Predominantly a residential area; even now.
- Used to be the residential area for the noble Dutch, British and wealthy Chinese-Straits-Born (Baba and Nyonya people) during the British period.
- Used to be called the 'millionaire row'.
- Houses are extensively design and decorated, mixing east and west elements. They are long and narrow, as the width was determined by the Dutch taxation system. There are usually 1-3 courtyards in the house due to the length, and a well.
- A few Dutch period houses still found here, especially at area nearing Malacca River.
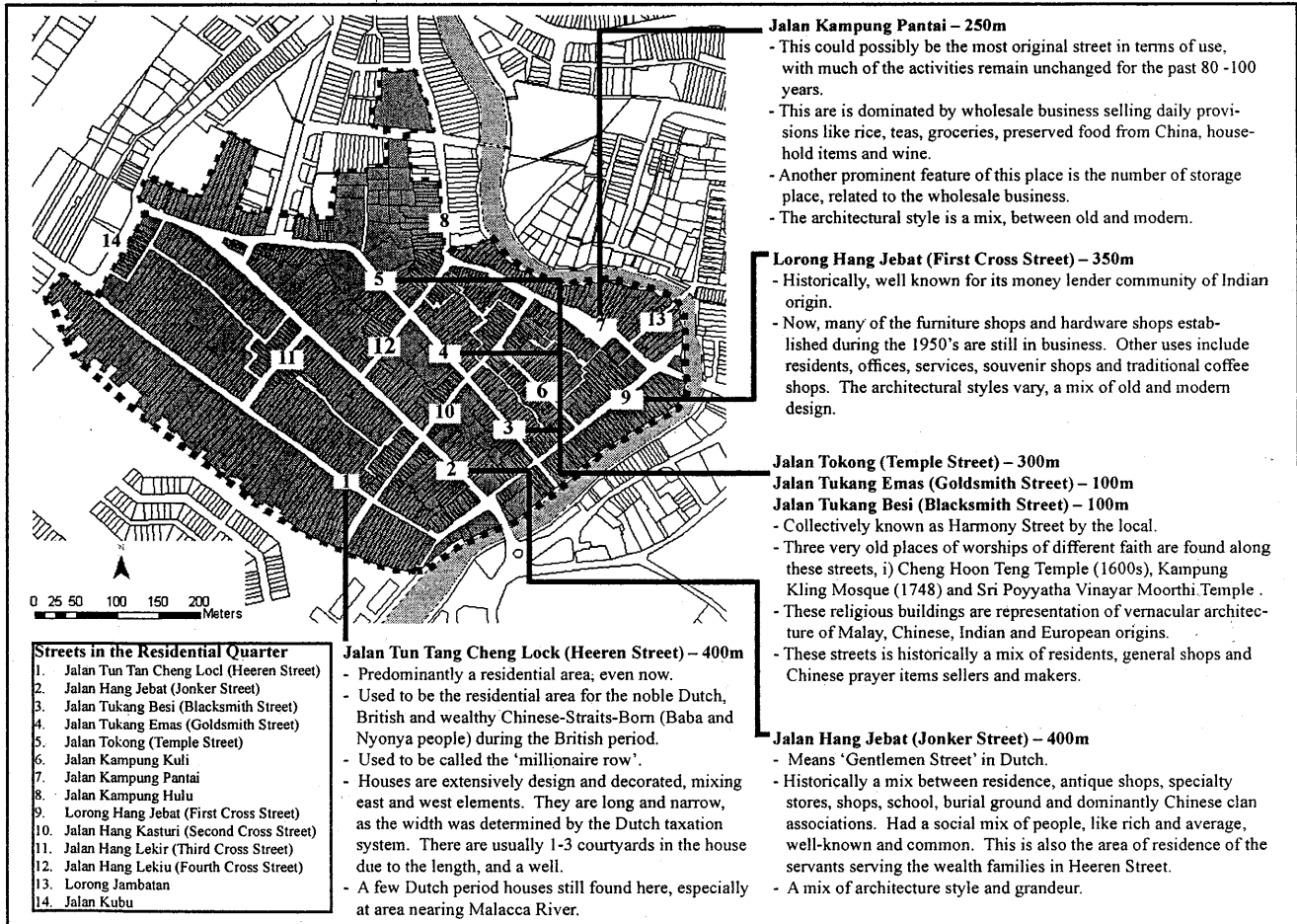
Fig. 7 Identity and Characteristics of Streets in the Study Area

Chinese funeral items maker at Jalan Tokong

'Popiah Skin' - a local delicacy maker at Jalan Kampung Kuli

View of Heeren Street

Fig. 8 Existing Trades and Street Views of the Study Area

consist of grocery shops, furniture shops, meat and vegetable sellers, fertiliser shops, hardware shops, prayer goods shops, souvenir shops, local food product shops, art dealers, antique shops, and all other retail use.

This is followed by the second and third largest uses, which are services (18%) and residential use (17.5%). Services found in the study area include offices, restaurants, cafés and traditional coffee shops, hotels and guest houses, Chinese funeral undertakers, mechanical repair services, photo frame makers and also personal based services like hair salons and spa centre.

Besides that, a large number of buildings in the study area were found to be vacant buildings (14.6%) and warehouses (7.3%) used mainly for storage. Other uses include light or service industries (3.5%), which are chiefly printing workshops, rubber stamp makers, tinsmiths, tomb stone maker, steel parts maker, tailor and Chinese lacquer board makers; wholesalers (2.5%) selling general groceries, teas, wines, household items and stationeries; religious buildings (1.8%) like mosques, Chinese temples, Hindu temple and religious centres; and also building for community uses (1.7%), such as Chinese clan associations, society associations and private clubs.

Other less dominating uses found in the study area include agriculture uses (0.7%), which is primarily buildings used for bird nest cultivation; parking (0.6%) which includes private and paid public parking; information media and telecommunication uses (0.5%) which include museums and library; education use (0.3%) like conservation showroom; arts, entertainment and recreation buildings
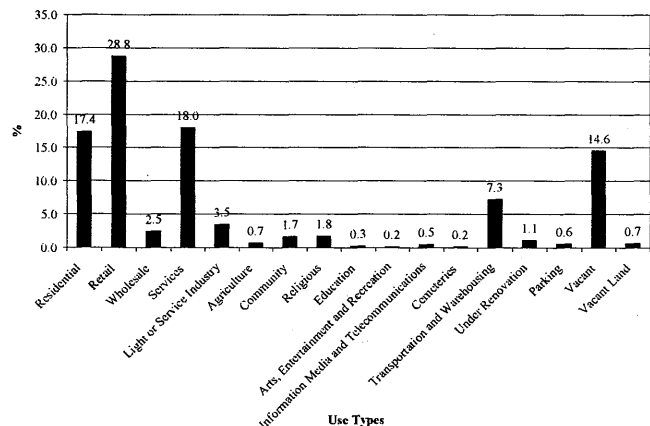
(0.2%) such as lottery shop and artist studio; and also cemeteries (0.2%). There are also buildings which were under renovation (1.1%) and vacant land plots (0.7%) (Fig. 9).

Whereas the three main uses found on the buildings' second floor are residential use (40.1%), vacant (27.3) and storage use (14.5%) (Fig. 10).

2) Uses of Significant Change

In order to examine the change in buildings uses in the old residential quarter, a comparison between the current uses and the previous records of 1999 was made. The result from the comparison showed that now, the number of residential and retail buildings have decreased, with almost 6.7% reduction in residential use and 5.6% decline in retail use respectively. This means, about 10 year ago, there were almost 16% more retail shops and 30% more residential buildings in the old residential quarter than now (Fig. 11 and Table 4).

The exact reason for such decrease for residential and retail uses is unknown. However, the cause for this situation could be related to the reason that residents or retail businesses in the old residential quarter had relocated to other parts of Melaka city, due to the pulling factors of better living condition in the suburban areas and better business opportunities in the new townships outside the city centre. The situation can also due to the pushing factor of inner city discomforts like the lack of amenities, open space and traffic congestion, which is in fact a frequent occurrence in the study area, especially during festive or holiday seasons. For retailers, there could also be the possibility that the younger generations are not interested to continue the old trade as many of them might receive higher education and wish to advance their own career. Hence old retail businesses simply fade away with the older generation.

On contrary, the analysis findings showed that the number of services, warehouses and vacant buildings in the study area had increased dramatically over the past 10 years. Buildings used for services have grown from 9.6% in year 1999 to 18% in year 2008. This is almost 90% increase within a decade. Whereas storage use recorded
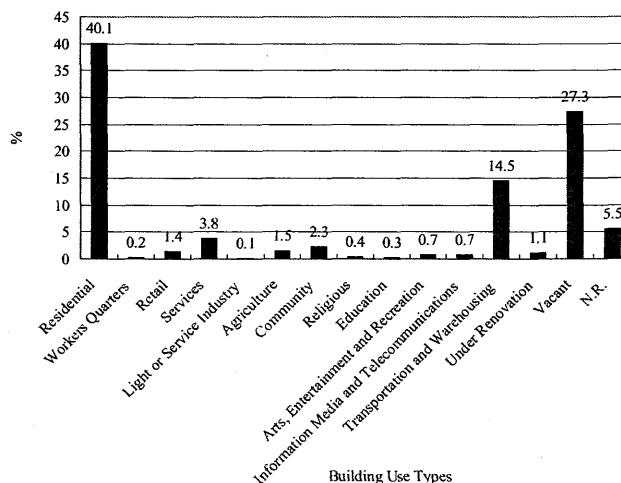

Fig. 9 Building Use Types in the Study Area (2008)

Building Use Types

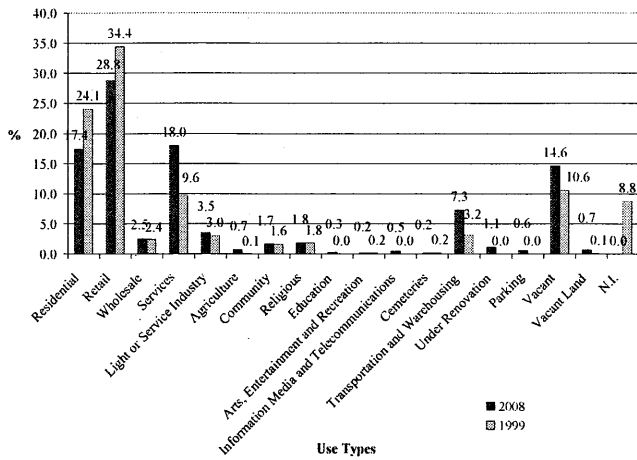**Fig. 10 Second Floor Building Use Types in the Study Area (2008)**

Fig. 11 Ground Floor Building Use Types in the Study Area (1999 - 2008)

even higher increase over the last 10 years, jumping from 3.2% to 7.3%, which is more than double. The number of vacant buildings in the old residential quarter also rose from 10.6% to 14.6%, which is about 40% raise. Besides that, there are also more parking areas in the old residential quarter now than 10 years ago, with an increase of 0.6%.

Alarmingly, the use of buildings for bird nest cultivation (agriculture use) and also vacant lands - land plots where buildings had been destroyed - recorded a dramatic increase of 600%. Generally, this situation is not healthy for the old residential quarter. Bird nest cultivation is known for its bad smell, loud noise, unhygienic and visually unappealing breeding conditions. Whereas more vacant land means more old buildings with or without heritage value were ruined, by either man-made factor or old age. If these types of unappealing uses were to increase in the future, then living quality, identity and characteristics of the old residential quarter as a whole could be in jeopardy.

3) Uses of Little Change

The results of the analysis also indicated the types of uses in the study area that had changed a little or did not change. Uses with little growth include wholesale businesses, community and education uses. Their growths were relatively small, with 0.2%, 0.1% and 0.3% respectively. There are also buildings uses that did not change at all in the past 10 years, like religious buildings, arts, entertainment and recreation uses, and cemeteries.

As a conclusion, buildings uses did change in the old residential and commercial quarter of Melaka City. Change is especially significant for seven types of uses – residential, retails, services, warehouses, agriculture, vacant buildings and vacant land plots. Services, warehouses, agriculture, vacant buildings and vacant land uses have shown signs of increase over the last 10 years, while residential and retail uses decreased in the past decade. There are also uses that experienced relatively minor changes like wholesales, community and education uses. While the number of religious buildings, entertainment and recreation, and also cemeteries did not vary in the past decade.

Table 4 Changes in the Number of Gound Floor Building Uses in the Study Area

Building Use Types	Nos.	2008 (%)	Nos.	1999 (%)	Difference (%)	Growth (%)
Residential	165	17.4	228	24.1	-6.7	-27.8
Retail	273	28.8	326	34.4	-5.6	-16.3
Wholesale	24	2.5	23	2.4	0.1	4.2
Services	170	18.0	91	9.6	8.4	87.5
Light or Service Industry	33	3.5	28	3.0	0.5	16.7
Agriculture	7	0.7	1	0.1	0.6	600.0
Community	16	1.7	15	1.6	0.1	6.2
Religious	17	1.8	17	1.8	0.0	0.0
Education	3	0.3	0	0.0	0.3	0.0
Arts, Entertainment and Recreation	2	0.2	2	0.2	0.0	0.0
Information Media and Telecommunications	5	0.5	0	0.0	0.5	0.0
Cemeteries	2	0.2	2	0.2	0.0	0.0
Transportation and Warehousing	69	7.3	30	3.2	4.1	128.1
Under Renovation	10	1.1	0	0.0	1.1	0.0
Parking	6	0.6	0	0.0	0.6	0.0
Vacant	138	14.6	100	10.6	4.0	37.7
Vacant Land	7	0.7	1	0.1	0.6	600.0
N.I.	0	0.0	83	8.8	-8.8	-100.0
Total	**947**	**100**	**947**	**100**	**-**	**-**

3.2 New Uses in the Study Area
1) What Changed to What?

To understand in detail the transformation of uses in the past 10 years, both uses information of 1999 and 2008 were cross-tabulated. The results from the cross tabulation showed that a few types of buildings were used for different uses 10 year ago. It was found that, one in every ten (10%) residential buildings, was in the past, retail shop. Whereas about three in every ten (30%) buildings currently used for services, were previously retail business, while one in every ten service buildings (10%) was formerly residence and a small portion was once vacant building (7.6%) (Fig. 12).

The possible explanation for the change from retail to residential use is that some retail businesses might have closed down over the years. These predominantly two storey shop houses could have retained the residential function after the closing of the business hence make them appeared as residences.

Besides that, the findings also showed that half of the buildings recorded with agriculture use was previously retail businesses (42.9%) and one third of it was vacant
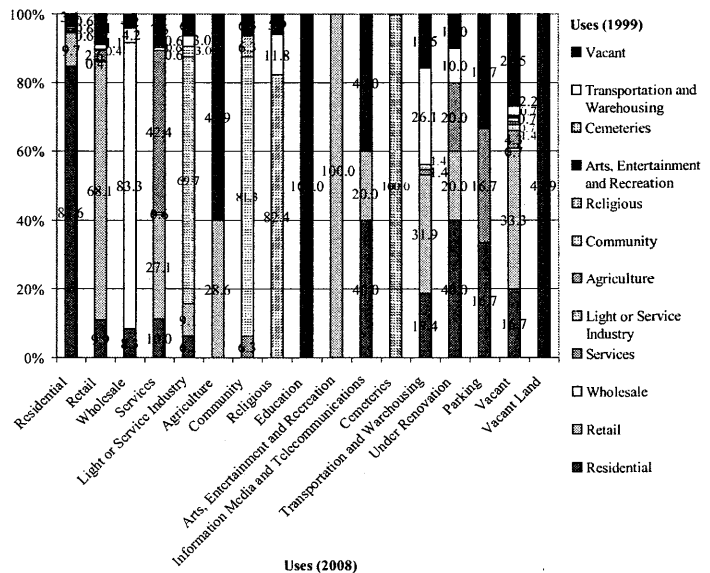

Fig. 12 Ground Floor Building Use Types Changes in the Study Area (1999 - 2008)

building in the past (28.6%). Uses in the information, media and telecommunication category which are mainly museum and library, were mainly former residence (40%), vacant buildings (40%) and retail businesses (20%). Besides that, almost one in every five buildings currently used for storage, was previously residence (17.4%); one in three was formerly retail shop (31.9%) and one in seven was in the past vacant building (14.5%). Interestingly, buildings which are currently under renovation, almost half of them were in the past residence (40%), while another half retail shops (20%) and services (20%). Only a small number were previously warehouses (10%) and vacant buildings (10%).

These findings on uses change showed that buildings previously used for residences, retail shops, warehouses, services and vacant buildings are popular targets for use change. Old residential buildings especially, are more prone to change, as shown by the current use change pattern. This could be due to the reason that it is a passive and non-profit making use, and is not an income generating use like retail or service uses, which could be more resistant to use change.

The survey findings also indicated that, most of the current parking areas in the study area are made up of former residences, service businesses and vacant buildings, all 16.7% respectively. It is also worth mentioning that currently, majority of the vacant buildings were in earlier times retail shops (33.3%) and residences (16.7%).

The above findings indicated one obvious pattern. That is uses such as services, warehouses and agriculture, which numbers had increased over the past decade; are mostly transformed from former residences or retail shops. This could also explain why 10 year ago, there were more residential and retail buildings then now. This pattern of change reiterates the fact that many retail businesses and residences in the study area had either shut down or relocated, to new towns or suburban areas outside the city centre, which have better living quality or more job opportunities.

This change can also caused by the discomforts of inner cities living or the non-interest of the younger generation to continue old businesses of their parents. However, the question is why such change pattern occurred? The possible explanation for this situation could be closely related to the repeal of the Control of Rent Act 1966 in Malaysia in the turn of the century.

2) Repeal of the Control of Rent Act 1966

In the year 2000, the effectiveness of the Control of Rent (Repeal) Act 1997 finally came to an end on 1st January 2000. This Act was enacted to repeal the older Control of Rent Act 1966 (revised in 1988) which was meant to freeze rent increase for privately-owned premises in Peninsular Malaysia built before 31 January 1948, due to the shortage of buildings after the World War II[36]. This piece of law had benefited many low income people over the years by providing cheap and affordable premises for shelters and businesses at the centre of old cities in Malaysia.

On the other hand, this law has also deprived the premise owners' right to ask for higher rent for about 50 years, especially when their premises are located in the prime location of the city. The law has also been subjected to abuse by irresponsible tenants who re-rented out the premises at much higher rent for gains. As they are not the premises owners, hence were not bounded by the legislature. Due to this reason also, many property owners did not care to maintain and upgrade their premises in the old city as this act was deem unworthy economically. It was reported in 1997 that, 4,135 rent control premises were found in Melaka, while 12,453 were recorded in Penang[36].

3) Implication from the Repeal of Act

In Melaka, when the Act was repealed in 2000, many of the heritage building owners in the old residential quarter, rented out their buildings for more economically viable uses, especially those of tourist related uses, to gain from higher returns. Some of them even sold the buildings for very high price as these buildings are very much in demand. Therefore, it is natural for new business uses, especially those which are highly profitable such as hotels, guest houses and restaurants and cafés, to operate in the old residential quarter. In the process of change, these new uses have edged out the original and less-profit-making uses such as residence, and the traditional grocery shops or old trades in the study area.

This kind of use change can have both positive and negative implications to the old residential quarter. Positive impacts include there will be more well kept and maintained buildings, interiorly or exteriorly, and also diversification of local economic activities. However, the negative impacts from these changes could be the dislocation of existing community and the gradual lost of local identity and characteristics, which are closely linked to the buildings uses and activities of the city. Fig. 13 illustrated some of the new uses that can be found in the study area.

3.3 Location of Change

1) Where are these Uses – Residences, Light or Service Industries, Wholesales and Community Facilities?

The survey findings showed that various uses are found at different streets in the old residential quarter. In general, most of the streets in the study area have residential, retail and service uses. However, there are some streets which have a higher concentration of light or service industries, wholesales, community and religious facilities than others (Fig. 14).

Currently residential use is more dominant at Jalan Tukang Besi (27%), Kg. Ketek (100%), Lorong Jambatan (39.1%), Jalan Kampung Kuli (51.5%) and Heeren Street (25.7%). The high concentration of residential use in these streets could be due to the fact that these streets are traditionally the residential area of the old quarter. Not much change happened here especially in places like Jalan Tukang Besi, Jalan Kampung Kuli and Lorong Jambatan. As for Kampung Ketek, it is the only surviving traditional Malay village that can be found in this predominantly Chinese residential quarter.
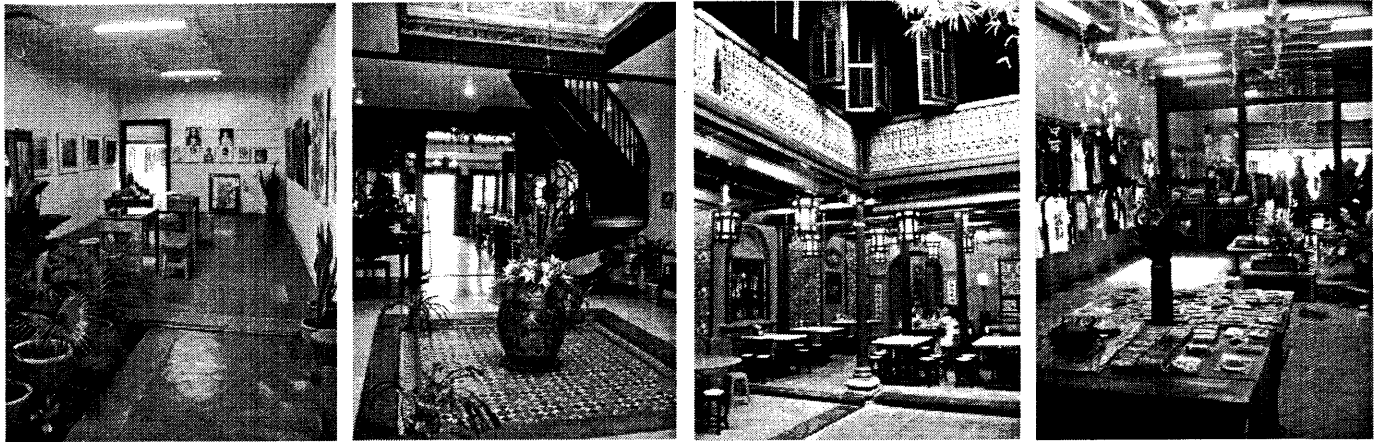
| Art Gellery cum Residence at No.48, Heeren Street | Hotel at No.114-118, Heeren Street | Restaurant at No.21, Jonker Street | Souvenir Shop at No.27, Jonker Street |

Fig. 13 Examples of Various Types of New Uses Found in the Study Area

For light or service industries, most of the uses are concentrated at Jalan Hang Kasturi (9.2%), Jalan Tukang Besi (8.1%) and Jalan Tokong (7%) which are historically fame for the unique old trades, like tomb stone carving, blacksmith and tinsmith activities. While Jalan Kampung Pantai and Jalan Kampung Hulu are streets with long history of wholesale tradition, with 20% and 10.5% wholesale uses respectively. As for community facilities, Jalan Kampung Hulu (5.3%), Jonker Street (4.9%) and Jalan Tukang Emas (4.2%) house many of the Chinese clan associations and society associations of Melaka City, which are still active even today.

2) Where are these Uses – Retail and Service?

For retail uses, streets which have more retail shops than others are found to be at Lorong Hang Jebat (33%), Jalan Tokong (47.7%), Jalan Tukang Emas (50%), Jonker Streets (48.6%) and Jalan Hang Lekiu (34.2%). Currently, much of the retail uses in Lorong Hang Jebat are shops selling souvenirs, arts items and in particular, furniture. While
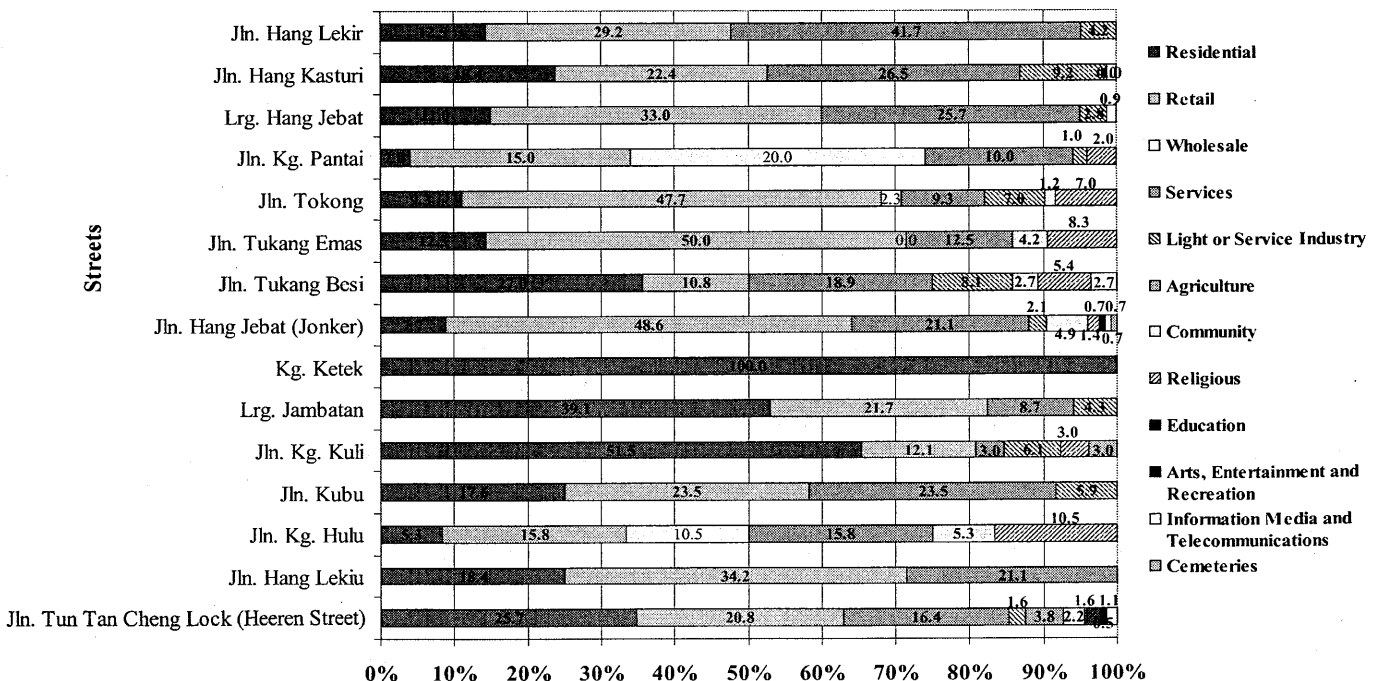
Jalan Tukang Emas and Jalan Tokong have a large number of retail businesses selling Chinese religious goods. Both the furniture and Chinese religious goods shops have long history on these streets, as most of them have been there for the past 50 to 60 years.

At Jalan Hang Lekiu, majority of the retail shops are souvenir shops, traditional clothes boutiques and accessories businesses. While at Jonker Streets, most of the retail shops are specialised in selling antiques, paintings, art related products, souvenirs and local food products (Fig. 15).

Beside retail shops, the results of the analysis showed that, service uses in the old residential quarter are found primarily at four streets. They are Jalan Hang Lekir (41.7%), Jalan Hang Kasturi (26.5%), Jalan Kubu (23.5%) and Jalan Hang Lakiu (21%). Majority of the service uses recorded at all these streets are related to food and beverage services, like restaurants, cafés, pubs, traditional coffee shops, food and drink outlets (Fig. 16).

Fig. 14 Ground Floor Building Use Changes by Streets in the Study Area (1999-2008)

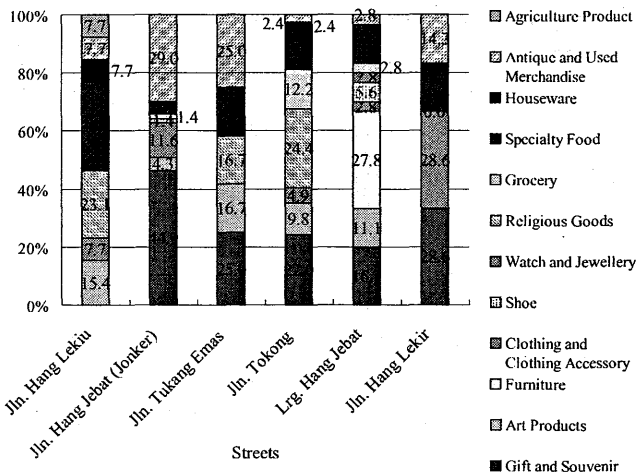**Fig. 15 Streets with Dominating Retail Uses in the Study Area (2008)**

Fig. 16 Streets with Dominating Service Uses in the Study Area (2008)

From the finding, Jonker Street and Jalan Hang Lekiu recorded high number of retail businesses selling souvenirs and tourist products, and the above four streets showed high concentration of food and beverage related uses. This finding indicated that the location and type of use change happened on these streets could be related to the implementation of Jonker Walk programme by the Melaka State Government for tourism purpose.

1) 'Jonker Walk'

In year 2000, Melaka State Government has introduced a street wide pedestrianisation programme in the old residential quarter, known as the 'Jonker Walk'. This programme is carried out by closing the whole stretch of Jonker Street on every Friday, Saturday and Sunday nights, for pedestrian. When the street is close, stalls selling local goods and products such as souvenirs, small antiques, fashion accessories, and also food and beverage, are allocated at the sides of the street to form the walk. Weekly local cultural performances are also carried out on the days of Jonker Walk. This programme has in a way successfully promoted the old residential quarter as one of the main tourist attractions of Melaka City. This success can be judged from the high number of people visiting Jonker Walk on weekends.

2) Implication from 'Jonker Walk'

The implication from Jonker Walk is that many streets intersecting and connected to Jonker Street, where Jonker Walk is held, recorded large number of tourist related retail and service uses such as souvenir shops, restaurants and cafes, as shown in the above findings. Jalan Hang Kasturi is located at the south-east end of Jonker Street, whereas Jalan Hang Lekiu, Hang Lekir and Jalan Kubu are located at the north-west intersection, middle intersection and the beginning of Jonker Street. A spatial comparison of the current and previous uses on these streets indicated that change of use did take place, with more retail and services uses observed now (Fig. 17 and Fig. 18).

4. CONCLUSION
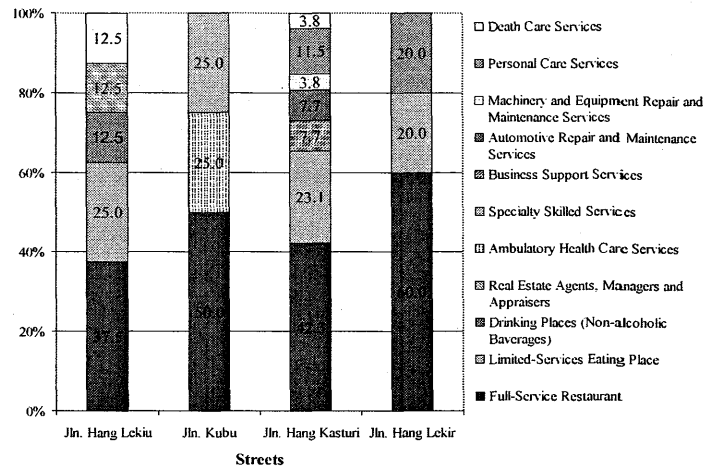
This paper had discussed the possible issue related to

building change of use in a historic city, that could undermine the sustainability of the city if use change is left unchecked. This paper also presented some of the findings from a building use study carried out in the old residential and commercial quarter of Melaka City, which is also a WHS and one of the main tourist attractions of Malaysia.

The results from the survey showed that different types of uses in the old residential quarter of Melaka City did experienced change over the last 10 years. The number of service uses, warehouses and vacant buildings had increased; whereas residential and retail uses decreased. The findings also indicated that a considerate portion of the buildings which were previously vacant, or were used as residence and retail shops, are now being transformed into service entities, warehouses, museums and parking areas. Most alarmingly, many of these buildings had become places for bird nest cultivations or left empty. The reason for such pattern of change could be related to the repeal of Control of Rent Act 1966, in year 2000, and other reasons such as the relocation of the original residents to new township or places outside the inner city for better living quality; or for retail shops, the discontinuation of businesses due to the passing of the older generation.

Another important finding from this study is that, different streets in the old residential quarter have recorded different types of uses change. Most of the tourist related uses such as souvenir shops, restaurants and cafe, are found primarily at streets intersecting Jonker Street, where the Melaka State Government held its weekly 'Jonker Walk' programme that served as a tourism attraction to Melaka State. This trend of change towards more touristic uses can be alarming to Melaka City, which is now a WHS, and by this designation, a WHS is expected to live up to its status[37].

It is important to manage use change in the historic city, as too much change towards satisfying tourists' needs will fall into the trap of over-commercialisation, and risk jeopardising the city's unique identity and character. However, if there are no new activities, especially those that are able to improve the living quality of residents and the visiting
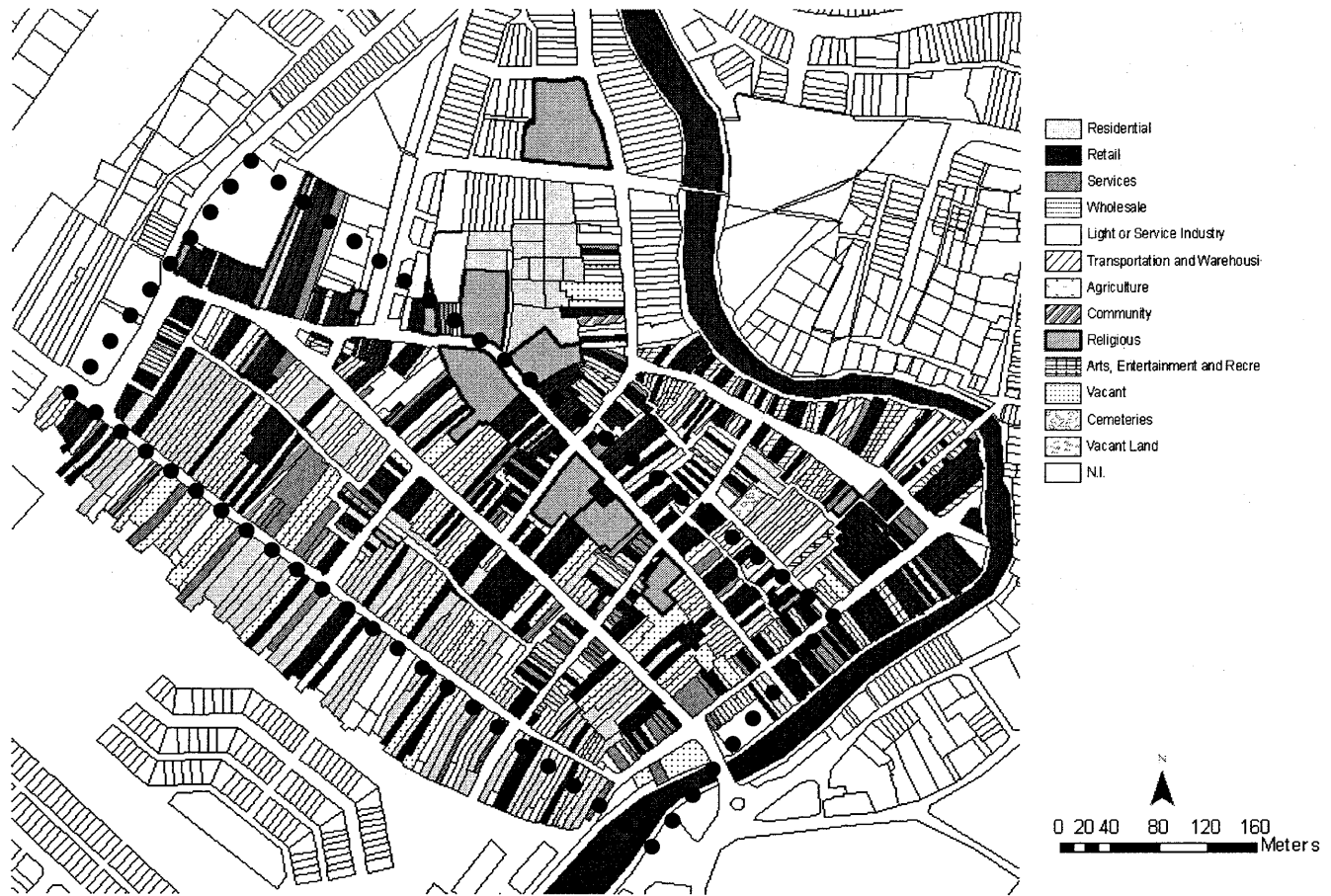
Legend (Fig. 17):
- Residential
- Retail
- Services
- Wholesale
- Light or Service Industry
- Transportation and Warehousi-
- Agriculture
- Community
- Religious
- Arts, Entertainment and Recre
- Vacant
- Cemeteries
- Vacant Land
- N.I.

0 20 40 80 120 160
Meters

Fig. 17 Spatial Distrubution of Building Uses in the Study Area (1999)

Legend (Fig. 18):
- Residential
- Retail
- Services
- Wholesale
- Light or Service Industry
- Transportation and Warehousing
- Agriculture
- Arts, Entertainment and Recreation
- Information Media and Telecommunications
- Community
- Religious
- Education
- Under Renovation
- Vacant Building
- Cemeteries
- Parking
- Vacant Land
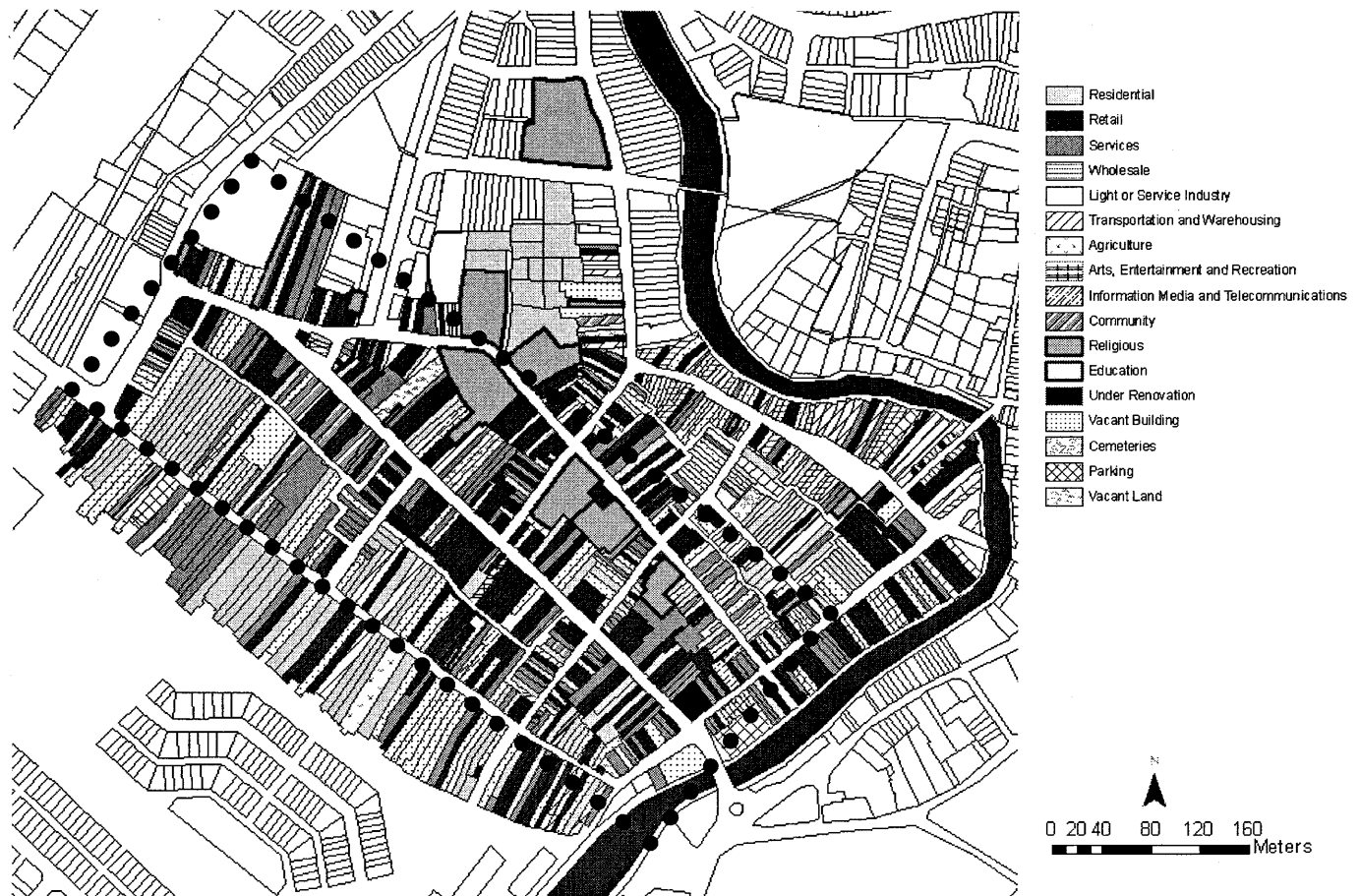
0 20 40 80 120 160
Meters

Fig. 18 Spatial Distrubution of Building Uses in the Study Area (2008)

experiences of visitors, historic city could also become un-interesting and stagnant, and in the end become a 'lifeless museum'. It can be concluded that the physical, social and economical sustainability of a historic city can be achieved by having a strategic approach to manage change of use in the city.

References

1) David Throsby: Economic and Culture, Cambridge University Press, 2001.
2) Wiendu Nuryanti: The Role of Tourism in Adaptive Reuse and Development of Historic Public Space, 1999.
3) Department of Environmental Studies: Defining, Measuring and Evaluating Carrying Capacity in European Tourism Destinations, University of Aegean, Athens, 2002.
4) Bob McKercher and Hilary du Cros: Cultural Tourism – The Partnership Between Tourism and Cultural Heritage Management, Haworth Hospitality Press, New York, 2002.
5) Christopher M. Law: Urban Tourism and Its Contribution to Economic Regeneration, Urban Studies, Vo. 29, Nos. ¾, p. 559-618, 1992.
6) G.J. Ashworth and J.E. Tunbridge: The Tourist-Historic City: Retrospect and Prospect of Managing the Heritage City, Pergamon, 2000.
7) Lee Lik Ming, Fang Hwei Ling, Lim Yoke Mui and Nor'Aini Yusof: The Economic Value of Heritage Buildings in Asian Cities: A Hedonic Regression Analysis of Housing Properties in George Town, Penang, APSA Congress, Colombo, Sri Lanka, 2007.8.
8) Florian Steinberg: Conservation and Rehabilitation of Urban Heritage in Developing Countries, Habitat Int., Vol. 20, No.3, pp.463-475, 1996.
9) V. Straka and M. Gorgolewski: Adaptive Building Reuse and Component Reuse, 1st International Structural Specialty Conference, Alberta, Canada, 2006.5.
10) Dorothy A. Henehan: Building Change of Use: Renovating, Adapting, and Altering Commercial, Institutional, and Industrial Properties, McGraw-Hill Professional, 1st edition, 2003.9.
11) Craig Langston, Francis K.W. Wong, Eddie C.M. Hui and Li-Yin Shen: Strategic assessment of building adaptive reuse opportunities in Hong Kong, Building and Environment, Volume 43, Issue 10, pp. 1709-1718, 2008.10.
12) Craig Langston and Li-Yin Shen: Application of the Adaptive Reuse Potential Model in Hong Kong - A Case Study of Lui Seng Chun, International Journal of Strategic Property Management, 11, pp.193-207, 2007.
13) Sophie Francesca Cantell: The Adaptive Reuse of Historic Industrial Buildings-Regulation Barriers, Best Practices and Case Studies, Master of Urban and Regional Planning, Virginia Polytechnic Institute and State University, 2005.
14) Kirsten Velthuis and Dirk H.R. Spennemann: The Future of Defunct Religious Buildings - Dutch Approaches to Their Adaptive Reuse, Cultural Trends, Vol. 16, No.1, pp.43-66, 2007.3.
15) David Kincaid: Adapting Buildings for Changing Uses – Guidelines for Change of Use Refurbishment, Spon Press, 2002.
16) Harold Kalman: Adaptive Re-use - Learning from Vancouver, The Conservation of Urban Heritage, Macau Conference, Cultural Institute of the Macau SAR Government, 2002.9.
17) Dennis Rodwell: Conservation and Sustainability in Historic Cities, Blackwell Publishing, 1st edition, 2007.
18) Paul M. Fotsch: Tourism's Uneven Impact – History on Cannery Row, Annal of Tourism Research, Vol. 31, No. 4, pp.779-800, 2004.
19) Peggy Teo and Shirlena Huang: Tourism and Heritage Conservation in Singapore, Annals of Tourism Research, Vol. 22, No. 3, pp. 589-615, 1995.
20) Graham Parlett, John Fletcher and Chris Cooper: The Impact of Tourism on the Old Town of Edinburgh, Tourism Management, Vol. 16, No.5, pp.355-360, 1995.
21) Melaka City Council: Melaka Historic City Council Conservation Area Action Plan, Universiti Teknologi Malaysia, 2000.
22) Melaka City Council: Profile and Building Action - Melaka Historic City Council Conservation Area Action Plan, Universiti Teknologi Malaysia, 2000.
23) NAICS: http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2007, 2007.
24) Office of Australian Bureau of Statistics: http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/5573827718D9D06DCA25711F00146D6C?opendocument, 2008.
25) Paper for ANZSIC: http://www.abare.gov.au/interactive/fuel-surveys/pdf/ANZSIC_codes06.pdf, 2006.
26) United Nations: International Standard Industrial Classification of All Economic Activities (ISIC) Rev. 4, Department of Economic and Social Affairs, Statistics Division, Statistical Papers, Series M No.4/Rev.4, 2008.
27) NACE Rev.2: http://epp.eurostat.ec.europa.eu/cache/ITY_OFF-PUB/KS-RA-07-015/EN/KS-RA-07-015-EN.PDF, 2009.
28) Japan SIC: http://www.stat.go.jp/english/index/seido/sangyo/pdf/07-1-1.pdf, 2009.
29) World Heritage Centre: World Heritage List, UNESCO, Paris, 2008.7.
30) World Heritage Centre: 32COM 8B.25 – Examination of Nomination of Natural, Mixed and Cultural Properties to the World Heritage List – Melaka and George Town, Historic Cities of the Straits of Melaka (MALAYSIA), UNESCO, Paris, p.78, 2008.7.
31) Lim Huck Chin and Fernando Jorge: Malacca – Voices from the Street, Lim Huck Chin, 2006.
32) 1001 Creations: Melaka Stree Map – 30th Edition, 2008.
33) Chen Voon Fee: The Encyclopedia of Malaysia – Architecture, Didier Millet, 1998.
34) A. S. Hornby: Oxford Advanced Learner's Dictionary (7th Edition), Oxford University Press, 2005.
35) Marriam-Webster Online Dictionary. Accessed 2009.5.
36) Khoo Salma Nasution: Heritage Asia - Rent control repeal & urban preservation, http://h-net.msu.edu/cgi-bin/logbrowse.pl?trx=vx&list=H-Asia&month=9701&week=d&msg=9AImMLrxXBql2g66%2B/W6yw&user=&pw, 1997.1.
37) Janet Cochrane and Richard Tapper: Chapter 7 - Tourism's Contribution to World Heritage Site Management, in Anna Leask and Alan Fyall (Editors) - Managing World Heritage Sites, Butterworth-Heinemann, 2008.