Regeneration and Sustainability of Urban Cemeteries in the Context of Malay Burial Practices in the Kuala Lumpur Metropolitan Area

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis/project is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Mohamad Reza Mohamed Afla

29 August 2014
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<td>AJBMC</td>
<td>Al-Jamiul Badawi Muslim Cemetery</td>
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<td>CBS</td>
<td>Crypt Burial System</td>
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<tr>
<td>CCC</td>
<td>Cheras Christian Cemetery</td>
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<td>CCKC</td>
<td>Choa Chu Kang Cemetery</td>
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<tr>
<td>CCPG</td>
<td>Cemeteries and Crematoria Planning Guideline</td>
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<tr>
<td>CLCC</td>
<td>City of London Cemetery and Crematorium</td>
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<tr>
<td>DBKL</td>
<td>Kuala Lumpur City Hall</td>
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<tr>
<td>GPS</td>
<td>Global Positioning System</td>
</tr>
<tr>
<td>JAKIM</td>
<td>Department of Islamic Development Malaysia</td>
</tr>
<tr>
<td>JAMC</td>
<td>Jalan Ampang Muslim Cemetery (aka Kampung Baru Muslim Cemetery)</td>
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<td>JAWI</td>
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<td>JKC</td>
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<td>JKMC</td>
<td>Jalan Kuari Muslim Cemetery</td>
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<td>JPBD</td>
<td>Department of Town and Country Planning, Peninsular Malaysia</td>
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<td>JRM</td>
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<td>KBGC</td>
<td>Karet Bivak General Cemetery</td>
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<td>KL</td>
<td>Kuala Lumpur</td>
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<tr>
<td>KLIA</td>
<td>Kuala Lumpur International Airport</td>
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<td>KLKMC</td>
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<td>KLMA</td>
<td>Kuala Lumpur Metropolitan Area</td>
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<td>KLSP2020</td>
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<td>KTC</td>
<td>Kwan Tung Cemetery</td>
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<td>MAIWP</td>
<td>Federal Territory Islamic Religious Council</td>
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<td>NEA</td>
<td>National Environmental Agency</td>
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<td>PAb</td>
<td>Pusara Abadi (Old Muslim Sections at Choa Chu Kang Cemetery)</td>
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<td>PAm</td>
<td>Pusara Aman (New Muslim Sections at Choa Chu Kang Cemetery)</td>
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<tr>
<td>PBUH</td>
<td>Peace be upon him</td>
</tr>
<tr>
<td>PJH</td>
<td>Putrajaya Holdings Ltd</td>
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<tr>
<td>PKGC</td>
<td>Pondok Kelapa General Cemetery</td>
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<td>S9MC</td>
<td>Section 9 Muslim Cemetery</td>
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<td>SBC</td>
<td>Springvale Botanical Cemetery</td>
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<table>
<thead>
<tr>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>SDHMP</td>
<td>San Diego Hills Memorial Park</td>
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<tr>
<td>SLG</td>
<td>Subang Lutheran Garden</td>
</tr>
<tr>
<td>SMART</td>
<td>Stormwater Management And Road Tunnel</td>
</tr>
<tr>
<td>TSMC</td>
<td>Taman Selatan Muslim Cemetery (Muslim burial sections at Taman Selatan Memorial Park)</td>
</tr>
<tr>
<td>TSMP</td>
<td>Taman Selatan Memorial Park</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Organization for Education, Science and Culture</td>
</tr>
<tr>
<td>WHC</td>
<td>Wilbury Hills Cemetery</td>
</tr>
<tr>
<td>YHWK</td>
<td>National Foundation of Waqf Properties</td>
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Note: MYR 1 = AUD 0.34 (Source: [http://www.xe.com/currencyconverter/#](http://www.xe.com/currencyconverter/#) 9/8/2014)
Glossary

Awrah \textit{awrah} is the term used to designate the ‘intimate’ parts of the human body; they must be covered from the sight of others with clothing according to the Islamic custom.

Akhirah the afterlife

Baganda people belonging to the Buganda Kingdom

Balai Menunggu Waiting Hall

Batu Nisan Bahasa words for gravestone

Barzakh a transitional realm where the spirit of the dead waits before it can go to heaven

Buganda name of the kingdom

Dapur simplified version form of kepuk

Ekibira secret part of the Muzibu-Azaala-Mpanga containing the four royal graves also known as the “forest”

Feng Shui (in Chinese thought) a system of laws considered to govern spatial arrangement and orientation in relation to the flow of energy (chi), and whose favourable or unfavourable effects are taken into account when siting and designing buildings

Gotong-royong mutual cooperation

Hajj the Muslim pilgrimage to Mecca that takes place in the last month of the year

Haram something forbidden or proscribed by Islamic law

Hazira a simple grave on a slightly raised platform surrounded by a walled enclosure

Janah paradise or heaven

Kaaba a square stone building in the centre of the Great Mosque at Mecca, the site most holy to Muslims and toward which they must face when praying

Kabaka King of Buganda

Kaffan pieces of white cloth used to shroud the corpse

Kampung Malaysian enclosure or village

Kepuk monumental structures built over the graves except for the gravestones

Kariah a small administrative district for Muslims equivalent to a deanery

Lahd a method of burial in which a concave hollow is dug into the wall of the grave that faces the qiblah, wide and deep enough to conceal the body

Madrasa a college for Islamic instruction

Musholla a Muslim prayer room

Muzibu-Azaala-Mpanga great hut containing the four royal graves

Nazir (in Muslim countries) the title given to various public officials

Olugya a courtyard

Qiblah the direction of the Kaaba in Mecca

Qiyamah the Judgment Day
Glossary

**Rawda**  
a garden

**Shiq**  
a method of burial where the body is placed within a rectangular hole in the ground with a ceiling over it that protects it from the dirt

**Silang Tikar**  
this method allocates every alternate grave for current use, leaving the reserved graves for future use

**Sunni**  
one of the two main branches of Islam, commonly described as orthodox

**Talqin**  
an exhortation imparted by an Imam. It is specially used for the instruction given at the grave of a departed Muslim at the close of the burial service

**Ummah**  
the whole community of Muslims bound together by ties of religion

**Wali**  
a saint or holy person

**Waqf**  
an endowment made by a Muslim for a religious, educational or charitable cause

**Yasin**  
the 36th chapter of the Quran

**Zawiya**  
a residential retreat for prayer
Summary

Sustainable development has been widely discussed and debated in the academic world for more than two decades. However, most countries in the Southeast Asia are still in the process of clarifying what sustainability means within the context of urbanisation as well as the sociocultural realm (Roberts and Kanaley, 2006). Rapid urbanisation and migration of people from rural areas into cities have resulted in many challenges in the management of this urban environment, such as lack of public and green space. This research is particularly addressing the impacts derived from current burial practices in cities. The study focuses on the subject of sustainable burial practices as being performed by people and the management at public cemeteries within the metropolitan area of Kuala Lumpur. The research examines specifically the conventional way of burial practice by the majority of the Muslim population. Unlike other major religions in Southeast Asia, which are more open and flexible in disposing corpses, Islam requires full body burial as mandatory in all cases.

In response to the escalating issues of lack of space and land shortage for the purpose of burial in the Kuala Lumpur Metropolitan Area, local authorities are still trying to find the right direction in formulating solutions. This research has recognised factors that led to these problems as well as identifying possible alternatives. In doing so, the research has examined the sustainability aspect of burial that exists in the landscape of urban cemeteries.

This research argues that Muslim funerary culture must be respected and indeed protected, especially given the increasing pressures of urbanisation in Kuala Lumpur. This research is attempting to contribute to the possibilities of regenerating inactive public cemeteries, as well as for their function to be more than just a place to store the dead. The concept of a cemetery park around Kuala Lumpur may promise to counter the problems with abandoned cemeteries. Research has found that local authorities are keen to promote the concept of a cemetery park as an effort to create a livable city. This may result in shifting public perceptions. For example, landscape planning may promote the notion that cemeteries also possess ‘recreational’ value.

In addition, this study provides alternatives in dealing with the spatial issue facing Muslim burial by adopting technical solutions at the subterranean level, as well as the implementation of new burial policies that emphasise the long-term usage of the grave plots.

It is expected that this PhD research will become a valuable resource for the Kuala Lumpur municipal government as well as stakeholders in urban planning and cemetery design.
Chapter 1: Introduction

1.1 Research background

The intention of this research is to draw attention to the considerable problems which threaten to seriously compromise the effectiveness of public cemeteries if left untreated. The title of this research is ‘Regeneration and Sustainability of Urban Cemeteries in the Context of Malay Burial Practices in the Kuala Lumpur Metropolitan Area’. The scope of research can be divided into three main areas: the ‘regeneration’ process involved in this research, the transformation of Malay-Muslim burial practices and lastly, an exploration of the possible impact of these changes within the Kuala Lumpur Metropolitan Area (KLMA). These three correlated points of discussion will mainly touch on the practices involved in Islamic funerals and Malay-Muslim cemeteries within the extended metropolitan region of Kuala Lumpur (KL).

The term ‘regeneration’ is suggestive of necessary steps and actions that should be taken in order to transform the conventional way urban cemeteries are designed in the city area of KL. The transformation will be instigated by trying to change the practices associated with public cemeteries, encompassing funerary rites and culture, standard procedures of interment, design strategies regarding burial spaces, as well as the policies involved. There are two ways of interpreting the thesis title, which concentrate on the improvement of burial spaces specifically for the use of the Muslim population and Malaysians in general: firstly, improving the condition of graves and, secondly, establishing new links between cemeteries and the city.

Regeneration of urban cemeteries is necessary so that a new funerary culture and practices can be created for modern KL. The motive behind this study is mainly to address the spatial issues that arise within existing public cemeteries and thereby mitigate the urban issues in KL at the same time. Moreover, this study proposes and promotes a new interpretation of urban cemeteries in the metropolitan area of KL. Old Muslim cemeteries are neglected due to their role merely as a place for the dead; they tend to be daunting and unwelcome to outsiders. The relationship between people and the city in the context of public cemeteries must be clearly clarified. Therefore, the main role of cemeteries as a place to house the dead has to be re-examined.

Accordingly, the aim of this thesis is to provide a range of authorities and institutions – local authorities [such as Kuala Lumpur City Hall (DBKL) and city municipalities within KLMA], Islamic institutions [such as the Federal Territory Islamic Affairs Department (JAWI), Department of Islamic Development Malaysia (JAKIM), and Islamic scholars], professionals in the design fields (academicians, urban planners, and landscape architects), and Malaysian citizens (especially from Muslim society, Muslim burial communities, known as kariahs, and city dwellers in general) – with improved design principles and urban strategies which may assist them to address identified problems and challenges. It is expected that this research, if acted upon, will result in the significant improvement of burial spaces in KLMA. Such improvement will be derived from a two-pronged approach: firstly, a careful examination of the fundamental nature of Malaysian public cemeteries and, secondly, the identification of effective protocols and strategies in landscape planning and urban design.
1.2 Hypothesis

We start with the issue of spatiality. In its preliminary stages, the thesis develops possible solutions to various spatial issues and challenges; however, the thesis also proposes new directions in the design and planning of urban cemeteries within KL well into the future. Even though there have been attempts to use terraced cemeteries as an answer to the issues of land shortage and overcrowding for burial in KL, it has never been implemented. This is probably due to uncertainty regarding the local Muslim communities’ acceptance of anything other than the conventional way of performing burials.

On the other hand, another concern of this research is to investigate ways to integrate cemeteries into public space by taking consideration of the current urban issues in KL. For example, the provision of land for cemeteries has been allocated around KL by local authorities. With the inclusion of a park concept within every new cemetery in KL, more green space will be created for public use. The feasibility of park cemeteries would probably gain support from the Malaysian public, and authorities have somewhat anticipated making this into a reality. Thus people’s perceptions of cemeteries are expected to change. This also means that urban cemetery space would no longer be exclusive to certain groups of city people. The nature of cemeteries is expected to change as well, from being a reserved area to an open space, so that entry is permissible for its secondary use. However, in order to foster the effectiveness of hybrid cemeteries within the population, factors that support such conditions have to be recognised. This research expects to identify and list those circumstances as part of the research outcome.

1.3 Research aim, objectives and questions

The aim of this thesis is to show how local governments may utilise an understanding of the specific requirements for Muslim burial practices to inform a strategic knowledge for addressing the problem of lack of space in Muslim cemeteries in KL. In addition, the thesis serves as a platform in determining the direction of Muslim cemeteries in KLMA by opening its area for public access. In order to achieve this aim, the thesis focuses on four objectives:

Objective 1: to conduct a thorough examination of Muslim cemeteries in KL.

Objective 2: to provide alternative solutions and answers to the issues facing Muslim cemeteries by taking into consideration the cultural, social and environmental dimensions of sustainability.

Objective 3: to analyse the application of sustainable practices within urban cemeteries and how they have been implemented within selective sites.

Objective 4: to recommend better practices in the planning of Muslim cemeteries in KLMA by developing a set of design guidelines as part of the research outcomes.

Each objective is supported by a series of research questions which guide this study. The research questions in this thesis are structured as follows.
**Objective 1: to conduct a thorough examination of Muslim cemeteries in KL.**

1.1 Where do cemeteries belong in the city of KL? The purpose of this question is to evaluate the way urban cemeteries have been planned by the local authorities.

Apart from an examination at the micro scale, this research also approaches burial spaces at the macro level. This thesis investigates the direct and indirect relationships that exist between urban cemeteries and the city’s surrounding environment. The purpose behind this research is to suggest new connections between cemeteries and the urban fabric. A range of possibilities in regenerating cemeteries could be suggested by examining the true nature of Malay-Muslim cemeteries from both religious and cultural perspectives.

1.2 What will KL do with inactive cemeteries? This question asks whether there is a future plan for the existing public cemeteries in KL.

Recently, some of the old cemeteries in KL have become inactive and this situation has attracted significant attention among the Malaysian public (Bavani and Vincent, 2012). In Malaysian public cemeteries, traditional practice dictates that graves are never reused. Accordingly, there is no burial period applied to grave plots in KL’s public cemeteries: graves are meant to be in perpetuity. However, there are two repercussions of this practice when cemeteries have reached full status.

Firstly, without a change in present burial practices, available space for interment in KL will soon be exhausted. Even though cremation has been practiced among Malaysians, no research has been conducted at the national level to measure how keen Malaysians are towards cremation. Presumably such a method is still not widely favoured. Moreover, the method of full body burial has been practiced for a long time and there seems little motivation among the Malaysian public to change, other than for personal choice.

More importantly, cremation is not an option for burial among the Muslim communities, which represent the majority of the population in Peninsular Malaysia. To this point, the authorities have been able to counter such problems by simply allocating land for new cemeteries. However, this response is not sustainable, especially since urban growth in KL has been primarily focused on residential use rather than infrastructural development over the last 13 years. This can be observed based on the report regarding land use and development strategy, which is found in the Kuala Lumpur Structure Plan 2020 (KLSP2020) (DBKL, 2004). As shown in Figure 1.1, land use for residential areas (yellow block) covers a huge part of the city, whereas cemeteries (dark gray block) only have a small allocated area scattered throughout KL. Another important thing to be noticed is that cemeteries have been put under the same category as other community facilities such as community buildings, educational and religious. Based on the site observation that has been conducted, public cemeteries are sometimes located next to facilities such as orphanages, schools and mosques. Therefore allotment of land for burial use around the city is facing stern competition from neighbouring residential area. This situation has already taken place in KLMA, which has been reported by the local media (Low, 2008; Khalid, 2008, 2007a; Aziz, 2008; Jayaraj, 2007; Mohd Yusuf, 2006).

Secondly, what will happen to the full cemeteries in KL? Will these cemeteries be neglected and forgotten with the passing of time? This is the paramount question to be asked. Even though authorities have managed to accommodate increasing demand for burial land with the provision of new cemeteries, the principal role of urban cemeteries has remained singular; that is, to house the dead.
Therefore, determining secondary roles for dormant cemeteries is a vital part of this research. Although people still come to visit the graves, nonetheless there are no longer or fewer burial activities taking place. In other words, during this time public cemeteries have stopped offering available grave plots, and gradually turn into a dead space in the city. This phenomenon can be witnessed in some of the old cemeteries in KL such as Kwan Tung Cemeteries (KTC), Cheras Christian Cemetery (CCC) and Jalan Ampang Muslim Cemeteries (JAMC).

This research finds that the future development of Malay-Muslim cemeteries represents an intriguing dimension of urban design. In recent years, there have been some interesting developments of public cemeteries in KLMA. Hence, this thesis offers a range of collective concepts and ideas which might inform the future development of public cemeteries in Malaysia. The site characteristics of cemeteries will be examined in order to set up some new meanings, reinterpretations and directions for the new millennium.
Objective 2: to provide alternative solutions and answers to the issues facing Muslim cemeteries by taking into consideration the cultural, social and environmental dimensions of sustainability.

2.1 How can KL plan ahead to secure sufficient burial facilities that sustain social context, as well as cultural and environmental significance? The purpose of this question was to recognise steps and methods that can be employed to solve the issues relating to Muslim burial, which incorporate factors of society, culture and environment.

The question of sustainability is another vital question in this thesis. Accommodating new land for burial spaces may seem a legitimate reaction, but perhaps authorities should take one step back and consider other factors which are relevant to these issues. These include social significance, cultural practices, development pressures and population growth. Developing new cemeteries without considering these factors is simply inadequate in solving the land shortages for burial in the city. A substantial improvement is essential so that the same problems will not recur in the future.

Urban design and landscape planning is a crucial component in the goal of ensuring that grave plots remain available in KL city. There have been many reports in the local media which address the numerous issues regarding burial spaces in public cemeteries around KLMA. Therefore, a strategic measure has to be employed by KL administration to prevent the same thing from happening. There might be a little change that can be applied to the existing cemeteries in finding solutions to these problems. However, new approaches have to be initiated for the purpose of burial in responding to the scarcity of land in the city.

2.2 How can Muslim cemeteries in the metropolitan region of KL develop more sustainable practices? The aim of this question is to determine the level of sustainability practices in Muslim cemeteries by examining the elements that made up the landscape.

There is a growing urgency for KL to address the way public cemeteries are being managed, especially with the emerging issues of land shortage, lack of space and overcrowding. This thesis provides alternative solutions to burial space design in KL’s cemeteries. This question is also much concerned with urging the authorities to provide sufficient grave plots along with better burial facilities. In particular, it will suggest that such solutions be predicated on extending or reimagining the public role of cemeteries beyond the disposal and care of the dead.

Objective 3: to analyse the application of sustainable practices within urban cemeteries and how they have been implemented within selective sites.

3.1 How can the understanding of cultural transformation of others help to create Muslim cemeteries that adapt to urban densification processes within the framework of tradition and culture in Malaysian society in the metropolitan area of KL? The question sought to identify factors that caused changes to occur in the burial practice within and outside Muslim culture and tradition. This is done as a way to prepare managers of Muslim cemeteries to be able to adapt with the rapid pace of urban development in KLMA in the near future.

Sharing information is a reliable way of learning from the examples of others. By understanding the historical developments that have transformed burial practices in other cultures, modification to the local funerary
practices in KL could be possibly taken into the next level. For instance, the application of technology in burial plots and the new concepts of urban cemeteries can elevate public cemeteries in KL into the next level.

3.2 How do other cities deal with the issue of burial? The aim of this question is to identify differences and commonalities in the management practice of Muslim burial and cemeteries between KL and neighbour cities like Singapore and Jakarta. This will help to describe reasons on the types of operation chosen for cemeteries as well as the adoption of certain methods in Muslim burial.

This thesis explores alternative methods and strategies in burial practices from other cities. In doing so, extensive examples of case studies will be used in searching for reliable approaches that suit the local context.

Objective 4: to recommend better practices in the planning of Muslim cemeteries in KLMA by developing a set of design guidelines as part of the research outcomes.

To demonstrate the achievement of this aim, a review of results from the above questions was presented in a form of diagrammatic to provide recommendations that best suit the sociocultural conditions and norms of the Malaysian public in KL, specifically the Muslim population (see figures 5.1 to 5.3).

1.4 Significance of the study

There are several reasons for this research to be carried out:

First and foremost, it must be understood that the planning and management of urban cemeteries can no longer be treated in an impromptu manner as the repercussions of this may jeopardise burial infrastructures. Inadequate space for burial is a common issue that has been observed on a global scale and it deserves to be taken seriously. This phenomenon has been experienced in every modern city in the world, regardless of the form of burial being practised by the major faiths and cultural backgrounds. Academic scholars have acknowledged this situation as a challenge in providing sufficient burial space for urban populations (Kong, 2011, Park, 2010, Hussein & Rugg, 2003).

For example, a report concerning the allocation of cemeteries in the metropolis issued by the London Planning Advisory Committee (LPAC) in 1997 revealed that the city has experienced immediate loss of burial space. There was no definite scheme employed to replace full cemeteries with new sites, thus aggravating the issue even further (Hussein & Rugg, 2003). As a matter of fact, the pressure to provide more space for burial is even more critical in cities such as London, that have been practising graves in perpetuity. This circumstance resulted from a policy implemented by the Home Office in the mid-19th century, which prohibits existing graves from being disturbed and reused for the purpose of new burials (Hussein & Rugg, 2003). Based on these restrictions, the preparation of land for cemeteries in cities is crucial, especially to the growing, urban population of Kuala Lumpur. The fact is that the provision of land for cemeteries continues to be unsustainable—the demand for land to fulfil cultural burial rites requirements simply cannot be met by the limited land available in the cities (Hussein & Rugg, 2003).

Secondly, there is an emerging necessity for cities to determine the additional functions of cemeteries. This is especially important in the event where cemeteries are no longer used for their primary purpose. Some of the studies (Mohamed Afla, 2012, Kurniawan, 2008, Huang, 2007) have discussed the secondary use of urban
cemeteries, suggesting outcomes that can be used as a way to counter the unintended ramifications of burial spaces amidst the city’s landscape. The negative impacts of cemeteries within the city landscape can be described in two ways. Firstly, the invasive nature of cemeteries can potentially ruin the city’s landscape by drastically changing the surrounding environment. This phenomenon is physical and can be observed visually simply by looking extensive areas that are occupied by city cemeteries. Secondly, cemeteries are sometimes regarded as an obstacle to new development in the city. As urban expansion continues through developments such as commercial buildings, high-rise domestic dwellings, transportation networks—including highways and underground railways, cemeteries are not regarded as desirable or viable sites for growth. Although there is certainly opportunity for economic gain, the inseparable psychological and emotional connection of cemeteries to human spiritual beliefs and traditions, hinders the possibility of future development (Uslu, Baris, & Erdogan, 2009).

Based on these dual adverse impacts, some studies have proposed integrating these dead spaces into our urban lifestyle, thus supporting the city’s progressive development. Traditionally cemeteries have served as refuges by providing a habitat within the urban, city environment which supports a range of flora and fauna. The nature of cemeteries as a place for passive recreational activities has attracted certain species such as squirrels and birds to inhabit this green space (McPherson & Nilon, 1987, Lussenhop, 1977).

Cemeteries are typically known for their biodiversity. But this biodiversity extends beyond simply providing an ideal habitat for wildlife. In recent years, the ecological approach has been used to achieve sustainability inside cemeteries. For example, the eco-cemetery model has been popularised though the adoption of ‘green burial’ as a way to reduce human impact on nature. Moreover, the selection of burial sites has become a critical point with reference to the soil type and condition, as this can assist in the accelerated decomposition of the body. Cemetery landscape design can also reinforce the ecological theme through careful selection plant species requiring less maintenance (Uslu, Baris, & Erdogan, 2009).

Thirdly, another purpose of this thesis is to outline a range of directions and possibilities for the future design of Muslim cemeteries. Accordingly, this research will consider environmental, sociocultural and economic factors in making various recommendations. Currently, design protocols for public cemeteries in KL do not address sociocultural and economic factors. Instead, Muslim cemeteries reflect the confluence of different cultural factors which inform the practice of Malay funerary rites. As a site rich in material culture, Malay cemeteries are normally situated within a fairly green environment. The ‘green factor’ usually relates to the maturity and availability of the plants around the cemetery.

The lack of attention to social factors in the design of Malaysian cemeteries should be taken seriously as a starting point to regenerate public cemeteries in KLMA. For example, Muslim cemeteries can be promoted to be more than just a place where people gather for funeral ceremonies. Apart from the cultural perception of Malaysians that always perceive the nature of a cemetery as a place of solemnity and grief, the social interaction between people and cemeteries has always been no more than revolving around attending funeral ceremonies and visiting graves. There is no reason why this kind of mass gathering cannot be extended into other, wider forms of social activities that normally take place in a public park. As long as there are appropriate spaces and facilities being provided inside the cemetery area, cemeteries can offer the same recreational opportunity for public enjoyment as other public spaces like parks.

On the political side, the government of Malaysia has to be more proactive in solving the issues relating to public cemeteries. In solving the problems related to urban cemeteries, multiple approaches should be
adopted in order to gauge public opinion. In some countries, the government plays important roles in promoting methods of burial. For example, Hong Kong, Taiwan and Singapore have pushed citizens to embrace cremation for burial. The local government has to find various ways to minimise the use of areas for cremation, such as green burial, sea burial and memorial park by spreading the ashes (Kong, 2011).

The use of columbaria to store the remaining ashes of the dead is no longer considered to be practical. There are some challenges with each of these methods of body disposal; nevertheless governments in each country are determined to overcome them. Some people refuse to comply with the new methods due to cultural belief in afterlife.

In South Korea, the transition from conventional burial to cremation among Koreans has taken a long time. Government has consistently promoted the benefit of cremation for Korean burial. A big shift started to take place from 1980 to 1990, where there was a sudden rise of cremation. Obviously such results will not be achievable without roles from the government. Moreover, the role of famous politicians in embracing cremation has influenced Koreans to follow the same path (Park, 2010).

The role of government in the countries mentioned is more apparent especially when burial facilities are at risk. Even though the new methods have not been well received by some, people were found to embrace them at a later stage. This situation can only take place right after people slowly begin to see and understand the reasons behind such efforts taken by the government, despite strong beliefs in clinging to their cultural practices. Therefore, the Malaysian government could reprise the same role in handling similar situations by promoting and encouraging positive cultural shifts before the burial issues reach a peak.

In the past, culture represented the main factor influencing the design of cemeteries. For example, different religious traditions possessed their own dedicated burial ground. Instead of having separate burial grounds, it would probably be better to have graves from multiple traditions located within the same cemeteries to reflect the nation’s unity. For example, Taman Selatan Memorial Park (TSMP) at Putrajaya was the latest initiative taken by an authority in promoting integrated burial grounds within the same dedicated area, right after Cheras Cemetery which is situated at Jalan Kuari. Despite the differences in burial rites and culture among Malaysians, centralisation of cemeteries should be promoted. Thus, government could take a major role in promoting unity within Malaysian funerary culture. Nevertheless KL is still searching for the best model of public cemeteries. Therefore it is important to keep the solution open before advocating any one particular approach.

Fourthly, the purpose of this research is to seek alternative methods to full body burial and funerary rites in a Muslim culture. The research can identify a range of methods and techniques which can help solve the issues of burial in KLMA. Accordingly, numerous case studies from various cities will be used to suggest suitable models and alternatives in public cemeteries in KL.

There is a call to renew burial spaces in KL due to the rising problems in public cemeteries. The transformation of burial spaces will mainly focus on the practices performed by the majority of Malay-Muslims and the cemeteries’ management. In doing so, the standard procedure in making graves in Islam will be put under close scrutiny in order to achieve a better level of efficiency. In addition, the alteration to this standard procedure of conducting burials in Islamic tradition has to change if KL’s aspirations to become a global city are to be realised. There is also a need to reform the way public cemeteries are being managed by the councils.
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Lastly, there are not many scholars currently discussing the state of urban cemeteries in KL, or Malaysia in general. Consequently, there has been little discourse between academicians and the urban planning industry regarding the design of burial spaces. Hence, the scope of local cemeteries is narrow and desperately in need of thorough investigation. Periodically, reports in the local media draw attention to the serious situation regarding public cemeteries around KL; however, there have been no anticipations and reactions from the academicians. Even though there have been some improvements in recently developed cemeteries, more studies should be conducted on Malaysian funerary practices.

Public cemeteries are getting less attention from both KL urbanites and relevant professionals. This research will not only benefit the city’s residents, but also the professionals in urban design and planning. All parties need to realise that burial spaces are a long-term investment; design practices which invest in sustainability can offset spiralling costs associated with the nation’s funeral facilities. The research intends to suggest strategies which might shift popular Malaysian attitudes towards burial spaces. Thus, solving the problems which beset urban cemeteries in KL today will be dependent upon consideration of these five factors.

1.5 The current state of Malay burial practice in KL

This section will explain the nature and characteristics of Malay burial practice. It is divided in two sections:

- Burial practice as performed by three parties in KL.

- The relationship and interest between the three parties.

1.5.1 Burial practice as performed by three parties in KL

As shown in Figure 1.2, there are three significant parts in Malay funeral rites: before, during and after the burial, with 13 different specific burial practices in each stage. This research looks particularly at the intermediate and final stages of Muslim burial, which commonly take place inside the cemetery.

Part I: Before the burial

In Islam, once the death has been announced publicly the body should be buried as soon as possible within the next 24 hours. The process of preparing the body for burial takes place soon after the announcement, and this is followed by the funeral prayer, also known as janazah prayer. These activities can either be performed at the deceased’s home, or even at the mosque where appropriate facilities are normally provided and are far more convenient in order to accomplish the rituals. However in recent years, the same facilities are being offered inside new cemeteries with their own dedicated rooms and these are suitable for holding the same rituals.
The family members, close relatives and local Muslim community are normally involved by lending hands as volunteers in this early stage of preparing the body before the burial. Muslims play their role as part of a community burial by taking part in visiting the bereaved family as well as managing the deceased. The preparation before the interment usually involves the washing and shrouding of the body; this is then followed by a mass prayer by the people who come to attend the funeral. The next step will be transporting the body to the burial ground which is done by placing the corpse into a temporary casket. The transportation of the corpse is done by using a minivan as a hearse, and this service is part of JAWI tasks in managing funeral ceremonies at the cemeteries. The mobilisation of the corpse from home, mosque or in some cases from the facilities building within the cemetery to the burial plot signifies the transition between the first and second part of Muslim burial practice.

**Part II: During the burial**

For the second part of the burial practice, which deals with the process of full body burial, the preparation of the site has normally been taken care of by DBKL and JAWI. In most cases the grave plots have already been prepared in accordance with the authority’s guideline and the Islamic precept. For example, each grave plot has a marking stone that has its own special number for the purpose of identification in the future. The cemetery’s management has normally set up the standard dimensions of the graves to suit the measurement of an adult as well as an infant. Apart from that, the orientation of the graves has to be aligned with qiblah as Islam requires the corpse to face in that direction.
Prior to the arrival of the body the grave plot has to be dug, and the digging work is normally done manually by gravediggers or by a machine. However, the positioning of the body on its right side will only happen when the corpse is ready to be buried. During this time, some of the family members will get assistance from the crowd to remove the body from the casket into the ground. This cooperative task will continue until the grave is full, using the same earth excavated previously. The completion of this step indicates the transition from the secondary part into the last one.

Part III: After the burial

In the final part of Muslim burial practice, activities such as talqin recitation and grave marking happen shortly after the burial, whereas the process of embellishing the graves is a repeatable process that only occurs during visits. The closing of the funeral ceremony started with Imam reciting talqin to the deceased and this is accompanied by the crowd. The Imam will commonly be seated on the ground opposite the grave, close to the side where the head of the corpse is when performing this ritual. People are allowed to leave after the talqin recitation has finished.

It is important to notice that the grave marking process will begin right after the crowd has left. The gravedigger or the site's worker places the rectangular frame known as kepuk as a way to mark the grave's territorial area. Moreover, kepuk is used to contain and hold the earth over the grave from being washed away during rain. During this time a typical shrub known as Cordyline terminalis will usually be planted over the fresh grave as a way to offer some comfort to the soul of the deceased. This modest kepuk has also been labeled on its bottom side, displaying a simple epitaph showing the name and the date of death of the person. This is important especially in the event where people come to visit the graves, though eventually with help from the grave maker, the deceased's family members will normally replace the simple kepuk with a much better version when they have a chance to do so.

During the period from simple kepuk to its replacement, the process of embellishing the grave has already begun as visitors come on various occasions throughout the year. The extent of detail of the embellishment varies from one grave to another, as it is a case of individual preference and choice. Decoration of the grave can either be done by the surviving family members, or by the grave makers appointed by them. However, in some cases, the first used kepuk can also remain if it is to the owner's liking. Various materials are used as finishers, and some of them reflect on the personal attachment and sense of belonging by the grave's owner.

This phenomenon was highlighted by Doss as an ongoing connection that continues to be performed by the bereaved through material culture which serves as a medium to convey multiple meanings and purposes that usually are driven by personal motivations or historical events (Doss, 2002). In the case of KL, there are obviously some conflicts of interest between the cemeteries' management and the surviving family members, which require some solutions. This research seeks to find the common ground between the two parties.

It is important to highlight the difference between the custom of decorating the graves from the grave marking. The grave finish should not look the same as the grave marking, even though they share similar functions. This is because Islam has explicitly recommended how graves should be built. In terms of the grave's physical appearance there are only three things prescribed by Islam that should be followed by Muslims. First is the erection of the headstone with an inscription of the deceased's details; second, is to plant a little tree or shrub near the grave; and finally to slightly raise up the grave's surface above the ground level to form a mound-like shape.
However, contrary to this religious teaching, in Malaysia the intricate version of kepuk has become common practice and is regarded as part of the custom in Malay-Muslim funerary culture. This unique style of ‘Malay-Muslim’ grave has managed to survive and find its way into urban cemeteries by means of succession, with the opening of new cemeteries to meet the increasing demand for burial. In general, most people today prefer to have their graves built with extravagant structures, which is actually the extension of the original kepuk. This situation can be explained due to some personal reasons such as cultural practices and social status, as well as for easy recognition of the grave.

The method of grave making has also progressively evolved with the change of time in order to suit people’s tastes and latest technology. The grave maker that is appointed by the family members of the deceased normally does the construction and cosmetic work of the grave. Under the supervision of local authorities the service of grave makers can be hired by the public. For the purpose of public security, only registered grave makers are allowed to operate their business legally.

Therefore, the last two activities, grave finishes and grave visits, are the remaining activities that will continue to carry on as long as the surviving family member are still keen to. In comparison to the first and second part of the burial practice, these final steps also show the separation of the dead from the community because there is less involvement from the public in performing them. Even though people often visit the graves during the year, this activity is only limited to an individual or a circle of small groups. Perhaps a new link can be established between cemeteries and a wider group of people, where the participation at this sacred place is not only confined to funerary practices and tradition.

### 1.5.2 The relationship and interest between the three parties

This research will be discussing the ongoing burial practices as performed by the three main components that consist of the Muslim population, municipals and the Islamic institutions mainly within KLMA. Figure 1.3 shows the relationships that exist within Muslim cemeteries between Malay society, Islamic institutions and local authorities. Each party has their own objective to achieve and, by identifying the common interests shared among them, their collective purposes may better coincide. The first component is made up of Malay society, which has a diverse mixture in its origin and history. Even though there are some other minority groups than Malay background found within Muslim cemeteries, in general, Malay-Muslim will be the largest group covered in this study. Thus, the burial practice in this study can be defined as the collective representation of the majority Malay-Muslim in KL, as well as the city extended region.

The second component is the local authorities which are responsible for the provision of cemeteries to the public including the Muslim society. These governing authorities are commonly known as municipals that are responsible for looking after each district. For instance, DBKL is in charge of the whole area within KL only. Districts located within the extended area of KL have their own municipal as well, and usually these areas are situated under the state of Selangor, including big cities like Petaling Jaya and Shah Alam, as well as the new Federal Territory of Putrajaya. The way cemeteries have been developed between each municipal follows the same pattern, though there is a vast difference within Putrajaya due to its higher expectation in setting up an example as the city with a garden concept. As a result, the completion of Putrajaya’s own memorial, park known as TSMP, has already begun to influence the way other municipals in KLMA model their new burial spaces.
The last component is an Islamic institution responsible for monitoring the Islamic affairs that take place inside the cemeteries. In KL, JAWI has taken this obligation under the Islamic autonomy in making sure that the burial practice that happens over the graves is done according to religious precepts. JAWI has been exercising this supervisory power by setting up a set of regulations for people to follow. Apart from assisting local municipals in carrying out religious ceremonial function for funerals, occasionally JAWI has also played an important role in bringing the Muslim populace together to care for their cemeteries by conducting a clean up of the surrounding compound as a group effort. This is normally done as a cooperative effort in order to maintain the tidiness of the cemetery area.

It can be said that the task of managing Muslim cemeteries mainly relies on DBKL and JAWI. Even though these two parties are indirectly involved at the personal level of graves inside the cemetery site, both have the mandatory power to determine the end result inside the cemetery site. DBKL has a great influence in the shape of urban cemeteries as they are today, while JAWI is responsible for setting up the standard protocols and practices inside the burial ground. In every Muslim cemetery, the same set of regulations was introduced by JAWI pertaining to permissible practices over the graves, which people are expected to observe. Throughout the years, the enforcement of these regulations has become regimented due to emerging concerns around the issue of burial space. As a consequence, there is less freedom for people to perform funerary rites. Burial practices that are performed by the majority of Malay people have been put under close scrutiny and constant surveillance at the same time. The reason behind this is that JAWI prefers that graves are built and designed in strict accordance with Islamic precepts.

For example, personal decorative ornamentation is considered to be something that is outside Islamic protocols and is prohibited. This rule placed some limitations on what people could build over the graves, especially grandiose forms of memorialisation, which were liable to be removed. As a result, it is suspected that the emotional attachments of the bereaved have not been sufficiently addressed.
1.6 Introduction to sustainability

This section will explore the correlation between sustainability and urban cemeteries in KL by looking at the definition of sustainable development. Sustainable development is a broad term; however, this research will examine how this concept will impact and alter Muslim cemeteries in KL and beyond the extended region. This section will discuss how sustainable development has been interpreted, as well as identify factors that determine its meanings. The concept of sustainable development will be unfolded within the context of urban cemeteries in KLMA, which specifically focuses on Malay-Muslim funerary culture.

The word ‘sustainability’ has been underlined as a means to devise a substitute action or method in order to overcome the arising problems that happen with Muslim burial space and Malaysian public cemeteries in general. The literature review here is focusing on the definition of sustainability in connection to the second objective posed in this thesis (Objective 2: to provide alternative solutions and answers to the issues related to Muslim cemeteries by taking into consideration the aspect of sustainability). Five main sources have been consulted for the purpose of describing sustainable development in connection to this study.

i. United Nations publications

ii. Kuala Lumpur Structure Plan 2020

iii. Judith Rogers

iv. Brenda Scheer and David Scheer

v. Kate Woodthorpe

i. United Nations publications

As the main organisation that is responsible for spreading the idea of sustainable development throughout the world, many publications have been released and distributed by the United Nations (UN). This study has identified and described the changes that were made by UN for sustainable development since its first introduction. In doing so, two recent sources have been referred: Sustainable Development Scenarios for Rio+20: a component of the sustainable development in the 21st Century (SD21) project, and The Future We Want, an outcome document of a United Nations conference on sustainable development (Rio+20). The former study focuses on the progression of sustainable development and was purposely prepared to gain the attention of policy makers and decision makers as the target audience, which also became the main reason why this report has been selected for this thesis.

However, the vision of sustainable development had already been announced and caught worldwide attention 20 years ago during the Earth Summit conference in 1992. At this point, the global audience was presented with the fundamental core of sustainable development, which comprised two combinations that simultaneously focus on urban growth and caring for the environment.

Based on UN reports, this research will prepare some suggestions as to how sustainable development can be applied in the local context within Muslim cemeteries. The study will operate as an experimental ground in finding ways to execute the implementation of sustainable development in urban cemeteries around KLMA. It is expected that the outcome derived from this practice will bridge the gap in revising the policy and
guidelines pertaining to sustainable development between public cemeteries in Malaysia and the UN’s current reports. In other words, the regeneration of urban cemeteries in KL will be demonstrated by adopting the concept of sustainable development into the local context of Muslim funerary culture.

This research has specifically examined the application of sustainable development by primarily referring to the UN's descriptions. The subject and locale of this thesis will become a guide in refining the discussion of this study, which is particularly concerned with sustaining Muslim cemeteries in the context of rapid urbanisation. Even though there are multiple variations of similar terms which exist on sustainability, the meanings and the application are inclined to change in the future depending on the zeitgeist of the period. Drummond and Marsden explained that in the real world the concepts of ‘sustainable’ and ‘sustainability’ stand for exact meanings and circumstances, however both have been interpreted in so many different ways, causing further ambivalence (1999, p. 7).

In practice, the inherent ambiguity of the idea is often exacerbated by the fact that a range of terms such as sustainable development, sustainability, environmental sustainability, sustainable growth, etc are used more or less interchangeably when in fact they are held to have specific and significantly differential connotations. (Drummond and Marsden, 1999, p. 7)

Sustainable Development Scenarios for Rio+20

Sustainable Development Scenarios for Rio+20 (SD21) (Roehrl, 2012) is a retrospective account on the performance of sustainable development since it was introduced. The study follows the progression of sustainable development by recognising the shift towards the meanings, as well as how it has been perceived by the scholars and practitioners in the last four decades. In order to make the comparison, the report has been using a series of scenarios which has been defined as follows:

Scenarios are documented in terms of ultimate goals, visions, strategy (including goals and targets), pathway characteristics, and policies and actions, as well as investment needs. (Roehrl, 2012, p. 9)

Sustainable development has been recognised as a medium to achieve the ideal city at global scale. However, the problem with sustainable development is that it has been perceived as a complex term with a broad meaning encompassing many scopes of human life. Since its first introduction more than 40 years ago, the understanding of global communities toward the topic has evolved according to the world’s scenarios of particular eras. Ever since, the combination of ‘sustainable’ and ‘development’ has been constantly refined in terms of the meaning as well as a change in focus. This can be witnessed on the evolution of sustainable development as shown in Table 1.1.

The Future We Want

According to the UN report titled The Future We Want, there are three pillars to sustainable development, which are economy, social and environment. The UN has suggested these three aspects be integrated on every level, which has been pointed out in Item 6 of the same report (UN System Task Team, 2012). It is important that these three sectors be incorporated in the making of public cemeteries in KL. However, the question of how these three sectors will be integrated into Muslim cemeteries will be elaborated in the next section of this chapter. Moreover, based on The Future We Want, a common solution can be formulated for sustainable development.
development by making sure the organised structure will operate in a way that is holistic, open and efficient (United Nations, 2012, p. 19). In other words, these three qualities are to be included in the management framework as a medium to solve the issues that surround public cemeteries. Another important point mentioned in The Future We Want, by referring to Item 76, is an additional two points that we should be aware of in order to reinforce the organised structure of sustainable development. Firstly, by ensuring a stabilised unity and, secondly, to tackle problems by aligning them based on action and result (2012, p. 19).

### ii. Kuala Lumpur Structure Plan 2020

Under section 2.2.3 of KLSP2020, sustainable development has been adopted as an action plan for KL which encompasses three main spheres: environment, society and economy.

> The strategy of sustainable development is one, by which communities seek economic development approaches that benefit the local environment and, at the same time, enhance the quality of life. (DBKL, 2004, p.“2-1”)

A systematic way of managing burial facilities has to be developed to support the growth of population in KL, thus a new direction for public cemeteries has to be advocated. Even though sustainable development has been adopted into KLSP2020 by the Malaysian regime to serve as the main vehicle that provides a foundation in almost every aspect of the city's planning including community facilities, the adaptation of sustainable development into public cemeteries needed further clarification in terms of policy as well as design. This should be done by taking into consideration the current issues that surround public cemeteries to ensure that integrative approaches are put into practice. So what does this means to urban cemeteries in KL?

The development of urban cemeteries in KLMA will have to complement the vision of Greater KL in decades to come. Sustainable development should become the main goal in projecting the regeneration process in urban cemeteries, which is in line with KL's aspiration to become a liveable city by the year 2020. The sustain-

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Table 1.1 Literature review of sustainable development definitions

ability development proposed for the city of KL encapsulates many aspects including cultural, environmental, social and economic. There is a need for KL to discuss the link of the three main areas of environment, social and economy in the light of the UN’s latest report. However, in KLSP2020 these sectors are not being clearly defined in terms of how they are going to be applied on the actual site. The recommendations and set of guidelines outlined for urban cemeteries in KLSP2020 are too generic and in need of clarification. For example, KLSP2020 does not describe in detail the characteristics that urban cemeteries should exhibit in attaining the state of being sustainable.

iii. Judith Rogers

Rogers’ discussion on the making of sustainable cities has shed some light for this thesis in finding its own direction. Based on her collective pieces of writing, Rogers has contributed a significant insight to the way sustainable development has been positioned and perceived by many, which in some cases revealed the flaws of sustainable cities. Rogers’ critical view on the making of sustainable cities will become a counter-balance in discussing sustainable development in this thesis without overly depending on the UN’s own definitions. As a universal concept undertaken by many nations around the globe, sustainable development has been adopted into an action plan to develop a better future, which has been promoted by the UN in the late 1980s. Since then sustainable development has been widely implemented in various fields attracting participation from many parties. Due to the vast scope of sustainable development as a concept, it leaves an open interpretation among researchers as well as practitioners within their own discipline. This scenario has been observed by Rogers,

Because of its breadth the term has been increasingly adopted by industry, business, government and non-governmental organisations as a way of speaking about the future allowing diverse interests to engage in and contribute to the unfolding story lines. (2011, p. 102)

In this section the discussion on sustainable development can be divided into four parts, which reflect upon Rogers’ point of view:

• Sustainable of what, for how many and at what level, for how long and over what area?
• Formulating the right method to integrate the three sectors of sustainable development
• The three approaches to sustainable development
• Strong and weak sustainability

Sustainable of what, for how many and at what level, for how long and over what area?

A series of inquiries should be posed in order to make sense of sustainable development:

Sustainable of what, for how many and at what level, for how long and over what area?
(Hollicks,1990, pp. 20–23)

These questions have been used to crystallise the connection between Muslim cemeteries and sustainable development, as well as manifesting the form of this study. Each question has been answered briefly as follows.
Sustainable of what? Sustainable Muslim cemeteries are going to comprise the environment, society and economy because these three sectors have been recognised as a vehicle of development by the Malaysian government. The question here is how these three sectors can be sustained inside Muslim cemeteries. Active engagement of every actor involved within each sector suggested that the role of each party would be pushed to its limit in making contributions to the enhancement of Muslim cemeteries.

For how many? What is the projection of burial space for Muslim society in KLMA? How large the burial space should be in order to suffice local demands. With the fast growing population of Muslims in every kariah district within KLMA, is it necessary for authorities to stick with the allocation of Muslim cemeteries according to the local populace? Obviously the place making of the dead has to follow the change of time. There have been many examples of urban cemeteries overseas which are no longer built to solely accommodate a burial and keep the dead. These kinds of places are no longer defined by the area boundary, but also associated with wider groups of communities and public.

What level? Firstly, the ‘level’ can be described as the stages involved in the process of Malay burial rites, and it particularly focuses on the process during and after the burial at Muslim cemeteries. These are the levels at which sustainable development will be examined. Secondly, the research will not investigate in detail the organisational chart in managing Muslim cemeteries, but rather suggest changes of policy by incorporating sustainability practices into Muslim cemeteries.

For how long? In the latest draft of KLSP2020, Kuala Lumpur is aiming to apply sustainable development for 20 years. However, since KLSP2020 was first published in 2004, evidence of sustainable development of urban cemeteries around KLMA is unclear. Even after 10 years, the implementation of sustainable development seems far from being incorporated into the development of urban cemeteries. Therefore, going forward, it is important for Kuala Lumpur to reflect on the essence of sustainable development in public cemeteries at the local level.

Over what area? In this study the area of sustainability will focus on Muslim cemeteries within KLMA, including the one that has been established, the present, and also the future. ‘Area’ can be divided into three different domains which include micro level, intermediate level, and macro level of Muslim cemeteries. The three areas can be divided into three parts:

- **Micro level**: At this level, the study will look at Muslim graves and the link with the surroundings inside Muslim cemeteries.

- **Intermediate level**: At this level, the study will look at Muslim cemeteries and study the link with the surrounding urban setting.

- **Macro level**: At this level, the study will look at Muslim cemeteries and study the link with the extended region of KL.

**Formulating the right method to integrate the three sectors of sustainable development**

It is the task of this study to propose an approach that is able to bring the three dimensions of sustainable development together into the management of public cemeteries. However, the combination of these three dimensions is hard to achieve in reality as stated by Drummond and Marsden:
Most current approaches focus on and privilege a particular dimension, be it economic, environmental or social, and what results is often something less than sustainable development. Sustainable development will remain little more than rhetoric unless it can be used to inform policy in objective ways, its credibility is impeached by any approach which through partiality or prioritisation implicitly reduces the concept to something less than that which a properly holistic conception requires. (1999, p. 10–11)

The absence of method to merge society, environment and economy as a single operative unit to implement sustainable development has also been acknowledged by Rogers:

The lack of integration between the social, ecological and economic dimensions of sustainability is a key issue of concern. (2011, p. 33)

Rogers presented her discussions on sustainable development at the broad scale, which sometimes makes it hard for readers to make connections from the pragmatic point of view. For example, Rogers demonstrates her discursive commentaries on the effectiveness of sustainable development in creating a sustainable city through the method of reasoning, which is mainly focused on the assessment and performance of the regime in turning the idea into practice. By revealing the weakness of sustainable development as a concept at the theoretical level, Rogers does not necessarily propose a definite solution at the implementation stage, but once again it leaves room for interpretation. The point is that Rogers’ arguments are only for the sake of interrogating the integrity of sustainable development as a policy, as well as offering the audience different views on how the theory should be perceived in the first place.

This thesis suggests the way forward for social infrastructure by constantly examining the connections and implications of sustainability development in every sector of the city’s development. In doing so, this study insists that the integration of sustainable development be narrowed in every detail so that it will make more sense in the local context. In other words, the feasibility of sustainable development should apply a bottom-up approach, even though the development of the idea has been done in reverse.

The three approaches to sustainable development

According to Rogers, there are three distinguished methods to conduct a study and its application on sustainability (2011, pp. 11–12). The first approach to sustainability is by being sensible towards its meaning, and this is done by studying the terms of the word as well as its significance to human inhabitants. The understanding towards the origin of sustainability is an utmost primary task that can be achieved in this first instance.

The second approach exhibits a progression to the first one by putting the idea of sustainability into action. This is the phase where the implementation of the idea into a real situation is expected to provide answers to some of the issues. This is done by giving some examples on how the concept of sustainability can be achieved by drawing an outline and checklist that work as a guideline in order to gain improvement. The second approach is also questioning whether the management and practice of sustainability should be operating at local or global levels.

The third approach can be described as a step back to what has been achieved so far in the second approach. This is done by conducting a discourse and inquiry as a means to check on the current progress. The purpose
of this discourse is to ensure that the implementation of sustainability has being carried out in the right path and equally within the public domain.

This final approach has been demonstrated as a major discussion by Rogers in her studies by pointing out the flaws and disturbing impacts that sustainability has over the life of common people. Rogers highlighted that policy makers, government and stakeholders are easily inclined to take a one-way perspective in implementing the agenda for sustainable development (2011). To conclude, this study would have to consider the forgotten sides of sustainability, which is the public. Part of the main theme of sustainability in this thesis is to treat all the parties that are involved equally in regenerating Muslim cemeteries. In doing so, this thesis will be using the combination of the second and third method described earlier.

**Strong and weak sustainability**

Rogers has also divided the meaning of sustainability into a weak and strong definition. Strong sustainability can be defined as bound to green ecological values with motivation towards preservation and conservation, whereas weak sustainability can be seen as the possibility for natural resources to be replaced with human-made capital stock (Rogers, 2011). In other words, the search for a sustainable economy that is compatible with the protection of the environment can somehow be achieved. However, this situation is found as a challenge in KL, where the balance between strong and weak sustainability is hard to achieve across the sectors. It seems to be that development has always been predominantly motivated by the economic goal, with less consideration to other sectors. This scenario has been stated by Rogers, which shows the contradiction between these two influences,

... in most debates about sustainable development either the environment or the economy is given priority ... (Giddings, Hopwood and O'Brien, 2002, p. 189 as cited in Rogers, 2011, p. 16).

So how can the transformation of Muslim cemeteries be enforced in KL? Muslim cemeteries are typically associated with strong sustainability because of the strong presence of ecological values that are represented by massive big trees as well as the practice of random planting performed by Malay people. Due to this, Muslim cemeteries have always been regarded as places which manage to accommodate certain types of biodiversity inside the city, for instance at JAMC and JDMC. Thus, it is important to keep the ecological aspect of Muslim cemeteries alive and maintaining the greenery side of the city at the same time. This has been supported by Rogers,

... 'strong sustainable development' which is based on the view that environmental protection is a precondition of development (2011, p. 15).

This also leads to another question: can strong and weak sustainability exist together and both be incorporated into Muslim cemeteries? What is the ideal model that can be used in order to strive to balance strong and weak sustainability in the development of public cemeteries in KL? Can human-made capital stock become a substitute to the natural resources being stated in weak sustainability? Becker et al. suggests that the discussion on sustainable development has to move into another level, from focusing too much on the preservation to a more accustomed method and effective operation (1999, p. 1).

Therefore, Section 1.6.4 will present the dynamic method employed in this study to apprehend the application of sustainable development for the development of Muslim cemeteries in KL.
iv. Brenda Scheer and David Scheer

Sustainable development and sustainability could probably be described in terms of physical features. The collaboration between Scheer and Scheer has resulted in a chapter titled ‘Towards a Sustainable Urban Form in Chiang Mai’, as part of the book Managing the Development of Intermediate Size Cities (Scheer and Scheer, 2002). The content of the chapter presents the reader with eight acceptable principles of sustainable urban form, which have been gathered and originally developed for the production of American and British cities.

These principles have been compiled into a list which could presumably be used in the construction of other sustainable cities and applicable to KL.

There is no doubt that these eight key principles can be regarded as some of the universal fundamentals used by academic scholars to define sustainable urban form. Even though the list is not specifically meant for cemeteries, but rather for the expansive city environment, some of these principles could be used as a guide to initiate the regeneration process of urban cemeteries in KLMA. There are still some connections that can be made to the idea of sustaining urban form inside Muslim cemeteries, if the context (urban form) is replaced from an extensive city environment to the micro scale of cemeteries. In order to demonstrate this claim, this study has put forward evidence to show the connection that exists between the sustainability of Muslim cemeteries in relation to every principle listed in the following section. The purpose of this discussion is to become part of the process in this study to clarify the meaning of sustainable development by evaluating the relationship of each principle in making any significant contribution to the sustainability aspect of Muslim cemeteries and Malay burial practices in KLMA.

**Compactness**

Compactness in Muslim cemeteries can be perceived in the way graves are being organised within the burial space, as well as the material of construction that has been used to build kepuk. This principle suggests that graves be arranged systematically as a way of promoting a higher level of efficiency in utilising the space inside the cemeteries. The use of hardscape to assemble structures over the graves has to be re-examined in order to maintain higher density for burial.

**Conservation**

Scheer and Scheer have defined conservation as part of sustainable urban form in terms of protecting the landscape, the natural resources and the pristine ecosystem (Newton, 2000, as cited in Scheer and Scheer, 2002, p. 254). In the case of this study, conservation in Muslim cemeteries is not only related to the aspect of the environment, but also to the culture. There is a need for the conservation of culture inside Muslim cemeteries that is reflected through rituals performed at the graves. Even so, there is a lack of concern by the management of public cemeteries in allocating specific space to accommodate these customary practices. In terms of the environment, Muslim cemeteries are made of natural features that mainly consist of vegetation and landform. As a form of cultural landscape, the management of cemeteries should be concerned in looking after the performance of natural surroundings to keep them in good condition.
Integration

Scheer and Scheer have defined integration as a way to provide a mixture of land uses in the city (Masnavi, 2000, as cited in Scheer and Scheer, 2002, p. 254). Here, integration also means Muslim cemeteries will have to remove the barrier that prevents the public from entering the space. This would definitely change the way conventional cemeteries are being used by the public. In the case of this study, integration can be looked at in two perspectives. Firstly, Muslim cemeteries are potential places that could offer multiple roles. In other words, hybrid functions could be applied to cemeteries. Secondly, Muslim cemeteries also have the capacity to be integrated with other types of public infrastructures in the city, such as bordering recreational parks or close to the community centre. These possibilities could be achieved through city planning.

Provide open space

This principle is an obvious effort to address the issue of lack of public space in the city. Muslim cemeteries would have to embrace this principle by making the space more open and accessible to a wider group of users. This can be done by considering the types of activities that are appropriate and suitable to be introduced.

The next section presents the rest of the principles that are found to have a similar meaning with the previous four themes of sustainable characteristics, and some are found to be non-applicable in creating sustainable practices inside Muslim cemeteries.

Preserving the existing form

As suggested by the use of word ‘preservation’, this principle has a similar connotation to the second principle of conservation. In this study, the existing built form that is normally found in Muslim cemeteries is represented by gravestones and kepuk structures. However, this study will not be using preservation as one of the terms used to define the sustainability of grave hardscapes in Muslim cemeteries. Unlike the principle of conservation, preservation does not promote flexibility that requires the regeneration of Muslim cemeteries, but rather maintains the way they are.

Encourage moderate parcel size

This principle is suggested for urban cemeteries to be developed in small average land parcels. However, the recent pattern of developing Muslim cemeteries in KL is getting larger in terms of area, which contradicts what has been implied by this principle. Due to this fact, this principle is being discarded.

Limit buildings to a moderate size

This principle is non-applicable as there are not many buildings found inside Muslim cemeteries, though it can be applied to the graves’ monumental structures. Nonetheless, this principle is found to be comparable to the first principle of compactness.

Provide a mixture of building types, sizes and age

Similarly to the last, this principle is more applicable within the context of the vast city environment rather than for cemeteries.
To sum up, there are some principles that do resonate with Muslim cemeteries, whereas the rest either share similar definitions with the previous four principles stated, or are not applicable or relevant due to the nil association that can be made with the physicality of Muslim cemeteries. Therefore, preserving the existing built form, encouraging moderate parcel sizes, limiting buildings to a moderate size, and providing a mixture of building types, sizes and ages have been combined or discarded.

v. Kate Woodthorpe

Woodthorpe’s published manuscript titled ‘Sustaining the contemporary cemetery: Implementing policy alongside conflicting perspectives and purpose’ has also been referred to in this thesis. In Woodthorpe’s paper, ‘sustainable’ is not defined in the same way as Brenda Scheer and David Scheer have defined the physical features of sustainable development. It is important to acknowledge the different context in which the term has been used. Woodthorpe’s views on sustainability are specifically intended in relation to cemeteries, whilst the Scheers have concentrated on the larger urban scale (which, to a certain degree, is also applicable to cemeteries). For this reason, a detailed look at the application of sustainability over cemeteries is necessary.

In her paper, Woodthorpe has proposed a revision of the policy use in order to achieve sustainability in contemporary cemeteries around the UK. Woodthorpe’s idea on sustainable cemeteries is deeply embedded in the making of the policy. However, this idea can only be attained through detailed consideration of the function of individual cemetery landscapes. According to Woodthorpe, sustaining cemeteries requires cautious orchestration of three interrelated landscapes: emotional, commercial and community (2011). Thus, the task of defining sustainability for modern cemeteries is a complicated one because of these wide-ranging viewpoints from various interested parties (Woodthorpe, 2011). Moreover, the plans and strategy proposed will not necessarily be desirable to all because of this inherent clash of interest derived from the very different motivation of each proponent of a particular landscape (Woodthorpe, 2011). It is therefore crucial for architects and planners to recognise these circumstances and sensitively incorporate these into any future development of urban cemeteries.

Lastly, when it comes to the development of sustainable cemeteries, the discussion in this paper recommends tolerance and mutual respect in negotiating the different interests and motivations of three extremely diverse lobby groups. This thesis will aim to demonstrate this by consulting Woodthorpe’s body of work, and it will be further discussed in Section 1.6.5.

1.6.1 The definition of sustainable development in this study

This section will describe the dimension of sustainable development, and how it was applied to the study of Muslim cemeteries in order to compose clarification on the relationship that exists at both inter- and intra-level. As stated by Rogers,

… there is a lack of consensus on what sustainability might mean when applied to human activities and institutions. (2011, p. 19)

This situation should be understood in the first instance as pertaining to how sustainability is being received within a global discourse, that there is no firm agreement between the scholars on the meaning of sustainability. Even though it can be a challenging task to decipher the application of sustainability in the fields of
environment, social and economy, this study is making an effort to interpret what it would possibly mean in each sector by reflecting on Rogers’ critical assessment towards the UN’s concept of sustainable development.

The discussion in this thesis does not only argue whether sustainable development is being interpreted and received, but also whether it has been put into practice and how it can be implemented into the ‘real’ world. So, how is sustainability being defined in this research? Moreover, where does this research stand in putting sustainability into its own context? Are there certain values, variables or factors that could be used to measure the level of sustainability in this study?

The thesis is implementing a sense of dynamism in generating answers and solutions by testing the effectiveness of sustainable development based on the ‘operative diagram’ (as shown in Figure 1.4), which was assembled from the combination of the existing scenarios at Muslim cemeteries as well as from the literature reviews. In order to demonstrate it, the evaluation of sustainability development on Muslim cemeteries will be based on this suggested operative diagram, exclusively designed for the introductory chapter of this thesis. The discussion on the effectiveness of the operative diagram in relation to sustainable development will focus on examples from the existing scenes of urban cemeteries in KLMA, both in terms of policy and feasibility. As what has been stated under Item 247 in *The Future We Want* (UN System Task Team, 2012, p. 63), sustainable development is an action-oriented policy, thus the only way to experiment the effectiveness of this policy is by evaluating its implementation afterwards. Thus, the outcome derived from this discussion will be tested and applied over the actual sites in Chapter 4, where a documented report will be presented in exercising the implementation of sustainable development over Muslim cemeteries in KL.

One of the objectives of this research is to offer alternatives to the critical situation that happens in KL urban cemeteries. However, it is important to notice that the spatial issue for burial is only a small part of the whole picture in Muslim cemeteries. Thus, the spatial concern in Muslim cemeteries should be looked at from every angle of sustainable development, which encompasses the sectors of environment, society and economy.

1.6.2 The need to integrate the three sectors at Muslim cemeteries

The next question is how the three components of sustainable development should be viewed. Referring to Rogers’ statement, there is a need for the three sectors to be integrated:

> The separation of economy, environment and society in models of sustainable development leads to a technological where the focus is on pollution control, lower resource use and green house gas trading rather than tackling what they described as ‘deeper’ issues or seeing the connection between each of the sectors. (2011, p. 17)

This is why this research decided to focus on the correlation between the three sectors by implementing it on urban cemeteries as the research main subject. This has also suggested that the research closely explores the relationship between the three sectors rather than look at them separately. Moreover, Rogers also stated,

> ... what is required ultimately is integration based on principles, a need to overcome barriers between disciplines to a trans-disciplinary position and a shift in ‘world view’. (2011, p. 18)
This is what this research has been trying to achieve, which is to mitigate obstacles that exist between different fields and to focus the implementation of sustainable development at the local scale.

1.6.3 Defining the boundary of the three sectors at Muslim cemeteries

It seems that the social aspect has somehow been left out, which is one of the essential elements in the production of sustainable development in the city (Rogers, 2009, p. 45). The social sector has not been given enough attention that it deserves in comparison to the economy and environmental sectors. In constructing the vision of sustainable development, it is common to see that cities have always been in favour of the other two sectors for the reasons of financial revenue or for the preservation of environment.

Perhaps the tension between the three sectors of environment, society and economy can be mitigated in providing a much better burial infrastructure for public use in this study by defining the boundary line between them. Muslim cemeteries should practice the equal treatment between economy, society and environment in order to achieve sustainable development. In doing so, this research is looking at how each party or actor involved can play their role in making Muslim cemeteries more sustainable. A better way to apply this to urban cemeteries is that all of the sectors in sustainable development can actually be developed at the same time, although one or two will overpower the other, and of course this is somewhat unavoidable. This research is suggesting that each component of sustainable development should become a catalyst that will support, enhance and benefit from each other rather than compete.

Rogers stated,

… it is not the level at which sustainability indicators are developed and implemented but rather that sustainability is understood as being measurable in the first place that is of concern. (Rogers, 2011, p. 35)

Thus the aim of this thesis is not to come up with a list of indicators that can be applied inside Muslim cemeteries, but rather to propose a model that can be used as template that is able to negotiate multiple roles and various needs of the parties involved in order to achieve the state of being sustained. Therefore, sustainable development can be defined as a way to strike a balance between these three main sectors, and this hypothetical theory is shown in the Figure 1.4.

1.6.4 Operative diagram as a coherence module of sustainable development in Muslim cemeteries

Based on the conceptual diagram shown in Figure 1.4, this research will explore how it can serve as a medium to achieve sustainability development at Muslim cemeteries. In doing so, the purpose of this section is to negotiate the tension and interest between the fields and party involved in the production of burial space in KL. Moreover, the discourse on the sustainability at Muslim cemeteries will have to consider the situation in the past, present and future. The operative diagram is made of three main parts, which comprise different types of sectors, actors and landscapes, and can be defined as follows.
Sectors

As shown in the Figure 1.4, ideally, sustainability can be achieved at Muslim cemeteries if there is a balance between the fields of environment, society and economy. The operative diagram is a basis to how sustainable development can be achieved on both levels, policy and practicality. The significance of the three sectors in contributing to the sustainability of Muslim cemeteries will be elaborated further in the next section.

Actors

The actors or parties who play parts in Muslim cemeteries can be divided into three categories: local authorities, Muslim society and grave builders. Who they are and what they do have been briefly described earlier (refer to Section 1.5.2). Each party has its own role to play in every type of landscape in Muslim cemeteries. Cooperation and interaction between the three parties involved in the making of Muslim cemeteries is significantly important to ensure sustainable development will be attained. This is done by addressing the conflicts that exist between the parties. In doing so, the research will look upon the meaning of sustainability from the perspectives of three main actors involved, which is going to be further discussed in Section 1.6.5.
Landscapes

According to Woodthorpe, cemeteries in the UK can be categorised into three types of landscape, which are emotional, community and commercial. Woodthorpe stated that contemporary cemeteries could be sustained by implementing a set of policies that are capable of negotiating different uses and perspectives (2011). Muslim cemeteries can also be classified into the three types of landscape, and each landscape is shaped or created by the three parties involved. It is a common thing for each landscape to be influenced and controlled by either one or two out of three actors.

As shown in Figure 1.4, the Roman numerals indicate the current ranking of each actor based on the level of influence in every type of landscape at Muslim cemeteries. This circumstance also determines which actor will be on the top and bottom positions of the rank among all the parties. Even though the emotional landscape is more dominant than the other two, the presence of community landscape as part of Muslim cemeteries has always remained invisible, whereas this thesis posits that the commercial landscape has been around for as long as the emotional landscape, but the potential of these two landscapes has not been explored and fully realised.

1.6.5 Aiming for stability inside Muslim cemeteries by negotiating the tension between the landscapes

The correlation between sectors, actors and landscapes within Muslim cemeteries will be reviewed within the type of landscape in Muslim cemeteries. This is because the main objective of this study is to promote stability between the three spheres by examining the roles and contributions of each actor in making sure the balance is achieved in the three sectors of sustainable development.

Emotional landscape

The discussion in the following section revolves around the relationship that exists between the three main actors within the emotional landscape. The role of each actor will be identified and reviewed with a direct link to the environmental sector.

According to Woodthorpe, cemeteries that are still running are being regarded as an emotional landscape because of the fact that the place is occupied by the departed. Furthermore, Woodthorpe also stated that cemeteries can be considered as a place where a sense of sentiment endures and there is a need by the surviving family members to protect the dead (2011). It is the place where the loved ones are buried and even though the physical entity ends up decomposed, in some cemeteries people still feel attached to the deceased. The same situation is also present inside Muslim cemeteries, and this emotional affection between the dead and the living is shown through the burial rites that are displayed over the graves. In other words, in most cases the surrounding environment inside Muslim cemeteries has always been personified by the ritual activities that are performed by the Muslim society.

Muslim society is more closely associated than the other actors with the emotional aspect of the cemeteries. Activities such as tending the graves by taking care of them and decorating them with the material culture, shading the graves by planting some common species of shrubs and trees, as well as watering the graves’ surface from top to bottom immediately after a mixture of flower petals has been spread all over the grounds.
These are some examples of Malay burial rites that signify the emotional characteristics inside Muslim cemeteries.

This emotional landscape has been strengthened with the participation of grave builders in translating this emotional feeling of loss and sadness into an eternal form which is also known as kepuk. Grave builders are responsible for carving the deathscape of Muslim cemeteries by leaving their trademark, which is shown through their work. Grave builders can be considered as the main actors that help to visually bridge the gap between bereaved family members and their beloved through their craftsmanship in kepuk making. This connection between Muslim society and the grave builders has been established since the existence of Muslim cemeteries. Local authorities entered at a much later stage with the shifting of Muslim cemeteries into the urban context by providing the space to allow this event to become possible.

Recently, local authorities were inclined to bring this relationship to the next level for a certain reason. This is motivated by the vision of turning Muslim cemeteries into accessible areas for public leisure, as well as the spatial issue that happened inside the old cemeteries. The idea of integrating public parks within Muslim cemeteries could somehow provoke and threaten the sensitivity of grave owners. More importantly, local authorities should have gained consent and trust from the people to protect them from emotional distress. It is the duty of the local authorities to consult with the Muslim populace for agreement as to how such development will be carried out.

As far as the spatial issue goes, grave builders have been requested to follow orders from local authorities to reduce the problem by minimising the amount of space occupied by kepuk. It seems that a simplified and moderate version of kepuk could replace the conventional one. However, would this be able to accommodate the grief among the grave visitors? How can the conventional kepuk be transformed into a modest form and still carry the same meaning and function?

At present, this has called for the relationships to be revisited in order to meet with the recent issues of space, as well as the need to reinvent the purpose of public cemeteries with a dual function. This study is raising some concerns about Muslims expectations on their emotional fulfillment in cemeteries in the future. Will the emotional attachments to Muslim graves still be the same as they are now, or are they going to fade away?

The next question will be how the redevelopment of Muslim cemeteries can be done in a way that the presence of emotional landscape can still be celebrated with enough respect, and a great sense of protection for the grave. The answer is to rely on the type of environment that local authorities want to create for the public cemeteries. For instance, the concept of the park cemetery can still be implemented if the two qualities, sensitivity and security towards the dead, can be addressed in entirety.

Therefore, the sustainability of the emotional landscape is determined by how to sustain the environment sector at Muslim cemeteries. As discussed, the sustainability of the environment here referred to how tolerant Muslim society is, as an owner and visitor of the graves to deal with the emotional distress associated with the dead. This is important, because these two have a direct relationship in keeping the sustainability of the environment balanced inside Muslim cemeteries.
Community landscape

In Malaysia, the community landscape of Muslim cemeteries can be traced within Malay funerary culture to the early stages of burial rites which happened before the funeral. This has been previously explained, where Muslim communities normally take part in the preparation of the corpse for burial, which takes place mostly inside the residence. However, for the purpose of this study the discussion of community landscape will focus on the intermediate and final part of Malay burial rites where both stages occur at the burial sites.

Firstly, it is important to emphasise that the community landscape at Muslim cemeteries can be described in terms of its usage as a place to gather and bring people together. There is trust placed over the burial community in conducting the funeral ceremony. Islam encourages the Muslim community (ummah) to assist with the burial right from the beginning to the end. Even though the funeral gathering only occupies the cemetery area for as long as the ceremony lasts, it still draws significant participation from the crowd. This is how the community landscape has always been perceived at Muslim cemeteries.

In the same way as the emotional landscape, community landscape is dominated by the Muslim society as the main actor by fulfilling their duty as part of the kariah member at burial sites. In the case of local authorities, the role of the party can be seen as having a shared commitment in holding an event, where Muslim communities come voluntarily to participate together in the occasional gathering commonly known as gotong-royong. However, with the recent development of public cemeteries in KL, local authorities are expected to take a big role in attracting more people into the cemeteries. Local authorities have been promoting the communal aspect of Muslim cemeteries through other means which are not bound to either religious or civil obligation.

In the UK, an urge for cemeteries to be converted into a space of multiple uses was motivated by the need to generate revenue to support the maintenance of the burial ground for decades to come. This situation has led the management of cemeteries such as the City of London Cemetery and Crematorium (CLCC) to offer and open the cemeteries to be more than just social infrastructure for burial, but also as a communal centre as well (Woodthorpe, 2011). As for the grave builder, the role is not so obvious and does not show much anticipation in the production of Muslim cemeteries into a community landscape. Or is there really none? The reason being that there does not seem to be any link created to bring them into this landscape yet.

Other than for the purpose of burial, Bougas has put forward evidence that shows graveyards used to be occupied by the local Muslim community in Patani as part of the custom in paying tribute to the departed. In this customary practice, the family members of the deceased will have to spend some of their time being at the balai menunggu, which literally means ‘waiting hall’, for a few days (1988). Events of this kind of practice do not significantly attract a large number of people; however, it provides some insight to the probability that cemetery compounds could be utilised for non-related activities of disposing of the corpse.

The ‘waiting’ ritual at the graveyard is part of the commemorative event celebrated by offering prayers, which usually have been held a few months after the corpse is buried. This commemorative feast is still being practiced today. However, without the need for the bereaved family to be present at the gravesite. It is disallowed for religious reason as it is no longer considered necessary, especially in the context of the contemporary living. However, in order to realise the sustainability development, Muslim cemeteries should be allowed to enliven the community landscape through social engagement that suits the modern lifestyle. Perhaps a collaboration between local authorities and the private corporation could help to revive its function and draw
people into cemetery areas.

A recent development in KLMA has shown an attempt from local authorities to beautify the landscape of Muslim cemeteries. This action has been taken by the local authorities for two reasons. Firstly, the main intention behind this is to improve the ambience of cemeteries, which has always been perceived as an unfa-vourable space with unpleasant views, especially by visitors. Secondly, it is an effort taken by local authorities to promote cemeteries as an alternative to outdoor recreational space for public use. However, this notion was carried out without much knowledge of how it is going to be translated, and more importantly without reassurance of public participation, including the Muslim community.

This step has also raised a question of whether the use of the park cemeteries will only be available to Muslims and not for users from other backgrounds. It is general knowledge that public cemeteries in Malaysia are only meant to be used by a single religious group of faith within one area. This has been practiced by local authorities since the early foundation of KL. As a result, mixed burial grounds have never been implemented in KLMA. If park cemeteries are only open to certain groups of users, then it is considered to be unacceptable in the making of a sustainable city, for the reasons that every single person has a right to take part in outdoor activities.

Woodthorpe stated there will be issues arising which occur with the inclusion of communal facilities inside the cemeteries, such as a place to share knowledge and outdoor activities, and in order to solve the problems will require a change in people's perspective that burial space could serve to be more than just a burying ground (2011). For that reason, Malaysians are expected to be open and allow themselves to comprehend this situation. Another point for local authorities to be aware of is that such decisions could lead to a calamity where graves could be possibly harassed and exposed to vandalism once public cemeteries are granted free access. Thus, it is important for policy and guidelines to be revised prior to implementation so that it will not upset grave owners.

So what does the future hold for the community landscape in Muslim cemeteries? Community landscape in Muslim cemeteries can be expanded to accommodate more than a circle of the funeral ceremony attendee and communal gathering for the maintenance work of graves and cemeteries' surroundings (gotong-royong). Moreover, these kind of activities only happen when there is a need to do so. As a matter of fact, these activities are not persuaded by the act of free will from the participants. For example, the Muslim funeral ceremony requires the accomplishment of certain tasks from the kariah members in order to carry out the interment according to religious practice.

In conclusion, there is no doubt that public cemeteries are able to incorporate and support other social activities in the city; however, it should be done with the consideration of the environment and economy sectors. In terms of the environmental sector, in order to realise the concept of the park cemetery, local authorities should be able to provide public cemeteries with additional functions and amenities without intruding or leaving undesirable impacts over the emotional landscape. As for the economy sector, in order to achieve the goal of community landscape at the cemeteries become a reality, local authorities would have to seek any assistance that they could find. Grave builders are not capable of giving much contribution unless they are joined by a similar trade or professions such as urban planners, landscape architects and designers. With the assistance from these professionals, the social sector of Muslim cemeteries can possibly achieve and even elevate their status to a whole new level. There will be endless ideas for the integration and design of the
communal centre at public cemeteries that can be adapted to the local context which have already been pioneered by many countries in the world.

This could mean that the actual role of grave builders might have been extended from being limited to the small niche of graves into covering every corner of the cemeteries. This could also mean that the role of grave builders will be completely replaced and taken over by the new line of professions mentioned, or they could work together in a way that benefited each other. Therefore, the sustainability of the community landscape is determined by how sustained the social sector is at Muslim cemeteries in the sense that it is able to attract and bring people together into the area other than for burials.

Commercial landscape

In Malaysia, commercial landscape is the least dominant type of landscape in Muslim cemeteries, in comparison to the others previously discussed. It can be said that the economic sector is being regarded as the least competent component that makes up Muslim cemeteries. In the case of CLCC, for more than 20 years the management has gradually changed from a public to a commercially oriented focus, and this was motivated by an alarming concern over sustainability as well as the search for a reasonable price (Woodthorpe, 2011).

It is important to acknowledge that the commercialisation of Muslim cemeteries could possibly venture to profit-making by selling the grave plots in a similar way that has been operated by other memorial parks. However, by selling burial plots to users, it would become a trade which comes along with pitfalls preventing cemeteries from reaching the status of being sustainable economically. This has been identified by Woodthorpe by taking example of the situation at CLCC:

> By purchasing, visitors would treat the cemetery as a ‘business’, culminating in further doubt for both them and staff regarding the purpose and use of the CLCC as a sustainable commercial site. (2011, p. 267)

As an example, excessive charge of grave plots for burial can never be accepted as sustainable in a cultural sense, and this should be avoided at all cost in Muslim cemeteries. Perhaps there is another way where revenue can be generated at Muslim cemeteries without damaging the welfare aspect of Islamic burial that focuses on the priority of charity among the ummah. However, first of all, it is important to clarify the commercialisation aspect of Muslim cemeteries so that it won’t become complicated, as this has been experienced by CLCC. As stated by Woodthorpe,

> Vagueness over the business characteristics of the cemetery was further perpetuated by efforts to pursue new income streams or actively encourage new clients into the cemetery. To do this, the senior staff of the CLCC had examined alternative ways of attracting visitors in to the site; to this end, they opted to raise the profile of the cemetery as a community resource. (2011, p. 267)

The reason for CLCC to have a community resource is so that money can be generated, but in the case of Muslim cemeteries there is no need to do so because the money gained from these activities is not going to be necessarily used for maintenance. As a matter of fact, the main intention is to create a business opportunity for the local populace. In other words, the main goal for the integration of the community centre is not to support the maintenance of Muslim cemeteries, but as a magnet to attract people into the area.
The next thing to do is to ask whether the commercialisation of Muslim cemeteries is only dealing with the aspect of providing services for the funeral. Or will the commercialisation be extended into a whole new kind of business-related activity created inside the cemetery as what has been demonstrated at SDHMP in Jakarta? In the case of this study, the economy sector at Muslim cemeteries can be divided into two categories. The first is concerning the activities that are related to graves such as reservation of burial plots, kepuk design and structure, and offering regular maintenance for the graves. The second is through activities that are not related to the graves which can be done with the integration of the communal centre that offers services such as a café, convenience shop and recreational facilities. This is because the expansion of the commercial landscape inside the cemetery area will be accompanied by the prospect of attracting a wider group of users as well as revenues.

It is almost impossible to describe the commercial landscape of Muslim cemeteries as there has been no recollection to such events throughout history. However, as far as the economy sector goes inside Muslim cemeteries, the commercialisation of Muslim cemeteries can only be traced based on the event where the grave builders were paid in exchange for their trade in the making of kepuk for the bereaved family. This practice has been around as early as the creation of Muslim cemeteries. The fact is, grave builders are held responsible for the intricate design of the headstone and kepuk found in traditional Malay cemeteries. Today the job of grave building is considered a decent job with a profitable earning through the kepuk making business, which sometimes can go to extremes in terms of price.

At present, grave builders have been hindered by the local authorities from continuing their work. The fact is, local authorities have been controlling the spread of grander kepuk by the grave builders for two reasons. Firstly, there are concerns regarding Islamic regulation that discourages the grandiose style of grave and, secondly, it is due to the problem of space, which derives from the conventional Malay burial practice that pursues the glorification of graves by the means of physical ornamentation including the making of kepuk. This situation has hindered grave builders’ source of income as well as their creativity.

As far as the funeral industry goes, grave builders are leading the way without any competition from funeral directors because there are none in a Malay-Muslim tradition. However, the position of Muslim funeral director exists where Muslim communities are immigrants, especially in the western countries such as the UK and Germany (Ansari, 2007; Jonker, 1996). This is because the generation of migrated Muslim families have to adapt with the local custom in managing burial services. Even though this practice has not been common among the community of Malaysian Muslims due to cultural differences, an approved version of a Muslim funeral director can be adapted into local context.

The way forward for the commercial landscape of Muslim cemeteries to thrive is to avoid the economy sector being monopolised by one singular party; for example, to ensure the funeral industry is not being solely dominated by the grave builders. By sharing the commercial landscape of Muslim cemeteries there will be a fair distribution of economic opportunities among the actors involved, including the non-related death businesses that will be concentrated at the community centre. It has been made aware and recognised that the development in Malaysia can be promoted through the cooperation between public and private sectors (Abdul Karim, 1996). Hence, the economic sector inside Muslim cemeteries should be developed together with the collaboration between local authorities and grave builders along with similar professionals.

To conclude, there is no doubt that public cemeteries are able to generate revenues from both sources which
derive from providing limited funeral services and by offering recreational opportunities at the communal centre. However, it should be done with the incorporation of environmental and social sectors. In terms of the environmental sector, there have been numerous examples on how cemeteries can be planned and designed to accommodate hybrid functions at the site. As for the social sector, this means the commercial landscape of Muslim cemeteries would only be successful if there is participation from the public, which will then lead to a social gathering.

Therefore, the sustainability of commercial landscape is determined by how sustained the economic sector is at Muslim cemeteries. This could be done by sharing the resources of earning the income between all the parties to prevent Muslim cemeteries from being controlled and overtaken by one party, which could lead to the state of being unsustainable.

1.7 Research methods

Changes are necessary in Muslim cemeteries in order to adapt to the ever-changing landscape of KL. The process of transformation will be underpinned by making some recommendations to the existing approaches in dealing with the existing problems. Malay burial practices are very conventional and any changes would need to consider the effects that it would bring to existing practices. This research is suggesting some changes to the funerary practices in Malay-Muslim burial rites. In doing so, the research has referred to several examples of changes in other burial cultures to identify what the factors or motivations are that caused the transformation to take place. Each case has then been compared to the situation in KLMA to see if the same methods and approaches can be adapted to the Malaysian context. In order to determine this, the research will learn from the examples of others by employing the methods of comparative literature as well as through case studies.

1.7.1 Case studies

In this research, the discussion was built upon the actual case studies by initiating changes from different angles which look at the ‘visible’ and ‘invisible’ aspects that are potentially identified as catalysts in changing the burial practices of Malay-Muslims in Malaysia. The case studies will be consistently used throughout the thesis in discussing the problems that relate to the urban cemeteries in KLMA. The case studies will be drawn as examples to discuss the gravity of the situations within the sites. Apart from that, they will be referred to as ways to indicate similar characteristics that they share or to show certain contradictory features by making a comparison. In addition, images and diagrams will be used to support the arguments.

The case studies used in this thesis can be categorised into two groups:

**Visited case studies:** sites that have been used to support ideas or argument in this thesis, which have been visited in order to get a closer look at the existing conditions. These case studies involve the existing sites which are located in Malaysia, especially KL, as well as Singapore and Jakarta.

**Non-visited case studies:** sites that have been used to support ideas or arguments in this thesis without visiting the actual sites. These case studies are normally gathered from sources such as journals, websites and online newspapers.
1.7.2 Case studies categories

Interpretive research strategies start from the recognition that the meanings of objects, events, words, actions and images are not always plain and obvious, and they require the investigator to actively engage in ‘making sense’ of the phenomenon they encounter. (Deming and Swaffield, 2011, p. 152)

The case studies in this research can be categorised into two main groups. The first category focuses on Muslim cemeteries in KLMA (Table 1.2), whereas the second category is a combination of cemeteries that have been visited across Malaysia, Singapore, Jakarta and Melbourne (Table 1.3).

1.7.3 Approach to the study

Qualitative researchers must choose not only what ‘story’ they will tell, but also how they will tell it. (Wolcott, 1990, as cited in Sandelowski, 1998, p. 376)

Using empirical data obtained through this process the researcher used a qualitative technique to analyse and report on the relationships between Muslim cemeteries and the practices that can help to improve the sustainability of urban cemeteries in KLMA. The analysis of these relationships led to the development of a framework of flexible principles for planning and designing Muslim cemeteries. These principles are designed to be used by the target audiences as the basis and guide in regenerating urban cemeteries in Malaysia.

The study is conducted with a number of selective Muslim cemeteries that were observed in the city as well as in the extended region of KL. This collection of Muslim cemeteries around KLMA is defined as the primary research subjects. In addition, the selection of study sites has been added up based upon the need for further investigation as the research progress. For instance, the new methods or practices involved for full body burial has led the research to explore various sites in different places. The study sites were extended to a northern part of Peninsular Malaysia, followed by Singapore and Melbourne, then finally a visit to several sites in Jakarta metropolitan to further understand existing alternative practices and strategies. Further, a series of interviews was conducted. These research participants were representatives from government sectors and local communities, an academician, a funeral agency, as well as individuals directly related at the burial sites.

To answer the research questions, observation was conducted at the selective cemeteries around KLMA and further afield by using a checklist. In addition, photographs of the physical landscape and features of each site were taken and collected. Data gathered from these methods was then categorised into specific groups and simplified into keywords or terms that best explain the character of each group. In the first category of case studies, the characterisation of landscape elements that were observed at the study sites is used to represent the values that confirm with the concepts of sustainable development in the making of urban cemeteries. This same approach has been demonstrated in the second category of the case studies in order to refine the aspect of sustainable practices.

1.7.4 Research approach

In formulating answers to the research issues, the discussions can be divided into two parts: the design and non-design approach.
<table>
<thead>
<tr>
<th>Cemetery</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Jalan Ampang Muslim Cemetery (JAMC)</td>
<td>It was nearly full but the burial space has been extended</td>
</tr>
<tr>
<td>2. Jalan Kuari Muslim Cemetery (JKMC)</td>
<td>Completely full, as there is no available land left to do burials</td>
</tr>
<tr>
<td>3. Jalan Damansara Muslim Cemetery (JDMC)</td>
<td>It was nearly full but the burial space has been extended</td>
</tr>
<tr>
<td>4. KL-Karak Muslim Cemetery (KLKMC)</td>
<td>Recently built and the largest burial ground for Muslims in KL</td>
</tr>
<tr>
<td>5. Section 9 Muslim Cemetery (S9MC)</td>
<td>Recently built and among the largest burial ground for Muslims in KLMA</td>
</tr>
<tr>
<td>6. Taman Selatan Muslim Cemetery (TSMC)</td>
<td>The benchmark model for urban cemeteries in KLMA</td>
</tr>
</tbody>
</table>

Table 1.2  First category of case studies

![Timeline of the first category of case studies](image)

Fig. 1.5  The timeline of the first category of case studies
Table 1.3  Second category of case studies

<table>
<thead>
<tr>
<th>Cemetery</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Al-Jamiul Badawi, Kepala Batas, Seberang Perai, Penang, Malaysia (AJBMC)</td>
<td>A small-scale Muslim cemetery that practices tiered cemetery for burial.</td>
</tr>
<tr>
<td>2. Subang Lutheran Garden, Shah Alam, Malaysia (SLG)</td>
<td>A non-Muslim cemetery that practices pre-cast concrete for burial.</td>
</tr>
<tr>
<td>3. Pusara Aman and Pusara Abadi, Chua Chu Kang Cemetery, Singapore (PAm &amp; PAb)</td>
<td>The only active public cemetery in Singapore, exhumation is being practiced here for Muslim burial.</td>
</tr>
<tr>
<td>4. Karek Bivak General Cemetery, Central Jakarta, Indonesia (KBGC)</td>
<td>One of the largest general cemeteries in the city where the removal of tombstones and greening the field are being practiced.</td>
</tr>
<tr>
<td>5. Pondok Kelapa General Cemetery, East Jakarta, Indonesia (PKGC)</td>
<td>Another public cemetery in Jakarta that also practices the removal of tombstones and greening the field.</td>
</tr>
<tr>
<td>6. San Diego Hills Memorial Park, Karawang Barat, Indonesia (SDHMP)</td>
<td>A regional scale urban cemetery that serves Jabodetabek city region. This cemetery accommodates burial for people from all different background and classes.</td>
</tr>
<tr>
<td>7. Springvale Botanical Cemetery, Melbourne, Australia (SBC)</td>
<td>The largest memorial park in Victoria, located in the southeastern suburbs of Melbourne.</td>
</tr>
</tbody>
</table>

Design approach

This approach will look into the ‘visible’ aspects in the design methods and strategies that have been used in altering the burial practices. The examples of the visible aspects were drawn from both categories of the case studies. These include tiered cemetery, precast concrete as the confined structures for the grave plots, and burial sections designed as outdoor room blocks. These methods have been presented by the case studies such as Al-Jamiul Badawi Muslim Cemetery (AJBMC), located in mainland Penang; Subang Lutheran Garden (SLG) in Shah Alam; and San Diego Hills Memorial Park (SDHMP) in Karawang. These sites have all been visited, whereas the outdoor room blocks are an example gathered from a non-visited case study, in this case, Wilbury Hills Cemetery (WHC) in Letchworth, UK.

Non-design approach

Under this category, the ‘invisible’ factors other than the physical features of the cemeteries will be discussed in transforming the burial practices of Muslims. This includes, for example, religious precepts, legislative initiatives, and general attitudes and perceptions. This has been presented by referring to numerous documents and literature sources.
In this sub-topic, selected journals and articles in relation to the cultural transformation in funerary culture have been discussed. In this way, the technique of comparative understanding between literature sources and case studies has been applied by referring to the current situations in KLMA. Both methods will serve as a medium that provides hints in tracing the answers to how each of the studies are dealing with the same situations.

1.7.5 Qualitative data

This research is looking at qualitative data, because the research is more about regenerating urban cemeteries, which is really about evaluating and interpreting what has been practiced inside Muslim cemeteries, as well as predicting future directions. The study does not employ the combination between qualitative and quantitative data because such research methods have yet to be proven as effective and reliable (Bryman, 2007). Thus, the combination of qualitative and quantitative, known as a mixed method, remains an unjustifiable methodology.

1.8 Road map

Chapter 1: Introduction

The current chapter (Chapter 1) introduces the investigation of the research and provides a rationale for the thesis to be conducted. This chapter explains the background of the study and the scopes that are involved in this research. The hypothesis and aim are clearly identified, which serve as the guideline to finding answers.
to the research problems. Research objectives have been listed and each further elaborated with its supporting set of inquiries. Research gaps were introduced to justify the significance of the study and serve as the motivation for this research.

This was followed with detailed explanations about the rituals performed at different stages of Muslim funeral ceremonies, as well as the interconnection between major parties involved within Malay burial practices.

A literature overview was then presented, which comprised a list of references to the pivotal concept of sustainability relevant to this study. The interpretation of sustainable development and how it will be operated in accord with the research interest has been clarified. Next, comparative literature, case studies and interviews have been adopted as the main research methods. The design research also has been described and demonstrated in carrying out this study. Finally, the road map provides a glimpse to the overall framework structure employed in this thesis.

Chapter 2: Research Issues

This chapter begins by tracing the origin of Muslim cemeteries since the early formation of KL to the present. Before highlighting the research issues that surround Muslim cemeteries, the origin of urban cemeteries will be thoroughly explained. This includes the development that happened inside Muslim cemeteries, which touches on the changing scale of urban cemeteries along with the urbanisation process of KL. In addition, the statistical records have also been presented to show the current state of burial infrastructures in comparison to the total population in every state and KL district area. Next, the complete catalogue of Muslim cemeteries has been presented in order to justify the gravity of the situation. The chapter then continues with detailed explanations of the present situation of urban cemeteries around KLMA.

After a lengthy description on progression of urban cemeteries in KL, the aspects under consideration to transform Muslim cemeteries will be described from two different angles – internal and external. The discussions on both aspects of transformation have been identified as gaps in the field of study. Under internal transformation, the discussion involves four main sections which specifically occur inside the cemetery area. The discussions under internal transformation look into the policy, layout planning of the cemeteries and grave designs. The first part examines the competency of the cemetery’s guidelines, which are prepared by the Malaysian authorities in accordance with the concept of sustainable development, whereas the second part specifically looks at the factors that contributed to spatial issues in Muslim cemeteries. The third part puts forward some suggestions that can be experimented on within this study for the modification of Muslim burials. The last part involves the discussion of the feasibility of grave recycling to be implemented in Muslim cemeteries.

The external transformation involves a discussion of the unspoken issues that originated from the management side of cemeteries, as well as some of the proposals that should be seriously addressed in order to transform Muslim cemeteries from their current state. The first part comprises the discussion about the incompetence of the religious council in managing waqf land, followed by queries on the placement of burial spaces. The third part presents the reader with steps that can be taken to strengthen the path to sustainable development for urban cemeteries through mutual cooperation between government and stakeholders. Lastly, this study has also raised a concern of the importance of similar studies to be conducted that focus on the connection between the city and the cemeteries in Malaysia. For example, there is a movement for urban
cemeteries to be open for public use, which would be in line with the making of sustainable cities.

The chapter has been summed up by pointing out major challenges that need to be addressed in order to determine the identity and purpose of Muslim cemeteries in the near future.

Chapter 3: Literature Reviews, Interviews and Site Visits

Chapter 3 displays a combination of methods used in exploring alternatives and finding solutions to the problems stated in the previous chapter. This method has been used to comprise literary reviews, interviews and site visits. These three methods have been applied simultaneously throughout this chapter and placed in sequential order.

Consulted materials used for the purpose of reviewing the literature in this chapter can be categorised into five major themes, which consist of the history of cemeteries, Michel Foucault's and Ken Worpole's remarks on cemeteries, key characteristics of cemeteries, sustainability of urban cemeteries, and alternative methods to full body burial.

Under the historical theme, the history of cemeteries and funeral practices will be presented, mainly from the perspective of Western views as well as the Islamic viewpoint. This will be followed by a discussion on the significance of historical funerary sites in human civilisation, before presenting the historical background of Malay-Muslim cemeteries. This research will explore some examples of traditional Malay cemeteries, for the purpose of recognising their true nature as well as identifying the original characteristics of Malay-Muslim cemeteries. It is important that this research identifies the qualities that reside within old Muslim cemeteries before moving to the next discussion. A brief overview presented in the next subheading makes some references to pivotal principles of the heterotopia concept and a vision for modern cemetery designs related to this study.

The next theme describes the essence of cemeteries based on the four key characteristics introduced by Rugg (2000). The four key characteristics are physical characteristics, purpose and ownership, sacredness, and the site's ability to protect the living and celebrate the individuality of the deceased. Rugg's paper, titled 'Defining the place of burial: What makes a cemetery a cemetery?', is considered to be a comprehensive source on the study of cemeteries encompassing various fields.

The following theme will examine the sustainability of Muslim cemeteries in four sectors: cultural, environmental, social and economic. The discussion of these four sectors is a further refinement to the concept of sustainable development of Muslim cemeteries based on the operative diagram explained in Chapter 1.

The last theme demonstrates some examples of the methods of burial being practiced in other Muslim cemeteries outside KL and Malaysia. This research has gathered examples found in Muslim cemeteries as well as non-Muslim cemeteries from various parts of the world.

Moreover, the research will also be discussing the possibility of unconventional methods that are practiced in other parts of the world for implementation to Malaysia, as well as the challenges and obstacles that may arise from the local Muslim community. The discussion in this section will present the reader with alternative methods to full body burial, which can be divided into two parts.
The first part is a collection of burial methods that focuses on the usage of land by minimising the requirement of space for interment such as terraced cemeteries, confined structures and reinterment. The second part concentrates on the techniques of disposing of the corpse, which does not necessarily depend on the requisite of specific land and which includes sea burials, cremation and natural burials. Finally, the chapter will summarise all the four themes that have been put forward in this chapter by reflecting on the concept of sustainable development.

Chapter 4: Findings, Results and Report

The fourth chapter exhibits the research assessment of the level of sustainable development in terms of environmental, social and economic factors inside cemeteries within KLMA, and other places where site visits have been conducted. In doing so, this chapter will display the steps involved in extracting the data gathered specifically from the case studies. The data has been synthesised in a form of diagrams and table catalogues in order to interpret and simplify the research outcome. The approach in analysing the data will be executed based on the four selective principles of sustainable urban forms (also known as checklist categories), which include conservation, integration, provision of open spaces and compactness, as well as the ‘operative diagram’ of sustainability development introduced in Chapter 1. The research has employed both content analysis and thematic analysis to evaluate the relationship between identified keywords and phrases with the sectors of sustainable development. This is then followed by a complete results derived from the assessment of summary of items under the four themes used in the checklist categories. The final stage of this chapter presents the overall report on the interpretation of every checklist item based on the performance of characteristics of sustainable practices over the three main sectors of sustainable development.

Chapter 5: Discussion, Proposals, Applications and Contributions

Chapter 5 comprises four themes which focus on the demonstration of knowledge as well as facts acquired from the previous chapter. The first theme in this chapter involves discussions that help to validate the hypothesis of the study, comprising of five parts, which are cultural, environmental, social, economic and spatial. The outcomes from the discussion will serve as a basis for the guidelines to Muslim cemeteries, which are going to be presented under the applications area of the same chapter. The next area involves a series of proposals pertaining to the research issues reported in Chapter 2. The proposals provide some suggestions based on the results obtained from the research report, and they should be incorporated into the cemetery’s policy as part of the solutions in handling the research issues. This chapter also demonstrates the applications of the knowledge presented in the form of a diagram, which can be referred to and employed by professional fields as well as the general audience. Finally, the last area will highlight all the contributions that were made as a way to summarise the purpose of this thesis.

Chapter 6: Conclusion

The conclusion will reflect on the research aims and objectives that have been introduced in Chapter 1. Concluding remarks will be stated which are based on the central theme of this research, suggesting that public cemeteries in KLMA are not only a site for the repose of the dead, but also a place of public involvement for leisure and recreation, before offering some suggestions for future research.
2.1 Issues that surround Muslim cemeteries

In the era of globalisation, contested space has become a central issue for most Asian cities including Kuala Lumpur (KL). Urban issues such as demands for affordable housing, lack of green areas and public spaces, and overcrowding in cemeteries are some of the examples that have resulted from the contested space. Competition for space is immensely harsh due to the rapid process of urbanisation. This phenomenon has resulted in urban cemeteries being pushed beyond the city's boundaries due to intense consumption of urban areas. It is becoming increasingly difficult to ignore the impacts derived from the contested space; however, it is extremely important to address this matter so that a sustained urban environment can be maintained.

In recent years, local newspapers have been reporting other problems pertaining to the urban cemeteries in Kuala Lumpur Metropolitan Area (KLMA). The stories written by reporters have covered many angles of urban cemeteries and the issues either affecting the public directly or indirectly. Some of the issues touch on the aspect of incompetency in managing public cemeteries. For example, KL municipal authorities have been condemned because the current practice in keeping grave records is outdated, especially in the old cemeteries (Bavani, 2012a, 2012c). As a result, the authorities have been blamed for the insufficiency of grave plots in the existing cemeteries and people are pressing for this matter to be resolved (Bavani and Vincent, 2012; Bavani, 2012b; Aziz, 2012).

Perhaps one of the most crucial issues of all is that public cemeteries around KL have been increasingly faced with the issue of land shortage and lack of space for burial. As a city populated with Muslims, KL has begun to see the decline of Muslim cemeteries in providing sufficient grave plots to the Muslim population, which could potentially turn into a threat to Malay’s cultural landscape. This situation has shaken the foundation of public cemeteries as part of the basic facilities for Muslim burial in the city. Even though cemeteries are considered an underrated topic within Malaysian society, the provision of proper burial grounds is significantly important to the wellbeing of the city and cannot be neglected.

Apart from the spatial issue, cemeteries have always been regarded as undervalued public spaces within the city. As a place where the dead are put to rest, people's mindset towards cemeteries has always been singularly preoccupied with the misconception that burial grounds are nothing but a place to dispose of the dead. As a consequence, urban cemeteries have suffered from being branded as an undervalued space by the general public. Often people express their opinions about not wanting to have a cemetery built close to their settlement area (Aziz, 2008; Low, 2008).

To this day, cemeteries are still perceived by many Malaysians as limited in aesthetic values and serving only to contaminate views in the city. The local media has commonly reported such perceptions over the last decade (Low, 2008; Aziz, 2008; Mohd Yusuf, 2006). Nevertheless, this kind of syndrome also exists in other Asian cities such as in Taiwan, which has been reported in a few journals. In Taiwan people are keen to have the cemeteries set apart from human territory, a belief influenced by Chinese culture (Huang, 2007). As a result,
cemeteries have always been regarded as one of the undesirable social infrastructures in Taiwan and listed under ‘NIMBY’ (not in my back yard) (Lee and Ho, 1999).

In KL, a protest against new cemeteries due to the close proximity to housing areas has also caught the media’s attention (Khalid, 2008, 2007a; Aziz, 2008; Jayaraj, 2007; Mohd Yusuf, 2006). In the case of Section 9 Muslim Cemetery (S9MC) in Kota Damansara, people’s opinions are divided between preserving the natural forest or developing a portion of this precious land as a space for burial. This side of the story shows that burial rights cannot be denied and taken for granted.

This kind of reaction, as reported by the media, is a common response among the Malaysian public. Malaysians are not so keen to live close to cemeteries. For instance, the Chinese community, who tend to be superstitious, would strongly oppose this idea. As for Malay people, this persistent notion reflects ongoing beliefs about supernatural activity taking place at gravesites (Bougas, 1988). The attitudes of Malaysian citizens are still somewhat characterised by superstitious beliefs in ghosts and the supernatural. This stereotype will become one of the challenges that need to be shifted among Malaysian people and perhaps the answers can be explored by re-examining the purposes of urban cemeteries themselves. In addition, poor maintenance is also another common issue that surfaces in the media every now and then (Thomas, 2010).

These stories show that new cemeteries are facing many challenges and hard times in adjusting to the development of KL. As this thesis will demonstrate, Malaysians on the whole see little value in cemeteries. To some extent, public cemeteries in KLMA are still far away from having the features and qualities possessed by some other great cities. Burial facilities in KLMA do not match the standard of cemeteries in Singapore and Jakarta.

2.2 A progression of cemeteries from early formation of KL until today

It is essential to study the morphology of KL in order to gain better insights into the progression and development of Muslim cemeteries in KL. The city of KL has changed significantly in the last 50 years. KL’s urban environment has since become more complex in the last decades, especially following the economic boom of the 1990s. This phenomenon has attracted steady migration into major cities, including KL, as well as emigration from third world countries and diverse backgrounds.

2.2.1 Muslim cemeteries are open to Muslims from different backgrounds

Based on historical fact, Muslim cemeteries at Kampong Glam in Singapore hosted graves of native Muslims, Arabs and Indians. This site probably existed around the 15th century. Even though there are segregation of burial spaces between different ethnic groups of Muslims in Kampong Glam, in reality they are all bound by the same religious teaching.

In KL, Muslim cemeteries are occupied predominantly by the Malay graves with a small percentage of graves of other Muslims from different backgrounds. The inclusion of non Malay-Muslim graves within Muslim cemeteries has since been long practiced in KL since the establishment of Jalan Ampang Muslim Cemetery (JAMC). This situation can be found inside the old and new Muslim cemeteries in KL. In the JAMC there are several tombs around the area that do not resemble typical Malay-Muslim graves as shown in Figures 2.1 and 2.2.
This has shown that the nature of Muslim cemeteries is usually open to all Muslims from various backgrounds, which can be witnessed in former and later cemeteries. Moreover, the assimilation of other Muslim burial practices mainly from Arab and Indian cultures into Malay-Muslim funerary culture has been widely accepted as normative in present Malaysia. It is also important to notice that Muslim cemeteries have never been open to non-Muslims due to the religious factor which forbids such circumstance.

In the late 19th century Malay burial grounds were located outside their village settlements, well known as *kampung*. The urbanisation process in KL has somehow disconnected Muslim cemeteries (Malay burial grounds) from their settlement (Malay *kampung area*) as shown in Figure 2.3. The map suggests that the cemetery might have been gradually encroached upon by the surrounding development and then became isolated within the city area. The cemetery site no longer exists and has now been replaced by iconic landmarks of KL, the Jamek Mosque and the City Hall Theatre.
This same pattern persists in the following decades, where public cemeteries have been purposely separated from the rest of their surroundings either by physical means, such as the use of boundary structures and visual barriers, or geographically, where they are usually situated far away from human intervention. It is clear that Muslim cemeteries were gradually excluded from the city's urban plan right from the beginning, because there aren't many significant uses of cemeteries that crucially link to the daily function of the city such as transportation and recreation. Figure 2.4 shows the location of Malay reservation areas in KL, which also indicates that the provision of public cemeteries around KL is found to be imbalanced compared to the Malay settlements that are marked by the dark blocks. Thus, this situation is expected to become more critical as KL becomes spatially contested due to the rapid process of urbanisation.

In the early twentieth century, allocations of public cemeteries were normally accompanied by a new settlement in KL. This research traces the origin of Muslim cemeteries even before the foundation of KL as a city in 1972 to the present day. Among the earliest cemeteries for Muslims in KL was JAMC located in Kampung Baru. No record is found attesting exactly when it was opened. However, Kampung Baru was probably established by the colonial British in 1900. As an agricultural settlement for Malay people in KL, the establishment of Kampung Baru was to provide a village lifestyle for Malay population in the city.

Despite the pressures from the surrounding urban development, this village has witnessed the resilience of Malay heritage and customs from external influences. Since its occupancy, Malay vernacular architecture has managed to survive the development of the modern city. Every aspect of Malay lifestyle that connected spatially to ritual and culture has very much remained unchanged within the city's surrounding, including the graveyard. JAMC has retained the conventional way of Malay burial practices, along with a kampung atmosphere. The creation of Muslim cemeteries in KL has since followed a similar path to JAMC without going through many changes.
2.2.2 Muslim cemeteries are exclusive to Muslim communities

The allocation of cemeteries in KL is normally determined by accounting for different religious backgrounds and cultural practices. This step was taken by the city administration in an attempt to accommodate its culturally heterogeneous population. This long practice can be traced back to the beginning of urbanisation in the Malay Peninsula under the rule of the colonial British. Even though there has been some evidence of integration among those with different religious backgrounds within the same burial compound in 19th century Singapore, such effort would likely cause aggression and conflict among people.

Although available land could be secured at Bidadari for a Chinese cemetery, the municipal commissioners rejected this option as it was felt that the burial customs of the Chinese were incompatible with a site already consecrated for the Christian dead. As the municipal president explained, since the burial customs of the Chinese were ‘characterized by noise’ and the Christians ‘by silence’, ‘there might be clashing and inconvenience should burials be taking place in both places at one time.’ (Yeoh, 1996, p. 301)

Therefore cemeteries of different religious groups have remained divided until today in the Malay Peninsula in order to preserve harmony within the society. Thus, mixed burial grounds have never been implemented in Malaysia in order to protect the interest of each party in maintaining their own funerary practices. Other than the reason of religious teaching or cultural belief, the selection of burial space for each group is also motivated by the location of the land and landform during 19th century Singapore. For example, according to Yeoh Malay people prefer to have burial space close to the ridges:

In a plural society, the question of cemetery location was complicated by the diversity of death rituals and burial customs prevalent among different ethnic and religious communities. The government surveyor, J.T. Thomson, observed that, ‘in Singapore … native burial grounds are to be met with in all directions … The Malays seek out sand ridges or permatang in which to bury their dead.’ (Yeoh, 1996, p. 283-284)

From observation on the trend of burial infrastructure in KL today, the exclusiveness of burial can also be found in public cemeteries other than Muslim denominations. However, other major faiths such as Buddhists, Christians and Hindus have begun to find their way into memorial parks which are mostly run by the bereavement services. Even though memorial parks are open to any denomination in Malaysia, Muslims retain exclusive rights to burial grounds within their own community group only. Taman Selatan Memorial Park (TSMP) in Putrajaya accommodates a large area for Muslim burials compared to other denominations. However, it has a different approach from the typical memorial park in terms of its management and function. TSMP can be considered as a major step taken by the Putrajaya Corporation as a way to cultivate aesthetic elements and systematic structure that has always been part of the memorial park into all public cemeteries regardless of their cultural association. It is expected that this ‘new genre’ of public cemeteries will emerge within KLMA in the near future, with its main focus on integrated burial space. However, it is still unclear how ‘integrative’ this place would be in putting together graves and people of different background within the same area. The new public cemeteries will also be purposely meant to be used more by the living rather than the dead, something that is found to be missing from ordinary memorial parks.
2.2.3 The changing scale of urban cemeteries

During the colonial period, early patterns of cemetery design in KL emerged. Under British rule, each main religious group had their own burial space including Buddhist, Taoist, Christian and Muslim. Kwan Tung Cemetery (KTC) is the oldest and largest Chinese burial ground. It has become one of the prominent landmarks among the Chinese communities in KL. Cheras Christian Cemetery (CCC) is also the largest burial ground for Christian communities, established in 1900. Since then, burial spaces in KL have never come close to matching the size of KTC or CCC, though the population in the metropolis is increasing every year. However, in recent years the provision of extensive areas for the purpose of burial have begun to reappear in KLMA, designed for the Muslim community. Taman Selatan Muslim Cemetery (TSMC), Section 9 Muslim Cemetery (S9MC), and Kuala Lumpur-Karak Muslim Cemetery (KLKMC) are some of the examples of public cemeteries that have been built at greater scale with the capability to further extend the area for future use. Both KTC and CCC have already reached full status, and this situation raises concern about future use of cemeteries right after they become inactive. KTC has now been turned into a heritage park to attract local and international tourists. Government has come up with various suggestions in finding a solution to the land shortage and other problems in CCC, though nothing is certain at this stage (Bavani and Vincent, 2012; Thomas, 2010; Bavani, 2012a, 2012b, 2012c; Aziz, 2012). For Buddhist and Christian communities, the government is concerned to maintain the old cemeteries as an economical solution to people who cannot afford burial at a memorial park. At the moment, authorities have only managed to allocate a new burial ground for the Christian community in KL and are still in the process of updating and systematising grave records.

2.2.4 Unparalleled development between city and urban cemeteries

The post-independence era witnessed rapid growth in KL, especially during the nineties. Under Mahathir’s regime, the urbanisation process has reached its climax. Accomplishment of mega projects such as Putrajaya, Cyberjaya, Kuala Lumpur City Centre (KLCC) and Kuala Lumpur International Airport (KLIA) represent the urban legacy of Mahathir’s ambitious vision (Colombijn, 2005; Marshall, 2003). The rapid growth of KL’s inner city has pushed expansion beyond the city’s boundary. The development of KL can be described in three sequential stages: the corridor development (King, 2008), decentralisation (Sirat, 1997; Maidin and Mohamad, 2011) and the formation of Greater KL (Bunnell, Barter and Morshidi, 2002). Figure 2.5 shows the map of the corridor network, which has stretched out as far as to the west and south of KL. This phenomenon has brought along with it an immense effect upon the development of major cities in Selangor states including Petaling Jaya, Shah Alam and Klang. The establishment of a new administrative capital of Putrajaya as well as KLIA has pushed forward the interconnection within this corridor development even further, right to the neighbouring state of Sembilan (Negeri Sembilan).

In the development of burial spaces in KL, the federal government is considered to be the key player in shaping public cemeteries around the city. Yet, the fact is that cemetery design and management has remained unchanged since Malaysian independence. It is about time for KL to incorporate urban cemeteries into the city’s development. At the moment, authorities allocate burial ground based solely on the availability of land in the city without paying much attention to the surrounding context. Also, careful attention should be paid to identifying the right land for cemeteries. If cemeteries are not being monitored, this will affect the landscape of the city in adverse ways, as seems to be occurring in the city of Seoul. The landscape of Seoul is deteriorating because there are too many burials grounds within the city (Park, 2010).
Both the Federal Territory of Kuala Lumpur and Putrajaya are showing the highest level of urbanisation in comparison to other states in Malaysia.

Source: Population Distribution and Basic Demographic Characteristics (DSM, 2010)

2.2.5 Statistical records of KL population

The following figures and tables show the increase of population density in KL over the last three decades. It is evident, therefore, that KL faces a ‘burial crisis’ which requires an immediate response.

Both the Federal Territory of Kuala Lumpur and Putrajaya are showing the highest level of urbanisation in comparison to other states in Malaysia.

Source: Population Distribution and Basic Demographic Characteristics (DSM, 2010)
Table 2.1 Area and population density by state – 1980, 1991, 2000, 2010

<table>
<thead>
<tr>
<th>Negeri</th>
<th>Keluasan (km. persegi)</th>
<th>Kepadatan penduduk (setiap km. persegi)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area (sq. km.)</td>
<td>1980</td>
</tr>
<tr>
<td>MALAYSIA</td>
<td>330,803</td>
<td>40</td>
</tr>
<tr>
<td>Johor</td>
<td>19,210</td>
<td>82</td>
</tr>
<tr>
<td>Kedah</td>
<td>9,500</td>
<td>113</td>
</tr>
<tr>
<td>Kelantan</td>
<td>15,099</td>
<td>57</td>
</tr>
<tr>
<td>Melaka</td>
<td>1,664</td>
<td>268</td>
</tr>
<tr>
<td>Negeri Sembilan</td>
<td>6,686</td>
<td>82</td>
</tr>
<tr>
<td>Pahang</td>
<td>36,137</td>
<td>21</td>
</tr>
<tr>
<td>Perak</td>
<td>21,035</td>
<td>83</td>
</tr>
<tr>
<td>Perlis</td>
<td>821</td>
<td>176</td>
</tr>
<tr>
<td>Pulau Pinang</td>
<td>1,048</td>
<td>860</td>
</tr>
<tr>
<td>Sabah</td>
<td>73,631</td>
<td>13</td>
</tr>
<tr>
<td>Sarawak</td>
<td>124,450</td>
<td>10</td>
</tr>
<tr>
<td>Selangor</td>
<td>8,104</td>
<td>176</td>
</tr>
<tr>
<td>Terengganu</td>
<td>13,035</td>
<td>40</td>
</tr>
<tr>
<td>W.P. Kuala Lumpur</td>
<td>243</td>
<td>3,784</td>
</tr>
<tr>
<td>W.P. Labuan</td>
<td>91</td>
<td>290</td>
</tr>
<tr>
<td>W.P. Putrajaya</td>
<td>49</td>
<td>(a)</td>
</tr>
</tbody>
</table>

Table 2.1 Area and population density by state – 1980, 1991, 2000, 2010

In 2010, the Federal Territory of Kuala Lumpur had the highest density of population among other states in Malaysia with a total of 6,696 persons per square kilometre. This is followed by the Federal Territory of Putrajaya and the state of Penang with a total of 1,387 and 1,451 persons per square kilometre each.

Source: Preliminary Count Report, (DSM, 2010)
Table 2.2 Number of persons and average annual population growth rate (per cent) by state and administrative district – 1991, 2000, 2010

KL’s average annual population growth rate is recorded at 2.2% between 2000 and 2010. As part of the extended metropolitan region of KL, the state of Selangor is also experiencing rapid growth in population, especially in 2010. It is expected that the total population is going to accelerate at a much higher rate within Greater KL.

Source: Preliminary Count Report, (DSM, 2010)
KL has the highest density of population with over 1,500 persons per square kilometre, followed by the state of Penang.

Source: Population Distribution and Basic Demographic Characteristics (DSM, 2010)

Islam is the largest religion in Malaysia with total of 61.3% of the population. As the major religious group in Malaysia, it is important for Muslims to take the initiative in addressing the emerging issues of land shortage for burial because it is likely to becomes a potential threat to the funeral facilities, especially in the major cities.

Source: Population Distribution and Basic Demographic Characteristics (DSM, 2010)
2.2.6 Justification of the gravity of the situation

In Chapter 1 *kariah* is defined as a burial community; however, *kariah* can also be used as an administrative district for the local Muslim population. There are six main *kariah* in KL that serve its *kariah* members as shown in Figure 2.10.

A single Muslim cemetery is sometimes shared among three or four *kariah* districts and each of them is responsible for taking good care of their own graveyard. However this shared responsibility between *kariah* of a different area is not being clearly stated as part of the social duty in any management policy which is supposed to be carried out on a regular basis. This has also contributed to inadequate maintenance of landscape in Muslim cemeteries.

Source: *Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur* (Mohd Yatim, 2009)

Another question to be asked is whether KL is really running out of space for burial. According to a source from JAWI, there a few parcels of land that have been allocated for the purposes of burial grounds. The right question to be asked is, how much land does KL need for public cemeteries? It seems like the opening up of new land for the purpose of providing burial ground is an ongoing practice. The fact is that KL administration has to be wise in managing land for burial because of its limited resources as well as high values. Based on the data acquired from JAWI, the city of KL has a space deficiency for burial, as the availability of area in the existing Muslim cemeteries is inadequate to support future use.

From Table 2.3, altogether there are 21 Muslim cemeteries in KL with five already inactive. The remaining 16 Muslim cemeteries are still active. However, 13 of them are only left with areas of less than 20,000 square metres for the purpose of burial. Even though there are seven new cemeteries that have been reserved in total (as shown in Tables 2.4 to 2.9), it is assumed that JAWI has not been paid much attention to improve the situation within the new and existing cemeteries. It is suspected that the same approach will be applied to
developing reserve cemeteries. Consequently this will witness the same cycle and pattern in allocating new land as burial grounds in the city right after another one has become full.

KLKMC is the largest Muslim cemetery in KL with the total area of 170,000 square meters. KLKMC has not been restricted to Kariah 1 territory, but has also been purposely open to all the Muslim community due to the insufficient supply of grave plots in some kariah districts. This move has been adopted by JAWI in order to balance the issue of lack of space for burials in some kariah zones in the city of KL. KLKMC is expected to operate for 50 years, lasting until 2061. To conclude, Muslim cemeteries are constantly in need of replacement due to their finite nature. Even though this situation seems to be unavoidable, there are some aspects of cemeteries that should be considered for renewal especially in terms of design and management. This can be possibly achieved by maximising the capacity of grave plots within a cemetery, as well as extending the duration and use of graves by introducing multiple burials within a single plot.

<table>
<thead>
<tr>
<th>Existing Muslim Cemeteries</th>
<th>Area (m²)</th>
<th>Status</th>
<th>Area Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kariah 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jalan Segambut Muslim Cemetery</td>
<td>14,200</td>
<td>Active</td>
<td>12,000</td>
</tr>
<tr>
<td>Taman Sri Sinar Muslim Cemetery</td>
<td>19,700</td>
<td>Active</td>
<td>12,000</td>
</tr>
<tr>
<td>Kampung Selayang Lama Muslim Cemetery</td>
<td>19,400</td>
<td>Active</td>
<td>4,000</td>
</tr>
<tr>
<td>Kampung Batu Muslim Cemetery</td>
<td>18,000</td>
<td>Full</td>
<td>0</td>
</tr>
<tr>
<td>Kuala Lumpur-Karak Muslim Cemetery</td>
<td>327,500</td>
<td>Active</td>
<td>170,600</td>
</tr>
<tr>
<td>Kariah 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kampung Puah Muslim Cemetery</td>
<td>18,300</td>
<td>Full</td>
<td>0</td>
</tr>
<tr>
<td>Batu 3, Jalan Ipoh Muslim Cemetery</td>
<td>9,600</td>
<td>Full</td>
<td>0</td>
</tr>
<tr>
<td>Taman Ibukota Muslim Cemetery</td>
<td>30,100</td>
<td>Active</td>
<td>8,000</td>
</tr>
<tr>
<td>Kariah 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jalan Kuari Muslim Cemetery</td>
<td>22,000</td>
<td>Full</td>
<td>0</td>
</tr>
<tr>
<td>Jalan Ampang Muslim Cemetery</td>
<td>52,200</td>
<td>Active</td>
<td>1,000</td>
</tr>
<tr>
<td>Kariah 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Datok Keramat Muslim Cemetery</td>
<td>9,100</td>
<td>Active</td>
<td>1,000</td>
</tr>
<tr>
<td>Titiwangsa Muslim Cemetery</td>
<td>2,100</td>
<td>Active</td>
<td>2,000</td>
</tr>
<tr>
<td>Kariah 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Batu 71/2, Jalan Puchong Muslim Cemetery</td>
<td>18,300</td>
<td>Active</td>
<td>2,500</td>
</tr>
<tr>
<td>Kg. Sungai Midah Dalam Muslim Cemetery</td>
<td>27,900</td>
<td>Active</td>
<td>20,000</td>
</tr>
<tr>
<td>Jalan Sungai Besi Muslim Cemetery</td>
<td>9,900</td>
<td>Active</td>
<td>1,000</td>
</tr>
<tr>
<td>Kariah 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kampung Kerinchi Muslim Cemetery</td>
<td>10,700</td>
<td>Active</td>
<td>2,000</td>
</tr>
<tr>
<td>Jalan Damansara Muslim Cemetery</td>
<td>80,000</td>
<td>Active</td>
<td>38,000</td>
</tr>
<tr>
<td>Sungai Penchala Muslim Cemetery</td>
<td>6,700</td>
<td>Active</td>
<td>1,000</td>
</tr>
<tr>
<td>Bukit Kiara Muslim Cemetery</td>
<td>6,000</td>
<td>Active</td>
<td>38,000</td>
</tr>
<tr>
<td>Pantai Dalam Muslim Cemetery</td>
<td>20,000</td>
<td>Active</td>
<td>12,000</td>
</tr>
<tr>
<td>Jalan Ang Seng Muslim Cemetery</td>
<td>4,600</td>
<td>Full</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2.3 Muslim cemeteries in the Federal Territory of Kuala Lumpur
Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)
Table 2.4  The distribution of Muslim cemeteries within Kariah 1
Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)
Fig. 2.12  The location of Muslim cemeteries within Kariah 2

Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)

Table 2.5  The distribution of Muslim cemeteries within Kariah 2

Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)
Table 2.6  The distribution of Muslim cemeteries within Kariah 3

<table>
<thead>
<tr>
<th>Kariah 3</th>
<th>Existing Muslim Cemeteries</th>
<th>Area (m²)</th>
<th>Status</th>
<th>Area available (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jalan Kuari Muslim Cemetery</td>
<td>22,000</td>
<td>Full</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Jalan Ampang Muslim Cemetery</td>
<td>52,200</td>
<td>Active</td>
<td>1,000</td>
<td></td>
</tr>
</tbody>
</table>

Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)
Table 2.7 The distribution of Muslim cemeteries within Kariah 4
Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)
Table 2.8  The distribution of Muslim cemeteries within Kariah 5

Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)

<table>
<thead>
<tr>
<th>Kariah 5</th>
<th>Existing Muslim Cemeteries</th>
<th>Area (m²)</th>
<th>Status</th>
<th>Area available (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kariah 5</td>
<td>Batu 7/2, Jalan Puchong Muslim Cemetery</td>
<td>18,300</td>
<td>Active</td>
<td>2,500</td>
</tr>
<tr>
<td></td>
<td>Kampong Sungai Midah Dalam Muslim Cemetery</td>
<td>27,900</td>
<td>Active</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>Jalan Sungai Besi Muslim Cemetery</td>
<td>9,900</td>
<td>Active</td>
<td>1,000</td>
</tr>
<tr>
<td><strong>Committed</strong></td>
<td>Kem Sungai Besi Muslim Cemetery</td>
<td>12,200</td>
<td>Reserve</td>
<td>12,200</td>
</tr>
<tr>
<td></td>
<td>Bukit Jall Highway Muslim Cemetery</td>
<td>10,5400</td>
<td>Reserve</td>
<td>10,5400</td>
</tr>
<tr>
<td></td>
<td>Desa Tun Razak Muslim Cemetery</td>
<td>8,300</td>
<td>Reserve</td>
<td>8,300</td>
</tr>
</tbody>
</table>

Fig. 2.15  The location of Muslim cemeteries within Kariah 5

Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)
Table 2.9 The distribution of Muslim cemeteries within Kariah 6

Table 2.9 The distribution of Muslim cemeteries within Kariah 6

Jalan Damansara Muslim Cemetery (JDMC) is being closed and has now resumed its operation right after the completion of area expansion in order to allow for more grave plots.

Source: Distribution of the Existing and Committed Muslim Cemeteries in Federal Territory of Kuala Lumpur (Mohd Yatim, 2009)
2.3 Memorial parks in KLMA

In Malaysia, a memorial park is largely used as a final resting place by Buddhists and Christians. Burial preferences among Chinese communities have shifted from public cemeteries to memorial parks. Chinese cultural beliefs in geomancy have resulted in memorial parks with immaculate and beautiful surroundings. Since 1990, there have been a few memorial parks opened around KLMA by the local bereavement care industry organisations such as NV Multi Asia and Xiao En Group. NV Multi runs nine memorial parks across Malaysia and overseas, including two cemeteries located in the state of Selangor, which is located in Semenyih and Shah Alam (NV Multi Asia Sdn Bhd, 2013). Under NV Multi Asia, both memorial parks in Semenyih and Shah Alam offer bereavement services to Buddhist, Christian and Hindu communities in Malaysia. Rawang Memorial Park Private Limited is run by the company of the same name, also located in Selangor State (Rawang Memorial Park Bhd, 2013), and Xiao En Group runs Nilai Memorial Park, which is located in the state of Negeri Sembilan (Xiao En Group, 2013).

According to Feng Shui practice, it is important for Buddhists to pursue the best location for a grave that nature can offer. In a memorial park, the opportunities for people to choose a suitable burial plot are higher compared to public cemeteries because of the multiple burial packages that are available. Moreover, the management of a private cemetery assures families that the deceased will be resting in a secure and well-kept environment. Therefore, such privilege has attracted some members of the Chinese community to perform burial at a memorial park. Bereavement services such as NV Multi Asia and Xiao En Group are providing funeral services to an increasingly wider section of the Chinese community in the city. Even though this type of funeral has become a trend for Malaysians, there are more economical ways of doing burial for low income and less fortunate families.

As for the Christian communities, the severity of land shortage at Christian Cheras Cemetery (CCC) has resulted in the opening of a new burial ground. The city council has been irresponsible in its dealings with the Christian community in KL. There have been ongoing issues pertaining to record keeping and some mismanagement of the graves (Aziz, 2012; Bavani, 2012a, 2012c; Thomas, 2010). As a result, Christian communities have taken the initiative by building their own burial ground in a remote part of Shah Alam, which is known as Subang Lutheran Garden (SLG). Unlike Chinese memorial parks, the motivation behind SLG is to provide a decent resting place for Christians of all denominations across the nation, with only a small fee charged to those families who wish to bury their deceased here. However, due to the small size of the cemetery, all of the graves in SLG will have the same look in order to minimise the use of space.

Fig. 2.17 Uniform grave plots at SLG (2011)
Plots were purposely designed in a such way to ensure the land is maximised for burials. The cemetery’s wall also serves as place to store body ashes from cremation.
The establishment of memorial parks in KLMA reflects a different approach compared to Buddhist and Christian cultures. However, they do share a similar aim in providing for the betterment of burial spaces. The memorial parks for Buddhists and Christians are also located beyond the city centre of KL, as shown in Figure 2.18. Both memorial parks were designed as new burial space to serve the needs of each community. There is no doubt that a memorial park is slightly better in terms of its management and quality of the environment in comparison to the public cemeteries, which are run by the local authorities.

2.3.1 Envisioning memorial parks for Muslim in KLMA

A memorial park is not available to the majority of the Muslim population in KL due to various cultural and religious factors, which have been described earlier. In Malaysia, bereavement services are not part of Muslim funerary culture. As previously explained, a funeral ceremony is still very much organised by local communities, particularly members of the deceased’s kariah. The continuation of this tradition is predicted to exist as long as Muslims cling to this tradition. However, room for change in Malay burial practice can still be initiated at the burial site; that is, in the cemetery.
However, in recent years there have been some clear indications that Muslim burial grounds are incorporating some of the characteristic features of a memorial park. TSMC comes closest to the example of a memorial park for Muslims. Thus, this thesis investigates such new developments in Malay-Muslim burial spaces in the coming decades, developments which are expected to share some of the familiar characteristics found in memorial parks.

The new model of urban cemeteries for Muslims are not supposed to merely imitate the typical model of private burial space, as this kind of operation requires a huge investment of money from family members. This kind of burial space will not be accessible to every class of citizen due to the issue of affordability.

There is no doubt that privatisation of burial space for Muslims might lead to the better management of urban cemeteries; however, it should be done in order to address the emerging issue of land shortage for burial rather than turning it into a profit-driven enterprise, which is strongly discouraged by Islam. An ideal burial space for Muslims can be achieved in KL or elsewhere in Malaysia if there is a balance between different classes.

Furthermore, a new model of memorial park for Muslims along with other Malaysians can be exemplified through different kinds of ownership as represented by non-government (NGO) or non-profit organisations. Nevertheless, the task of finding appropriate designs that resemble ideal burial spaces in KLMA remains a challenge; the purpose of this research is to address this challenge.

Another important thing to be acknowledged is that the pattern of sharing burial sites between several Malay settlements has been expanded: a burial space is no longer intended for a few residential neighborhoods within suburbia. The new cemeteries were built to provide a large number of graves at the regional scale such as KLKMC and S9MC. This research will investigate the relevance of such practice to the landscape of urban cemeteries in KLMA.

2.3.2 Why a memorial park is not an option for Muslim burial

This section will specifically describe reasons that Muslims should avoid use of memorial parks, especially the ones that are run by a private funeral company in Malaysia. Even though memorial parks are open to all Malaysians regardless of background and religious belief, for many Malay-Muslim communities such resting places have never become an option as a final resting place. This situation has a threefold explanation.

Muslim cemeteries were built on *waqf* land

Firstly, the character of Malay-Muslim funerary culture is restrained by cultural practices along with religious customs. Malay funerary culture today has taken its shape under the influence of these two factors. The combination of these two practices and beliefs has been evident for many hundreds of years preceding the establishment of Malay *kampung* settlement in KL. In Islam, the provision of burial spaces is generally the responsibility of Muslim communities, known as *ummah*. Bougas pointed out that a piece of donated land (*waqf*) will be used as a communal cemetery within a *kampung* settlement. A Muslim scholar or a holy person will normally donate their *waqf* land to be turned into a cemetery and this has been a common practice in the Muslim culture at Patani (Bougas, 1988). According to the *Oxford Dictionaries* (2014), *waqf* is defined as an endowment made by a Muslim to a religious, educational or charitable cause. *Waqf* land was normally owned
by pious and religious scholars who had given away their possessions in the interest of the common good and with the intention of earning a blessing from Allah.

This has shown that Muslim communities are very much dependent on the endowment of *waqf* land for burial since the beginning. This practice has been carried on until today in KL but with adverse implications such as the lack of efficiency in managing burial plots and poor maintenance of cemeteries. These kind of implications would probably not be given much attention in cemeteries situated in a rural settlement especially in *kampungs*, but these problems are being taken seriously in the cities. Escalated birth rates along with the continuous migration of people into the city have resulted in a rapid growth in population. The mortality rate has also increased every year, which means there will be a higher demand for the grave plots in all urban cemeteries. Poor maintenance has also been considered as one of the main issues because of the bad reputation that cemeteries have among the public. There are better ways of looking into this matter differently by considering the need of maintenance inside the cemeteries as something that is less substantial in comparison to other types of public spaces. Perhaps a landscape that focused on low maintenance can be incorporated into public cemeteries. The landscape of the public cemetery requires some transformation in order to fulfill the burial needs of Muslims, as well as addressing the dereliction of its surrounding at the same time.

The donation of *waqf* land as cemeteries by individuals in the past has now been taken over by authorities in the city. In present KL, Malay reserved land, which is put under the category of *waqf*, is being used to accommodate the need for burials. The allocation of *waqf* land is administered by DBKL under the co-supervision of JAWI. Municipal authorities are responsible for making sure that the provision of *waqf* land for each local *karirah* is being fulfilled. As a consequence, Muslim citizens who dwell in the city depend entirely on the municipal authorities for providing adequate burial facilities. This is not an ideal situation as Muslims can no longer totally rely on compassionate municipal policy to assist them to care for their burial plots. This also shows that Malay-Muslim dependency on shared cemeteries has remained unchanged in the city and this practice is expected to continue in the future within KLMA.

**No commercialisation of Muslim burials**

Secondly, the nature of Islamic funerary culture is firmly embedded within the mutual cooperation among *ummah* and this persists to this day. By sharing the responsibility in conducting the funeral ceremony within *ummah*, Malay people are customarily attached to cemeteries through this social obligation. Cemeteries have then become a symbol that binds Muslim communities together in a similar way to the mosque. However this sense of interconnection between Muslim communities and cemeteries can only be appreciated culturally rather than socially. It would be better if this existing relationship could be further extended beyond the ritual ceremony of Muslim burial in a more socially meaningful way.

A similar model is found in other monotheistic religions such as in Jewish tradition, where funerals are conducted as a community burial. The role of funeral director in conducting funeral rites does not exist among Muslim communities in Malaysia. As a result, less attention is being paid to burial plots or graves in Muslim cemeteries. In other words, the absence of a funeral industry in Malay funerary culture has contributed to the deterioration of gravesites as well as the cemeteries in general in KL.
There have been rare occasions when a funeral director was used to organise funeral services on behalf of a Muslim family. For instance, Muslim immigrants that settle in the UK will have to engage a Muslim funeral director to assist them to conduct their funeral services (Sher Azam Funeral Directors, 2013; Muslim Funeral Service, 2011). This has happened because local Muslims feel pressured to adopt the accepted Western norms in funerary practices. However, there is evidence that community burials are still being practiced among the Muslim immigrants, especially among large populations dwelling in one district.

In contrast to the memorial park, the operation of a Muslim cemetery is a non-profitable enterprise. In Malaysia, burial facilities for the public are being put under the supervision of government. There is no doubt that memorial parks may function as a suitable model for Malaysian Muslims, with some modification to the role of funeral director. However, this idea is yet to be realised. This is partly due to the lack of interest and input from Muslim scholars and other academicians in discussing this possibility. There is also no cooperation presently existing between authorities and NGOs in this matter.

No grave plot booking for Muslims

Finally, in his book pertaining to Islamic burial practices, Hashim mentions that Muslims are not obliged to reserve grave plots in advance before death (2007). It is understood that such practice is prohibited in Islam to avoid Muslims from being preoccupied by death during their lifetime. However, with the scarcity of land in Jakarta, this religious principle should be reevaluated in regard to the situation in KL. Moreover, grave booking has begun to be practiced by some Muslims due to stiff competition in finding graves for burial in Jakarta city (NewsAsia Channel, 2007). This principle may no longer be valid in the modern world as Muslims should have taken this matter into their own hands.

2.4 Aspects for consideration in transforming Muslim cemeteries

In KL, public cemeteries have limited resources and weaknesses which are determined by several factors. There are four factors that have been identified as the most common problems affecting public cemeteries in KLMA including Muslim cemeteries. These factors listed as follow; lack of detailed strategies in designing graves and cemeteries, limited area or burial space within the cemeteries, availability of land for the purpose of burials in the city, and lack of collaboration and new studies for the urban cemeteries projects. Each of these factors should be taken into consideration in order to improve Muslim cemeteries. In this study, changes to Malay burial rites are not only about the conservation of the unique culture, but also the incorporation of ‘new’ practices that would help to ease the situation that KL is currently experiencing. In doing so, the transformation of Malay burial practices has to address two dimensions: the internal as well as the external aspects.

2.4.1 Internal transformation

The internal aspect of transformation can be explained as changes that happen or should be happening inside the cemeteries, particularly the policy and layout planning of the cemeteries and graves design. The changes will concentrate on how the grave practices will be shifted from the conventional into a contemporary look, which mainly focus on the physical attributes of the graves, as well as the underground level. There are some modifications that have already taken effect inside Muslim cemeteries. As a matter of fact, Muslim graves have already shown some evolution in terms of its appearance from a complex to a more simple form.
Gradual changes can be distinguished in the historical development of Muslim graves in public cemeteries. For instance, monumental structures are no longer the dominant elements in the landscape of Muslim cemeteries due to strict control from the management. The arrangement of the graves is also found to be in a rather systematic order particularly in the latter Muslim cemeteries, for instance in TSMC, KLKMC and S9MC in comparison to former ones.

The discussion on the internal transformation can be divided into four parts:

• Incomplete authorities guidelines
• Factors that contributed to the spatial issue in Muslim cemeteries
• Modification and adaptability in Muslim burial
• The feasibility of grave recycling for implementation at Muslim cemeteries

2.4.1.1 Incomplete authorities guidelines

The discussion in the next paragraphs will be based on the latest draft of Cemeteries and Crematoria Planning Guideline (CCPG) which was issued by the Department of Town and Country Planning, Peninsular Malaysia (JPBD) and updated in February 2011. Based on the CCPG, there are five main aspects being considered in determining the layout arrangement of Muslim cemeteries in Malaysia, which comprise of module system, concept of cemetery, public facilities, landscape reserved, and circulation system. This research will examine each aspect and compare it to the cemeteries that have been visited around KL based on the four following headings as below:

• Inconsistency of burial module system
• Disconnection between the concept of cemetery and the facilities provided
• The accomplishment of landscape reserved at an early stage
• Improving the layout plan and circulation system at cemeteries

Inconsistency of burial module system

Referring to page 19 of the CCPG, even though the layout and specifications for the grave have been illustrated in the form of a diagram for local authorities to follow, it is not a comprehensive guideline. The guideline has failed to emphasise the quintessential part of Muslim graves, with the absence of niche graves (lahd) and trench graves (shiq) that will be further explain in Section 2.4.1.3. Even though niche graves and trench graves are commonly used in Muslim cemeteries, neither of these two methods have been included in the CCPG as prepared by the JPBD.

One thing to notice is that there is a missing link between the actual layouts of the grave and the positioning of the corpse inside the ground. In other words, the diagram does not give a complete picture of normative Islamic burial practice. The 2D versions of the diagrams, which are shown in Figure 2.19, appear to be generic in nature, especially since they fail to adequately identify depth to scale. It is important to have accurate representation of the graves because the standard dimensions for the length, width and depth of the grave plot will become the guideline to the gravedigger. In discussing the digging work for graves, this scope of work actually determines how the cemeteries are being planned in the first place.
Based on the diagram prepared by JPBD, there are three different dimensions for the graves: grave plot (lot kubur), grave hole (liang kubur) and grave cover (penutup kubur).

Source: Cemeteries and Crematoria Planning Guideline (JPBD, 2011)

Each dimension specified in the CCPG is the minimum requirement for size. Basically the diagrams shown are quite confusing because it is not known which diagram should come first. It is even confusing with the dash line being indicated on the plan; unfortunately, the dash line has also not been labeled so there is no way of knowing what the line represents. There are a few things that are unclear about the three diagrams used in the CCPG. Instead of combining them into one diagram, the guideline has separated them into three different parts which does not make any sense at all. More importantly, the positioning of the corpse has not been indicated in the diagram, so there are no ways of telling which side of the grave is for the head or the feet. Thus, the diagram simply does not work for the purpose of construction, as it cannot be fully comprehended.

In this case, JPBD should update the burial module system for public cemeteries in Malaysia to be more detailed in terms of the graphic representation. Moreover, the CCPG should also demonstrate the complete procedure on the preparation of the graves inside the cemeteries before and after the burial is taking place. Even though it is common knowledge to the gravediggers on how the corpse should be lowered into the ground to the moment the grave is filled up, it is important for this practice to be closely documented in a guideline such as CCPG. The reason behind this is to leave the possibility for further improvement and suggestions in the future. This can be done by taking the examples from the Muslim Burial Without Coffin Procedure, prepared by Muslim Burials (Walsall, 2009).
CCPG has also acknowledged the issue of land shortage for burial by incorporating the recently new technique of terraced cemeteries. However, JPBD has overlooked the opportunity to review the standard of grave models. By comparing the grave plot for adults from Gardens of Peace (2012) to this guideline, it can be seen that there is only one standard dimension in use in Gardens of Peace (0.8 m x 2.1 m), which is comparable to the size of the grave hole used in the JPBD guideline (1.0 m x 2.0 m). With that, the diagram prepared by JPBD has suggested excessive use of land to build a single grave. It is unclear why a Muslim grave plot should have a grave cover (1.5 m x 2.5 m) because during the site visit such things have never been demonstrated on the actual site. It has not been described in the CCPG on the function of grave cover. The size for the grave plot should also be reviewed by the JPBD in considering the issue of land shortage in the city. The dimension suggested by JPBD for adult graves (2.5 m x 3.0 m) can be seen as redundant, though the actual intention is probably done to accommodate the rituals during the grave visits, especially for Yasin recitation. In order to handle this situation, JPBD should put the spatial priority of grave design to reflect the needs of the dead as well as the living. This means the standard dimension of the grave plot should be minimised sufficiently to accommodate the dead bodies. The current grave hole (1.0 m x 2.0 m) should be able to meet this purpose.

By comparing the model of a single Muslim adult grave to the adult burial site as shown in Figure 2.20, the dimension specified for each grave plot does not match any of the three grave models that have been mentioned in the specification for the grave model – grave plot (2.5 m x 3.0 m), grave hole (1.0 m x 2.0 m) and grave cover (1.5 m x 2.5 m). This suggests that the guideline has not been prepared in detail, with some discrepancies communicating the ideas through graphics. The diagram will also create confusion for the authorities.

On the micro level, a suggested diagram as shown on Figure 2.20 by JPBD has to be followed in order that the grave plots are treated according to the Islamic funerary tradition. For example, there is no incorporation of family plots and this is nowhere mentioned in their guideline. In other words, the policy should be more detailed and sensitive to Malaysian funerary culture. At the moment, the diagram is suggesting that cemetery ground should be built over the flat land, well arranged and uniform in grave appearance. A grave's dimension and design has to be examined in relating to the surrounding context rather than treated as a single entity. It is clear that the CCPG does not address in detail the planning aspect of the cemeteries. JPBD's guideline has been prepared to serve as a general rule for the local authorities. This lack of information in JPBD's guideline should be updated to improve the reliability of this document in assisting the authorities as well as the consultancies. So the question that needs to be addressed here is, how should planning for the urban cemeteries in KLMA be done?

**Disconnection between the concept of cemetery and the facilities provided**

Referring to page 18 of the CCPG, the centralisation of public facilities has been stated as the conceptual plan for Muslim cemeteries. Gazebo (wakaf) and vehicle parking (tempat letak kereta) have to be placed in the middle of the area and facing the main entrance as shown in Figure 2.21. However, there is no reason or explanation stated in CCPG as to why such concepts are being introduced at Muslim cemeteries. In other words, the concept that will be applied to Muslim cemeteries is vague and the placement of facilities at the centre of the area is not necessarily a guarantee for a better solution of spatial organisation.

In terms of the amenities listed on page 21 of CCPG, it is a requirement for Muslim cemeteries to have all six of the following elements.
i. **Five per cent of landscape area.** This figure shows a small percentage. In reality, an established Muslim grave normally covers up to 15 to 30 per cent of landscaped area. The additional green area comes from the numbers of plants that have been planted by the family members involved with the graves. Thus, CCPG should incorporate the projection of landscape area along with the addition of trees and shrubberies that come from the practice of random planting.

ii. **Eight to ten car parking lots; and iii. Two parking lots for buses.** Items ii and iii mentioned parking for the purpose of visiting the graves. However, other than estimate the numbers of parking space required for cars and buses at the site, the guideline should also be concerned about the accessibility of vehicles penetrating every section of the burial ground. This is important especially inside the cemetery, with a massive area of burial which would make it harder for the elderly. Instead of providing a specific parking area along the cemetery’s perimeter, visitors should be allowed to park their vehicles along the internal roadway inside the cemetery, which is so much closer for people to make their journey to their graves.

iv. **One building for common facilities should be provided inside the cemetery.** The size of this building should be within 400 square metres to accommodate an administration office, resting area, prayer room and toilet.

v. **The facilities should be made sufficient in the cemeteries.** Item iv and v highlight the provision of communal building for activities that are related to the management of the corpse as well as the ritual involved in conducting the funeral. Nevertheless, in this case the ‘resting area’ should be defined in more details.

vi. **Lastly, the direction of qiblah (Mecca) should be indicated on the ground as a guide for grave extraction works.** There is no need for qiblah direction to be included as part of the amenities inside the cemeteries because usually burial plots have already been prepared in advance by the management before the actual burials are taking place. In this case, the direction of qiblah will be used mostly as a guide for the digging up of grave plots rather than to be used by the visitors.

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**Fig. 2.20** The standard module for adult Muslim grave plots

The grave plot on this diagram has a dimension of 1.2 m x 1.8 m, which does not match either the dimension of the grave plot (2.5 m x 3.0 m) or grave cover (1.5 m x 2.5 m).

*Source: Cemeteries and Crematoria Planning Guideline (JPBD, 2011)*
Fig. 2.21 Conceptual diagram for Muslim cemetery
The conceptual diagram for a Muslim cemetery as shown here does not indicate any sense of scale and dimension, as well as spatial organisation. For examples, vehicles parking (tempat letak kereta / tempat letak bas) is presumably to take about 15 to 30 per cent of the overall area which could be used for the allocation of more burial plots. Moreover, the movement of visitors as shown by ingress and digress direction on this diagram does not promote further exploration of the other sides of the cemetery's area. This is something that needs to be changed in order to complement the concept of park cemetery which is supposed to encourage access for the public.
Source: Cemeteries and Crematoria Planning Guideline (JPBD, 2011)

Fig. 2.22 Illustrative diagram for Muslim cemetery
This 3D representation of a Muslim cemetery is found to be incompatible with the 2D conceptual plan shown in Fig. 2.21. For example, by looking at Fig. 2.22 the positioning of children's plots (lot kubur bayi / kanak-kanak) has been shifted to the middle area and the location of the gazebo (wakaf) in the centre of the cemetery has been moved to the front aspect of the cemetery.
Source: Cemeteries and Crematoria Planning Guideline (JPBD, 2011)
The fact is that the representation of the conceptual plan as proposed in the CCPG does not really exist in reality. This is because the latest Muslim cemeteries that have been visited including TSMC, KLKMC, and S9MC, which are abundant in facilities on the site, do not implement the concept stated in CCPG. Moreover, the concept of park cemeteries is not mentioned anywhere in CCPG, which is surprising since MAIWP and JAWI have recently been eager to promote this idea within Muslim cemeteries (Pinvader, 2012, Rosly, 2011). To conclude, facilities provided at the cemeteries are primarily for the benefit of visitors. The types of amenities being outlined are very much focused on the user's convenience. However, unlike parks, people do not spend much of their time at cemeteries. People will normally go to cemeteries for the purpose of performing certain ritual practices. Thus, there is a huge missed opportunity in utilising facilities at the cemeteries for the wider benefit of people. Without a vivid concept, the amenities will only be neglected and wasted because of the failure to attract visitors inside the cemeteries. Therefore it is important to notice that the facilities provided on the site should be used to strengthen the concept as well as the extra function of the cemeteries.

The accomplishment of landscape reserved at an early stage

During the site visit to S9MC, the specification of the grave's layout may not reflect the requirements as outlined in the CCPG. In the case of S9MC, the use of machines to dig up the graves has no doubt made the digging work easier than manual labour, as has been practiced in KLKMC. However, the use of heavy machinery in S9MC is only able to be operated where the burial ground is still barren without any landscape features; for example, pedestrian walkaway, benches and trees. Even though machines can be used after completion of the landscape features in cemeteries such as TSMC, management will have to take the risk of having tree branches broken and pavement cracked due to heavy machinery. There will also be some dirty mess left over from the pre-dug work that has to be handled by management. Could pre-dug graves be the best answer to this issue? If so, how can the dirt be saved to fill the grave after the burial? Or perhaps the pre-dug graves can be done in the one particular burial block at one time to make it manageable.

In the case of public cemeteries in Malaysia, pre-dug graves are a common practice; however, this practice somehow needs to be done in a controlled environment to avoid any dangerous situations for the general public. For extra safety, the pre-dug graves should be covered with a plank of wood to prevent accidents. This usage of grave covers has been practiced in Muslim cemeteries overseas such as in Gardens of Peace in the UK. During site observation on Muslim sections in four general cemeteries around Sheffield, pre-dug cemeteries have always been covered so that a Muslim burial can take place within 24 hours, even if the funeral has to take place during the weekend. (The site visit was carried out as part of the completion for the author's Masters dissertation in Landscape Studies at the University of Sheffield.)

Grave preparation always leaves a certain amount of disorder that is unavoidable. This is true whether the digging is being done manually or by machine. However, the dirt around the graves can be better managed to minimise the mess. Tending to graves and maintaining a certain level of tidiness are important factors. In turn, this sense of order and calm elicits a favourable response from those who observe and experience gardens and parks. This is especially so since CCPG is incorporating the elements of landscape into public cemeteries, in the same way as JAWI and local authorities are promoting the garden and park themes inside public cemeteries. Nevertheless, different authorities have different ways of following the specification outlines of the JPBD, whether being carried out manually or by machine. Even though the CCPG promote beautiful landscapes inside the cemetery area, in the case where machinery is employed there have to be some precautions to avoid damage to the building environment which derives from heavy machines.
The preparation of the burial ground at cemeteries is the most crucial aspect that should be planned in urban cemeteries in KLMA. For example, S9MC was done in a contradictory way to TSMP where the overall layout of the cemetery is being executed right before burials are taking place. The landscape features are being added at a later stage after machinery has prepared the grave plots. In other words, the landscape features of the cemeteries in S9MC is something that can only be experienced at a later stage after the completion of certain portions of the grave models have been used.

For the purpose of neatness at the burial grounds, it is best that the planning of the cemeteries should be approached in a similar way as other development projects in the city, such as residential housing. Proposed master plans should be prepared in detail along with the phases of development for completion of the project, especially if it involves a large site such as KLKMC.

However, contrary to the house units, graves are not ready to be occupied until the bodies are ready to be buried. It can be said that the completion of the graves takes place right after the bodies have been buried. In order to address this, the completion of the project can be done in stages, where graves will be done according to the system blocks specified in JPBD's CCPG (refer to Figure 2.20). Based on to the CCPG each grave model is to have 20 burial plots that are arranged in two rows, and this can be added up gradually according to the current demand.
Apart from that, the internal movement inside the cemeteries deserves full attention from the authorities. If the concept of park cemetery is going to be implemented at public cemeteries then it is crucial for the pedestrian network to be improved for public access. As what has been witnessed in some cemeteries such as S9MC and KLKMC, the pedestrian link inside the cemetery's area has not been given priority. As a matter of fact, most of the landscape features are only being provided right after the completion of certain section of burial plots. As a result, people are not going to have a chance to use and experience the space as it was intended to be used. Thus, this practice of developing public cemeteries should be changed.

**Summary of authorities guidelines**

To conclude this subtopic, JPBD should seriously ameliorate several aspects of CCPG. Great attention has to be focused on flexible burial module systems that can be adapted to the type of landform and soil profile by incorporating both the niche and trench graves into CCPG. The specification for a burial plot should not only cover the external aspect of the grave but also show the subterranean level. The centralisation of communal facilities as a concept within the burial area is exceptionally desirable to achieve sustainable development inside public cemeteries. However, with the integration of the park cemetery as part of the concept for public cemeteries, the amenities provided on the site will be able to benefit a wider number of users from outside the area. Finally, in terms of the provision of reserved landscape and pedestrian walkway at the site, authorities are encouraged to treat the development of cemeteries in a similar way to other construction projects. With the introduction of the park cemetery, it is expected that the site will be able to be used by the public after it is completed. However, this was still not the case in some cemeteries such as S9MC where the construction of hardscape and softscape is being done in phases along with the completion of the burial section.
2.4.1.2 Factors that contributed to the spatial issue in Muslim cemeteries

Malay-Muslim burial designs have their cultural roots in Hindu and Buddhist funerary practice (Bougas, 1988). The continuation of conventional Muslim burial practices will be put under close examination in this research. From early observation, overcrowding in Muslim cemeteries is caused by monumental structures as well as the overgrowth of shrubberies found over the graves. To be precise, there are five main grave practices that contribute to the problems inside Muslim cemeteries: the Silang Tikar method, family plots, permanent structures, built-up personal demarcation and random planting. These kinds of ritual practices are contributing to the lack of space in a Muslim cemetery. Malay-Muslim burial practices should undergo some modification so that such problems may be avoided or minimised in the future. Or perhaps public cemeteries should be able to cope with these kinds of ritual practices in the near future. From field trips conducted, the research has highlighted factors that are causing problems of overcrowding in Muslim cemeteries. The visited case studies will also be used as a comparison in discussing a summary of the five factors that contributed to the spatial issue in Muslim cemeteries. Each factor is going to be explained below.

Silang Tikar method

During an interview on 11 February 2011, Mr AM Ghazali (JAWI) explained how the method of arranging graves known as Silang Tikar is being practiced in public cemeteries around KLMA. Silang Tikar gets its name from the Malay language word meaning ‘a weaved mat’. This method allocates every alternate grave for current use, leaving the reserved graves for future use. The method of Silang Tikar is not practical in reality, simply because the boundary lines of each allocated grave have been breached by the family, and, therefore, have resulted in the occupation of reserved graves.

There are some problems with this method, especially in term of (i) accessibility, where it can be hard for visitors to walk among the graves; and (ii) overcrowding, where the combination of hardscape and softscape that is found over the graves has caused the cemetery landscape to become dense. So in the end, the reserved plots are lost to the existing graves. In addition, it is also found to be unparalleled with the Islamic teaching that highlights the importance of being respectful towards the dead, even when they are not visible to the naked eye. The point is trying to convince authorities that they can overcome the issue of overcrowding by finding alternatives to the method of Silang Tikar in Muslim cemeteries. This is because of the conflict that persistently arises between the existing and the future graves. Therefore, new methods should be sought to make sure every grave plot is treated equally.

Summary of action for Silang Tikar

From the site visits conducted at several Muslim cemeteries in KLMA, it was found that the intended reserved plots in Silang Tikar method are disappearing due to the combination of burial practices that happen over the graves. Moreover, this method also creates a tension between the existing graves and the reserved plots which can be hard to manage. Silang Tikar is considered to be ineffective in utilising the space for burial inside the cemeteries and should not be continued. Thus, new alternatives have to be introduced for a better operation of Muslim burial sections. There are many examples of layout models for burial plots that can be adapted into Muslim cemeteries such as the ones discovered at TSMC, SLG and SDHMP.
The method of Silang Tikar is not practical simply because the boundary lines have been breached and taken over by existing graves. As a result, reserved graves are slowly diminishing, which has proven this method to be flawed. The question marks on this diagram indicate the intended reserved plots for the future use.

This is how the method of Silang Tikar is supposed to be. The burial plots that have not been numbered are supposed to be reserved plots.
Family plots

This practice has been mentioned in Bougas’ report on Muslim cemeteries in Patani (Bougas, 1988). Family plots have existed in the Islamic funerary tradition since the Prophet’s time according to Hashim (2007). The logical reason behind this practice is to make the grave visiting easier for the deceased's family. In this way, tending activities can be done at the same time without having to move from one grave to another. This also applies to the practice of offering prayers to the dead during the grave visits.

The problem in today’s public cemeteries is that this practice is hard to follow because public cemeteries do not make accommodation for family plots, as people are not allowed to book burial plots in advance. However, this practice is still found to exist, especially in the old Muslim cemeteries around KL. The application of family plots is still relevant in Malay society and deserves respect. This practice is probably best applied to the private burial where space is not an issue, such as in SDHMP. Here, the family plots are permitted to continue in the Muslim sections. Also there is no guarantee that family members will be buried in the same spot and at the same time. The need for burial has always been prioritised for the family members of the deceased. But this of course can be changed, if authorities are more concerned about the connection between people rather than lack of space for burial. Furthermore it has been proven that the issue of land for burial is not yet severe in KL.

Summary of action for family plots

Islam encourages Muslims to have their family graves within one spot. Yet, Islam does not prescribe how this should be done. The problem is that this practice is unable to take place inside the cemetery because each burial plot can normally hold up to one body at one time. Unlike Western cemeteries, where family plots can be bought in advance prior to use, Malaysian graves cannot be reserved until death has actually occurred. This is because Islam discourages Muslims from being preoccupied by the thought of death. However, this contradicts the Islamic view which encourages Muslims to have family plots in one spot. As a result, family plots in Muslim cemeteries have never been achieved because of this Islamic precept. This religious misinterpretation should be eradicated from the current practice. The main point is that the reservation of burial ground for family plots should be encouraged in order to strengthen this practice. Even though this practice is not compulsory for every Muslim family, it will definitely make grave visits much easier.

Family plots should be incorporated into Muslim cemeteries with the objective of minimising the usage of space, and to encourage the use of the same burial plots among family members. Family plots could be integrated with stacked graves to increase the productivity of cemeteries in providing more burial space within its given area. Stacked graves can be defined as a method of interment that allow for two or more corpses to be buried within a single burial plot. It is recommended for public cemeteries to build each grave that is able to house at least two corpses. Even though the implementation of two corpses seems to be more ideal, advance technologies are expected to evolve and come at high price in order to accommodate more bodies. In SDHMP, the allocations of family plots are possible because of the vast areas for burial. The limitation of space in public cemeteries does not permit this practice because of the concern to maximise the number of grave plots. However, by allowing more than one body to occupy a single grave plot this will become possible.
Family plots are rarely found in newer public cemeteries because they are considered to take too much space than a single burial plot.

Here they are actually take up less space because of their close proximity. Thus this practice should be promoted and continued in Muslim cemeteries.

Benefits of family plots in public cemeteries:

Family plots should be promoted in public cemeteries because of two reasons; (i) it can actually save plenty of space inside the cemetery if it is done in the right way, and (ii) it is one of the traits in Malay burial practices that should be continued because of the advantages that it has to offer. Moreover it is also encouraged by Islamic teaching.
Permanent structures

The motives behind the existence of permanent structures in Muslim cemeteries can be described in the same way as personal demarcation over the graves. It also contributes to the problem of overcrowding inside cemeteries due to the nature of public cemeteries that usually arrange graves in a regimented grid layout.

Permanent structures at Muslim graves can be divided into two groups:

• Seating structures

• Monumental structures including gravestones, kepuk and dapur

Seating structures

The seating structures are normally found to be attached or detached from kepuk, and some seating is removable. The reason why seating is included under the permanent structure is because some are built as the extensive part of the kepuk, whereas some are built as a row of stand-alone seats or benches. The concern for this research will be focused mainly on the permanent seating, as it possesses the potential to interfere with the neighbours’ graves compared to the temporary ones.

The method of Silang Tikar allocates every alternate grave for current use, leaving the reserved graves for future use. However, the reserved plots have also been used by the deceased's family or relatives during the visit. During the visit, visitors will be seated on the ground in order to offer the prayer to the deceased by reciting a chapter of Yasin from the Quran. The Yasin recitation normally ends with spreading the petals of flowers over the graves with some water.

Due to this practice, some families will bring a mat or newspaper from home which they use to sit on temporarily. In some cases, people are inclined to bring seats to place next to the grave in order to be more comfortable during the recitation. This will be practiced by children and adults, as well as the elderly. However, with the help from grave makers, it is a common thing now for grave kepuk’s to be built with seats. The seats vary according to the size and materials they are made of. Nevertheless, some people are creative in accommodating this ritual by using simple material like benches.

Moreover, the interval space between graves is actually being invisibly occupied by the corpse underneath the ground especially if the method of niche grave is being used for interment (refer to Fig. 2.50 for niche graves). This also means that visitors are being unintentionally respectful to the bodies beneath the ground. Even though this might not be a major concern to some, Islam has outlined the important of respecting the dead to be taken into consideration at the cemetery site. It has been clearly stated that Muslims should not be seated upon the corpse beneath the ground.

In order to avoid this from happening the position of visitors during the grave visit could be relocated from sides to the top and bottom of the graves. This means the existing grave layout has to be redesigned so that JAWI will be able to fully comply with the Islamic teaching. A new type of arrangement that focuses on a sensible design that is respectful towards the dead and a simplified structures that consume less space should be introduced in Muslim cemeteries.
The impacts that derive from these actions have turned the reserved plots into space occupied by many seating structures that eventually occupy the whole space. People tend to breach the reserved plots simply because there are no boundary lines marked on the ground and also due to the lack of surveillance from the management. This situation has been ongoing for a long duration in Muslim cemeteries. However, a statement on the importance of being respectful to the dead, which is being promoted by Islam, might may change the present scenario. Recently the management has begun to protect these reserved plots, especially in the new Muslim cemeteries. A significant difference can be seen between the old and new cemeteries.

Monumental structures including gravestones, kepuk and dapur

According to Hashim, Muslims are not encouraged to build grand kepuk over the graves as this is considered to be a waste of money (2007). Muslims are not encouraged to spend money lavishly building kepuk. Muslims should prevent themselves from showing off their wealth through the building of kepuk. In the Muslim cemeteries around KL, JAWI has a great influence in controlling people’s practices over the graves. There is a certain limit and specific dimensions that people have to follow when building a kepuk. Therefore, people do not have freedom in building kepuk over the graves. People are bound by the regulations set by the local authorities. A clear warning has been displayed on the information board in every Muslim cemetery in KLMA. However, some people ignore these regulations.

The decision to follow the Islamic precepts depends on individual belief and intention. It is the question of personal choice, which does not seem to fit in the public cemeteries. The erection of monumental structures over graves is not only found in Muslim cemeteries but has been practiced in other cultures as well. However, do we really need grand kepuk at all? In a way, public cemeteries have simply refused to cater for the installation of large kepuk. Public cemeteries insist on keeping kepuk at the minimum size, though some graves belonging to some VIPs are still allowed to have grand statues which can be looked on as a privilege.

Nevertheless, monumental structures are still considered as the main part of Muslim graves and people should have the right to choose. Thus, it is important to accommodate people’s needs who want to do more than just ordinary kepuk. Although this has been exclusively granted to higher class people, nevertheless the same rights should be made possible to all people. Thus, the initiative for a different kind of Muslim cemetery ownership is imminent in KLMA.
Kepuk is typically used to keep the graves surface intact but in some occasions they were found to be larger than usual, which can be seen in this picture taken in JAMC.

Fig. 2.33 Super-sized use of kepuk (2011)

Kepuk is typically used to keep the graves surface intact but in some occasions they were found to be larger than usual, which can be seen in this picture taken in JAMC.

Fig. 2.34 Monumental structures and extensive grave structures including seating and benches (2011)

There are many forms of monumental structures found during the site visit at Muslim cemeteries. The diagram on the left depicts some of the variations of monumental structures found inside the cemeteries. Both pictures on the right show some of the actual structures found at KLKMC. The bottom picture shows the slab-like pieces that were used by the grave's owners to sit on the ground during the visit.
Summary of action for permanent structures

For visitors a convenient seat during the visit is desirable. However, it should not be part of the grave itself. This is because the seating structures can sometimes limit future space for more grave plots. Removable chairs can be used to solve this matter, and there have been some cases where the management of the cemetery does provide for this kind of service to visitors.

Another important thing to consider is that visitors should only be allowed to occupy the space that is being provided at the left and right sides of the graves. In fact, the common practice among Muslims is to sit around the grave during prayer. By shifting the position of visitors during the recitation of Yasin, the provision of this space could actually be integrated with the pedestrian footpath that leads visitors to the graves. In other words, the interval space between graves is going to be minimised or even eliminated to enable the creation of more grave plots, though access to the top and bottom sides of the graves are still permissible.

Besides improving the productivity of the cemetery for burial, this new practice will also reduce the impact on the environment by eliminating the total area of ecological footprint occupied by the permanent structures including the seating. Furthermore, this new change may assist the lack of knowledge among visitors regarding the method of burial used at the gravesite. Visitors may not be aware which of the two methods (niche or trench grave) has been used for burial other than the gravediggers or those who happen to be there during the funeral. Thus, this seems to be an extremely crucial step in order to ensure that the dead will always be respected by visitors.

As for the case of building monumental structures over the graves, this practice is closely related to the graves’ kepuk. Nowadays the construction of kepuxs over graves is mostly built by grave makers. However, some people do their own rendition of kepuxs. The expensive cost to build kepuxs explains this trend. Other than that, it is also motivated by the strong relationship between people and death, especially if the death is considered to be recent. There are strong tendencies for some people to personify the graves in their own way rather than leave it to the grave makers. People have different thoughts and ideas when it comes to monumental structures over the graves and the management of the cemeteries has overlooked this matter. A separation of burial sections between these two practices will probably help to address the differences and needs of every individual.

JAWI has developed rules about this practice by only allowing minimal construction of kepuxs over graves for two reasons: firstly, because of the Islamic precept that forbids the glorification of graves and, secondly, to minimise the impact of overcrowding within cemeteries. As a result, grave makers have to develop more simplistic designs for kepuxs. The method of constructing the kepuk has also changed, where prefabricated graves are in greater evidence within Muslim cemeteries. However, building for lavish kepuxs is not going to be practical anymore if the idea of having multiple bodies within a single grave is introduced into public cemeteries. This is because the kepuxs will have to be removed to allow for the new interment. Therefore, this will help justify why Muslim graves should not have any monumental structures, but rather a simple plaque to record the details of the dead persons within the same family. The adoption of this simple plaque has been used in SLG and the New Muslim Sections known as Pusara Aman (PAm) at Choa Chu Kang Cemetery (CCKC). In future decades, Malay people will be encouraged to accept this new trend in kepuk design, whether it would be relatively simple or even redundant.
Built-up personal demarcation

Extensive grave structures are used to indicate personal demarcation in Malay cemeteries. This practice is closely associated with tending activities at the gravesite. Some people perform this practice for certain reasons such as to protect the graves and to indicate a high status in the society, or simply for aesthetic reasons. From the case studies, people have marked the grave areas by using either horizontal or vertical structures. The examples of personal demarcation using the horizontal structures can be seen extensively in the kepuk. The base of the kepuk is normally made of marble, concrete and cement, whereas the vertical structures are normally made of fences and gates. The use of these structures with the combination of monumental structures and random planting has created a narrow and claustrophobic environment within the cemetery areas. In some cases, it also interferes with the neighbouring graves, which is not supposed to happen in public cemeteries.

This practice suggests that people are keen to mark the area of the deceased’s grave even though there seems to be a shortage of space. This also implies that people have their own beliefs and values in demonstrating how the graves should look, based on individual taste and preference, despite the restriction from the management and Islamic teaching. However, some of the graves in Muslim cemeteries do not possess any form of demarcation at all. Some graves are found to be very simple and modest, while others have nothing on top other than a gravestone that is made of natural rock. This suggests that some people prefer not to have any kind of demarcation over the graves due to the restriction from religious teaching, or simply because they could not afford to have it. According to Hashim, this kind of demarcation is not permitted in the Islamic teaching because it will disturb other people’s graves (2007). However, if we compare this situation to a large area without spatial constraint such as Muslim family plots in SDHMP, this religious precept will not become an issue because Muslims will be exposed to many choices of burial plots, from moderately restrictive to completely free from space constraints.

Therefore, the marking of grave perimeters is a normal thing; the question whether public cemeteries are going to accommodate these vertical and horizontal structures is already clear. Since the enforcement of the new regulations, the management of public cemeteries has forbidden excessive erections of grand structures around graves. However, it is important to acknowledge that some people are still clinging to this kind of marking to signify their status, especially among the royal families, as well as wealthy and famous people. Its existence cannot be ignored and has to be accommodated, which is something that is overlooked in public cemeteries. From the observation of the case studies, most new public cemeteries in KL have not provided for this.

Fig. 2.35 Fence use in a grave’s territorial area, JAMC (2011)
There are many forms of personal demarcation that have been encountered during the site visits at Muslim cemeteries. The diagram on the left depicts some of the variations of built-up personal demarcation found inside the cemeteries. Both pictures on the right show some of the actual structures found at JDMC.
Summary of action for built-up personal demarcation

Generally, families will seek to decorate the deceased’s grave with commemorative ornamentation. In some cases, the personal demarcation can be seen as the extension of monumental structures where the materials are used in a vertical and horizontal way along the perimeter. It is clear that the practice of personal demarcation represents a longstanding practice within traditional Malay cemeteries and it continues to exist in both the old and newer cemeteries in KLMA, but somehow it has not been properly managed by the cemetery authorities.

The logical explanation behind this is simply because there is no clear indication of boundary lines marked by the cemeteries’ management. Even though stone markers have been used to mark the number of the grave plots, these are found to be ineffective because visitors rarely refer to them to locate the graves inside the cemeteries. This is because the stone markers are gradually disappearing from sight due to numerous human activities over the graves. The stone markers become useless right after the gravestones have been erected. Therefore, a clear marking for the grave plots could be imposed to indicate certain space limitations as well as to prevent people from building their personal demarcation.

A grave’s imaginary boundary line used in the method of *Silang Tikar* is flawed. In order to solve this, graves could use a visual form with a rigid sense of order and arrangement to enhance a sense of belonging. For example, TSMC and SLG use invisible boundary lines for grave plots.

Random planting

This is the part of the cemetery practice that deals with the softscape elements of the sites. Even though random plants are considered part of the natural elements, however since plants and shrubberies are the concern of cemetery patrons rather than the cemetery administration, their proliferation naturally follows a random and haphazard form.

This practice is significant in Islamic funeral tradition as a way to help the dead inside the graves. The trees and shrubberies that are grown by the deceased's family are believed to pray for the dead and this practice can be traced back to the time of Prophet Muhammad (PBUH). According to the historical and narrative record, Prophet Muhammad (PBUH) laid palm leaves over the grave of someone close to him in order to ease the suffering of the dead inside the graves (Hashim, 2007). This is how the practice started and was later carried on to other parts of the Muslim world.

Plant as a temporary grave marker

Bougas has mentioned the existence of this practice in the Muslim cemeteries in Patani (Bougas, 1988). The plants have also been used in Muslim cemeteries to serve as temporary grave markers. As explained by Bougas,

In Aceh, trees were generally planted as temporary grave markers, and were later replaced when proper tombstones were set. The Malays in Peninsular Malaysia plant trees, side by side, with temporary wooden graves markers. (1988, p, 65)
In Muslim cemeteries around KL, this interim role of the trees or shrubberies is still being practiced. However, *dapur* has also been used to temporarily mark the graves before the gravestone are ready to be laid over the graves. This use of *dapur* at the gravesite has been recorded by Hough, as recorded by Bougas in his report:

> In Malaysia, 'graves had a wooden framework placed around the *batu nisan* (tombstone), made of four planks set on edge and mortised together. These planks were called *dapur* which meant the outer portion enclosing something’ (Hough, 1940 as cited in Bougas, 1988, p. 50)

The use of *dapur* has been continued in the management of Muslim cemeteries in KLMA today. The management has also devised a way to mark the graves of newly buried corpses by numbering them using a stone marker. This practice can be found in KLKMC and S9MC, and has been observed during the site visits. The number on the stone marker is used to mark the burial plots and also serves as a reference point, so that the management is able to trace the exact grave if there is a need to do so.

However, the use of stone markers may not be handy to visitors as much as to the grave management. This is because the stone markers are not clearly visible as are other dominant elements in Muslim cemeteries such as *kepuks*, permanent structures and planted shrubberies and trees. Therefore, many people prefer to ‘mark’ the graves in the way that can be identified by other elements. So, what is actually happening within the Muslim cemeteries is that there are just too many competing elements found over the graves that seem to create confusion to visitors. In the end, the stone marker has also become a part of the competing elements.

In today’s Muslim cemeteries, *dapur* will either remain after the gravestones have been erected, or it will be replaced by *kepuk*. Evidently, *Cordyline terminalis* has become the standard shrub planted over the graves at the end of the funeral ceremony. The shrub is normally positioned at both ends of the grave, which are the head and feet. This species of plant with a red slender shape is the most common type of shrub found on new graves. The management of cemeteries has picked *Cordyline terminalis* as a standard plant to be grown over the graves in Muslim cemeteries and at some stage it can either be replaced or maintained by the deceased’s family members, in the same way as *dapur*. Normally, new shrubs or trees are sometimes being added later to the graves by the family members in the way they prefer.
Fig. 2.40 Garden-like ambience in JDMC (2011)

Fig. 2.41 Graves were furnished with a variety of plants in JDMC (2011)

Fig. 2.42 Cordyline terminalis, taken during the site visits at KLKMC (2011)

Fig. 2.43 Cordyline terminalis, taken during the site visits at S9MC (2011)
The diagram shows a common grave’s layout with the practice of random planting that is normally encountered inside Muslim cemeteries. In this situation, three important things are missing: (i) reserved plots (represented by the question marks) are lost to overgrown trees and shrubs that have grown beyond their allocated grave plot, (ii) accessibility is poor inside the burial ground as it can be hard for visitors to walk among the graves, and (iii) the plants have also become a factor for overcrowding at the site, both spatially and visually.

The aesthetic function of plants at the gravesite

The other function of plants in Muslim cemeteries is aesthetic. Other than *Cordyline terminalis* and the distinctive *Plumeria obtuse* (Frangipani), there are other types of plants which are familiar within Muslim cemeteries; for example, *Bauhinia, Codiaeum variegatum, Allamanda cathartica*, and *Dracena fragrance*. However, in some public cemeteries such as JDMC, there are too many variations of plants grown at the graves from multicolored foliage to towering trunks. The combination of these plants and the hardscape structures has turned each grave into its own unique niche garden, which has resulted from human tending activities.

In this case, JDMC has shown that the varieties of plants being grown within the burial compound by people have turned the cemetery into a garden of its own right. A visit to this JDMC is like experiencing a walk through a maze garden resulting from varied plant materials. To a certain extent, there is a sense of tranquility existing inside this hidden sanctuary, which can be expected from an ordinary garden. Most graves in Muslim cemeteries use a niche garden which reflects the personality of the deceased. Muslim cemeteries only display the idea of ‘garden’ mainly through the varieties of plants grown over the graves rather than focusing on the overall surrounding area.
Other than plants found over the graves, large trees can also be found inside the cemeteries’ compound. Some trees are considered to be closely associated with Muslim cemeteries. For instance, *Ficus benjamina* (Banyan) is typically planted in Muslim cemeteries (Othman, 1985, p. 53). The mature Banyan tree can grow to a gigantic size that gives old Malay cemeteries a mysterious and haunted look. The mature Banyan tree can lend a particularly evocative ambience to Muslim cemeteries, sometimes associated with the supernatural or mysterious. This might have happened unintentionally in the old days, and due to this reason the structural planting at TSMC in Putrajaya has been well planned since the beginning.

Here, there are no large mature trees being planted in the Muslim cemeteries at TSMP, though some of the existing ones have been preserved and are beyond the cemetery’s perimeter. Contrary to the old cemeteries, the trees have been arranged in a systematic way at TSMP. In TSMP, trees not only play the role of enhancing the beautiful landscape of the surrounding area, but were also used to divide burial grounds into smaller manageable burial spaces. Each burial space consists of no more than 20 graves. In a way, the role of plants in TSMP has been extended to create a more park-like cemetery, where it is more convenient for people to navigate the area without any sense of confusion just like in the conventional cemeteries. Therefore TSMP resembles an example of a Muslim cemetery that is both accessible and pleasant.

Bougas also stated that trees and shrubberies in Muslim cemeteries are associated with the intention of creating a ‘Garden of Paradise’ that can be found in Indian and Persian cultures (1988).

Islamic cemeteries in Southeast Asia do not exhibit the regularity and formalisation of Persian and Indian gardens. The Garden of Paradise was expressed simply in the planting of trees. The kemboja (*Plumeria*) and other blossoming plants found in Patani’s cemeteries, like the fruit trees in Indian gardens, not only symbolize death and immortality, but also Eden where man and God are joined for eternity. (Bougas, 1988, p. 67)

It is clear that cemeteries in Malaysia have exhibited influences from other Islamic cultures, especially in garden-style design principles. Nevertheless the replication of this idea is only visualised through the elements of softscape, which is the vegetation. Moreover, the sense of order and hierarchy are not so apparent, which can be observed in the Malay-Muslim cemeteries. Nevertheless, the concept of a ‘Garden of Paradise’ is still being adapted for Malaysian cemeteries today. In fact, the first Muslim burial ground in KL possesses the features of a garden-like cemetery that can still be seen to this day. For example, the existing big trees in JAMC were planted during British occupation in KL.

Eventually, a sense of order and hierarchy has finally been achieved in Muslim burial space. Formality of the garden has also been put into practice in the Muslim cemetery at TSMP. Thus, the intention of creating a cemetery with a garden concept was first implemented long ago, since the establishment of JAMC in the city of KL. Regimented order has not been continuously practiced inside urban cemeteries since independence until recently. Based on the philosophy of ‘Garden of Paradise’ in the Islamic tradition, the idea of having park cemeteries has been promoted recently by the local authorities in KLMA. The creation of TSMP has also sparked interest and consciousness among authorities such as JAWI and DBKL to strengthen the concept of creating cemeteries inside the park. However, it is important to highlight that it would take more than just the softscape to achieve this idea. The idea of having graves inside the garden should have been extended to encapsulate the whole cemetery.
The combination of trees and shrubs have been used to define the space for burial sections.

The combination of trees and shrubs has been used to define the space for burial sections.

The combination of trees and shrubs has been used to define the space for burial sections.
Summary of action for random planting

Muslims believe that graveside plants are actually praying to the bodies inside the graves and this ritual has been practiced for a long time (Hashim, 2007). It is not surprising to find Muslim cemeteries colonised with plants, especially in the rural kampung areas. In the urban cemeteries, this practice has contributed to the green factor in Muslim cemeteries, which is beneficial to biodiversity in the city. This abundant vegetation helps to regulate the city’s climate, ameliorating extreme temperatures during the daytime as well as assisting water surface run-off during the monsoon season. Thus, vegetation is an essential ecological and climate regulator within the urban environment and this important role should be promoted in the development of future cemeteries in KLMA.

This practice is significantly important in addressing urban issues such as heat islands and flash flooding in the city. In general, Muslim cemeteries consist mostly of the elements of softscape rather than hardscape. This suggests that burial space is a unique urban sanctuary in its own right. A site visit to the urban cemeteries around KL, which are surrounded by mature trees and overgrown shrubs, has revealed that the environment is one of peace and tranquility. Though not many visitors come and experience these sacred sanctuaries due to regulations preventing the public from entering, nevertheless urban cemeteries are still playing their role in sustaining the city’s environment through mature plants. In other words, urban sanctuaries are accessible and a privilege for the family members who are coming to visit the graves. This group of people can be regarded as the occasional users of Muslim cemeteries.

The serenity of landscapes within urban cemeteries seems to provide mourners with a setting conducive to the difficult process of grieving, compared to the new cemeteries that have been visited. The old established cemeteries accommodate this emotional solace rather than the cemeteries with less plants over the burial grounds. It is important for Muslim cemeteries to retain this unique feature in the making of Muslim cemeteries in future. The later cemeteries do not possess the qualities that the former cemeteries have as an urban sanctuary. The lack of greenery also affects the emotional experience of the visitors because exposed ground provides little comfort to humans who prefer to seek a refuge within a hidden space. For example, landscape will only be provided within the cemetery at S9MC right after the completion of each burial section.

On the other hand, the abundance of this random planting sometimes creates a visual barrier for visitors trying to locate graves. The random planting has to change into a systematic arrangement, to avoid the sense of loss and confusion inside the cemeteries which has been the practice in TSMC. The type of trees permissible to be planted over the graves should be limited to structural branches rather than species that have dense foliage. The same rule applies to the type of shrubbery grown over the graves. TSMC is an example that can be promoted to other public cemeteries in KLMA.

In TSMC, random planting no longer exists. The role of trees has now been used to divide the cemetery area into individual sections. Each burial section is treated as a room or space that is supposed to create a sense of direction and arrangement within the cemetery. Furthermore, the issue of visibility has also been addressed by not letting random planting dominate the atmosphere in TSMC. This issue of visibility has been properly addressed at TSMC. Trees are no longer allowed to be grown near the graves; however, low height shrubberies are still permitted. Here, the trees have been used to define burial spaces into smaller sections. Even though trees are not located near the graves and missed in the role of performing their original function to pray for the dead, the shrubberies are still able symbolise this spiritual purpose.
Therefore, the role of plants in Muslim cemeteries should be looked on to accommodate more than just a cultural practice. For this reason, the specific role of plants should be drawn in Muslim cemeteries between the culturally significant and the aesthetically valuable. Visitors have to acknowledge the types of plants that are allowed to grow over graves, whereas management uses plant materials to clearly define burial spaces within the cemetery’s area.

2.4.1.3 Modification and adaptability in Muslim burial

There are two types of graves in Islamic burial: the first is *lahd*, also known as niche; the second is *shiq*, also known as trench. Both names refer to the nature of each method as shown in Figures 2.50 and 2.51. It is important to notice that Muslim corpses have to be positioned in a certain order. The methods of construction for Muslim graves have been designed in such a way to accommodate the exact placement, and so comply with religious customs. Firstly, the corpse has to face the direction of *qiblah* (Mecca) with its body laid on its right side. Secondly, the corpse should also be treated with great respect; hence, the corpse has to be protected from directly touching the dirt during the filling of the grave, preferably by using a wooden plank or unbaked bricks. The protection of the corpse from direct contact is the main concern that has to be observed.

In order to fulfill the first requirement, the body should be orientated towards Mecca by providing a support to the back of the corpse. In the case of firm ground, a recess should be dug on the side facing Mecca (niche grave), whereas for ground with a soft soil profile, a shallow gutter (trench grave) has to be dug in the middle at the bottom of the grave to allow for the same orientation of the body. The second requirement of the wooden plank or unbaked bricks should be able to cover the body from being hit directly during the filling.

The niche grave is the most commonly used type of grave in the public cemeteries in Malaysia. It has to be noticed though that the body is actually being kept inside the chamber-like structure over one side of the grave. This means the actual position of the body is not precisely parallel to the grave’s surface. In reality the right side of the grave is actually where the body has been put to rest, and not in the centre of the grave as compared to the trench grave. This raises a question as to whether it is impossible to arrange graves to be closely set next to each other within a Muslim cemetery.

As previously discussed in page 83, the summary of action for permanent structures, a suggestion to eliminate the interval space between burial plots will be something inappropriate for application on the site where the niche grave is going to be used. This is because there has always been a gap between graves with the niche grave, which is actually reserved for a body underground. Therefore, the interval between graves could still be reduced, but not completely abolished due to the fact that it will contradict the underground profile.

As seen in SLG, there is no doubt that the application of precast concrete beneath the ground can be used to equally divide a burial section into multiple grave plots, as well as maximising the use of space within a given area at the same time. However, in the case of the trench grave, such practice could not be accomplished effortlessly without having to alter the soil profile beforehand. Even though the interval space between graves can be eliminated with the use of the trench grave, this method of interment is normally applicable in conditions where there is a present higher water levels under the ground. Due to this fact, it seems impossible for precast concrete to be incorporated into the trench grave in the first place.
The next question is, how are these two different methods of burial going to fit with the existing case studies gathered from the site visits? Is there a possibility for modification or some form of adaptation between them that could be adopted into Muslim cemeteries in KLMA?

**Fig. 2.49** The placement of a Muslim corpse inside the burial plot

The knots that are used to hold the *kaffan* (shroud) have to be untied and the face part left open after the corpse has been positioned correctly.

Source: *Death and Funeral Management* (Hashim, 2007)

Translation:
*Tali pengikat hendaklah dibuka* (knot has to be untied)
*Kain kafan dipipinya hendaklah dibuka* (shroud covering his or her face has to be opened)
*Batu atau tanah sebagai bantal* (the soil or a rock must be used to support the head)
*Rusuk kanan berada dibawah* (the body should lay on the right side)
*Arah kiblat* (*qiblah* direction)

**Fig. 2.50** Niche grave (*lahd*) width is measured between 3 to 4 feet, with 6 feet depth

Source: *Death and Funeral Management* (Hashim, 2007)

Translation:
*Sepanjang mayat* (burial plot should match the length of corpse)
*3 hingga 4 kaki* (3 to 4 feet / 0.9 m to 1.2 m)
*Dalam 6 kaki* (6 feet deep / 1.8 m deep)
*Pandangan sisi* (side view)
*Papan penutup liang lahad* (board to cover the corpse)
*Liang untuk meletakan jenazah* (chamber to contain the corpse)
*Arah kiblat* (*qiblah* direction)

**Fig. 2.51** Trench grave (*shiq*) width is measured between 3 to 4 feet, with 6 feet depth

The trench is recommended where the soil profile is weak or in the case of high water tables.

Source: *Death and Funeral Management* (Hashim, 2007)

Translation:
*Sepanjang mayat* (burial plot should match the length of corpse)
*3 hingga 4 kaki* (3 to 4 feet / 0.9 m to 1.2 m)
*Dalam 6 kaki* (6 feet deep / 1.8 m deep)
*Pandangan sisi* (side view)
*Papan penutup liang lahad* (board to cover the corpse)
*Liang untuk meletakan jenazah* (chamber to contain the corpse)
The feasibility of grave recycling for implementation at Muslim cemeteries

In recent years, lack of space for burial has been reported in the public cemeteries especially located around the centre of KL. This phenomenon is hardly surprising, because burial grounds will eventually become full at a certain stage. Furthermore, there have been no efforts in recycling old graves. Muslim graves are normally built to last in *kampung*; however, this may have to change given the rapid consumption of space for burials in the city. Is Malaysia ready to embrace this practice even though it has never been done in public cemeteries before? By implementing second burial, grave perpetuity might no longer exist in public cemeteries due to the legal requirements in reusing old graves. There will be some challenges and complexities faced by the surviving family members of the deceased for this approach to be applied in Malaysian public cemeteries. For example, grave ownership might have to be clarified and entrusted within the same family members. Though this seems logical, there is no guarantee that children of the same family will be buried at the same plot. In reality, people do not necessarily live in the same area as their parents due to work commitments or marriage.

Attitudes towards exhumation are expected to be unfavourable to many, though grave recycling does not necessarily have to incorporate exhumation in its operation. There is no doubt that grave tenure can be introduced in public cemeteries around KL if local authorities insist on doing so. However, it is important to assess the implications that would be derived from such practices within Malaysian funerary culture. Nevertheless, local authorities have always taken responsibility for maintaining the state of graves in perpetuity as outlined in the Master Plan Report, Taman Selatan, Putrajaya (Putrajaya Holdings, 1999).

The issue of lack of space for burial is not yet severe and there is still plenty of time to do something about it. Part of the answer lies in the planning and design stage. Even though reusing graves is widely implemented in some parts of the world, this might not be the only solution to the issue of land shortage in public cemeteries. This is because KL still has plenty of land outside the city that can be turned into burial grounds, and these where most of the city suburbs are located, and where citizens commute daily from home to city through various means of transportation. This also signifies a pattern and potential relationship that could be established between human settlement and urban cemeteries. Another matter of concern among Malaysians is the implementation of plot renting if graves are going to be reused in public cemeteries. Monetary concerns would probably become an issue to some people with a low income, already an issue in Jakarta city (Sufa, 2004; The Jakarta Post, 2011b). Renting the grave plot for a certain period of time can be burdensome to people. Moreover, people are eager to know how such practices will be employed, especially in regards to what will happen to the existing corpses. Even though a thorough survey can be conducted by government at national level in order to gauge people’s response and opinions regarding second burial, nevertheless, in the case of KL, there are better ways to solve this issue. The term ‘regeneration’ in this thesis not only refers to spatial issues but also encompasses wider implications deriving from a range of practices implemented within urban cemeteries.

Therefore, reusing graves (or recycling grave plots) might not be an ideal solution to the lack of space for burial in KL. From the site visit conducted at Pusara Abadi (PAb) and Pusara Aman (PAm) in Singapore, the practice of exhumation and grave recycling among Muslims has revealed some complications especially in terms of the management, which have been described earlier. It can be said that grave recycling should only be adopted in local public cemeteries as a last resort.
2.4.2 External transformation

The external aspect of the transformation can be described as a necessity for the operation of Muslim cemeteries to correspond with current issues. The discussion on the external transformation can be divided into four parts. The first two parts are specifically dealing with the management aspects which have never been discussed in detail, whereas the last two raise some concerns about how cemeteries can be further improved. The list of the discussion is as follows:

- Incompetency in managing waqf land
- A matter of location for urban cemeteries
- Lack of cooperation between government and private sectors for the betterment of burial infrastructures
- Lack of study on the relationship between cemeteries and the city

2.4.2.1 Incompetency in managing waqf land

Megat Abdul Rahman and Othman in the Malaysian Journal of Real Estate explain the Islamic concept of waqf, which refers to the offer of land for the common good of Muslim society including cemeteries (2006). According to Megat Abdul Rahman and Othman, the distribution of collective funds and properties by nazir institutions has not been successful due to several reasons such as various legal issues, accessibility, physical characteristics, illegal occupation, title registration and poor database management. The authors have suggested a National Foundation of Waqf Properties (YHWK) be established in order to solve this matter; this approach has been practiced in other countries such as Singapore. The development of waqf land in Malaysia does not meet the expectation of ummah due to the location factor. Most waqf land is not available for development and this has contributed to the dilemma of land shortage for Muslim burials. This has also revealed that there is still available land that can be used around KL despite the challenges of finding the best location.

<table>
<thead>
<tr>
<th>No.</th>
<th>State</th>
<th>Specific Waqf (Acres)</th>
<th>General Waqf (Acres)</th>
<th>Total (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>133.12</td>
<td>304.66</td>
</tr>
<tr>
<td>2</td>
<td>Federal Territories</td>
<td>5.47</td>
<td>22.07</td>
<td>27.54</td>
</tr>
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<td>43.01</td>
<td>247.44</td>
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<tr>
<td>4</td>
<td>Sarawak</td>
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<td>-</td>
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</tr>
<tr>
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<td>-</td>
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<td>6</td>
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<td>14</td>
<td>Pulau Pinang</td>
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<td>67.05</td>
<td>89.26</td>
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<tr>
<td></td>
<td>TOTAL</td>
<td>14,815.787</td>
<td>5919.83</td>
<td>20,735.61</td>
</tr>
</tbody>
</table>

Table 2.10 There is 27.54 acres of waqf land in the Federal Territories, which includes KL, Putrajaya and Labuan

Source: The Investment of Waqf Land as an Instrument of Muslims' Economic Development in Malaysia (Hasan and Abdullah, 2007)
2.4.2.2 A matter of location for urban cemeteries

Cemeteries are expected to play an important role in improving the quality of urban living especially for city dwellers. Recently authorities are inclined to extend the garden concept inside cemeteries to other states in Malaysia (Pinvader, 2012). This initiative is improving the poor conditions in Muslim cemeteries. Other than enhancing the cemetery’s environment, such efforts are also expected to reduce negative public perceptions towards cemeteries as an undesirable place. Moreover, an upgrade to the surrounding landscape will also provide opportunities for people to use cemeteries for recreational purposes other than the existing public parks and green areas. As an example, public cemeteries and memorial parks in KLMA are commonly found to be located far away from the city centre but close enough to attract public patronage. Even though public cemeteries in KL are normally open for the purpose of visiting the graves only, this may no longer be the case in the near future.

The intention of making cemeteries part of accessible public space is a great idea to increase the number of green open spaces in KL. However, it would probably have been done without much awareness from the authorities. It should have been done a long time ago in all public cemeteries around KL. This is important so that human wellbeing can be balanced with the optimum urban environment (Ahmad, Ahmad and Abdullah, 2009). Though it is still uncertain whether such a concept is tenable, nevertheless poor maintenance is still a common issue in public cemeteries. A lack of maintenance inside the cemeteries’ compounds will remain the main obstacle to people patronising cemeteries. Even with well-maintained cemeteries, the success in promoting cemeteries as part of recreational space is not certain as there is no definite attraction which might serve as the magnet. A case study in Taiwan has shown that people’s motivation to go to landscaped cemeteries varies (Huang, 2007).

There is no doubt that location could play an important factor in allocating cemeteries in the city. However, public cemeteries have always been designed in a way that they should be concealed from public view by the authorities. The CCPG which was prepared by JPBD has outlined the requirement for buffer zones between residential areas and public cemeteries for hygienic purposes, as well as to screen the unpleasant view (JPBD, 2011, p. 5). The fact is that, the location of public cemeteries in KL is only important for accommodating burial function and funeral ceremonies. Despite variations in the preparation of the body for burial among different ethnic groups, an efficient transportation system has aided the movement of bodies between home or the mortuary and the burial site.

It seems the distance of cemeteries from urban settlements has a relatively small effect on the way they are being used. This is due to the fact that authorities still persist to maintain the separation between cemeteries from the urban fabric. In other words, it does not matter where cemeteries are placed in the city; eventually authorities are going to create the boundary between these two. However, this scenario is expected to change if authorities and bereavement services are willing to incorporate a wider group of users other than for burial purposes. People that happen to or will be living or working within a close proximity of the area are the ones that should be given more consideration in determining the placement of cemeteries.

A current trend in the development of urban cemeteries has revealed two growing patterns emerging in KLMA. Firstly, new sites for Muslim cemeteries are being situated on the outskirts of cities by authorities such as S9MC and TSMC. Secondly, there are five memorial parks situated on the fringe of KLMA including Rawang Memorial Park, Subang Lutheran Garden, Shah Alam Memorial Park, Nilai Memorial Park and Semenyih Me-
morial Park. The two patterns suggest that there is a definite move on the part of local authorities to situate cemeteries away from urban city centres like Kuala Lumpur. This can also be seen as a logical step driven by a desperate need to provide crucial space in the dense urban fabric of ever-expanding suburbs.

Another impact that this trend is likely to have, is on family visits to the graves themselves. Whilst locating Muslim cemeteries away from residential neighbourhoods will alleviate certain problems relating to space, it will certainly cause other problems with regards to the ease with which graves might be accessed, visited and tended. There are two consequences predicted in the future if the same pattern persists in developing urban cemeteries beyond KLMA. Firstly, the obvious effect is extending the time of travel. This will be a major disadvantage on behalf of families and relatives when visiting their beloved graves due to the great distance that is required to get to the destination. Even though transportation in KL has improved in recent years, however, it will no longer be feasible for people to do so.

Secondly, the longer time needed to make the journey to cemeteries has become normal in Malaysia, so there is a chance that grave visits will to be dismissed culturally and forgotten by Muslims as part of their burial practice in the future. As a matter of fact, in the age of technology people have found another way to remember their loved ones through digital means such as online memorials which can be shared among family members even though they live apart from each other (Wright, 2014, Kalem, 2012, Kylie, 2004). Therefore, a suitable location for cemeteries can be regarded as a complicated matter to the bereaved family particularly when it comes to grave visits as it is to its surrounding context. The location of land has a significant effect on its use as a place for burial regardless of where it is situated in the city.

2.4.2.3 Lack of cooperation between government and private sectors for the betterment of burial infrastructures

There has not been any cooperation established between the government and private companies in finding a solution to these problems. Lack of common ground, conflict of interest, different institutional concerns and motives between privately-owned memorial parks and municipal-owned public cemeteries, seem to be the main reasons for the lack of cooperative ventures between both sectors. The fact is that public management of cemeteries could learn a great deal from their counterparts in the private sector. The vast differences between public cemeteries and memorial parks can be seen in terms of systematic burial grounds as well as the surrounding landscape. For example, typical public cemeteries in KL do not normally have a directory board, causing confusion among visitors when navigating their way around. This situation reflects the lack of planning in the preliminary stages of burial grounds. The situation becomes worse after a long period of time, where the cemetery’s ground will be heavily covered with various types of shrubberies and trees planted near graves. In contrast, the landscape setting and burials sections in memorial parks are very well organised compared with the ones found in public cemeteries.

The domination of particular religious faiths in each burial ground represents another factor. In KLMA, memorial parks and public cemeteries are normally open to Buddhists, Christians and Hindus, whereas Muslims are limited to burial facilities provided by the government. Muslims typically avoid memorial parks in their desire to minimise expense and limit the commercialisation of their funerary culture. Hence, this pattern of monopolisation has to be addressed to avoid further resistance and complication in the future. Therefore, shared burial grounds that help to harmonise the agendas of government-owned and privately owned facilities should be promoted. Furthermore, the collaboration between public and private sectors has been outlined as the
backbone for development in Malaysia (Abdul Karim, 1996). A search for common ground between public cemeteries and memorial parks will help to realise this vision.

Perhaps there is something that can be done between these competing bodies and the local authorities. In his interview with *The Star Online* dated 18 January 2012, Mayor Tan Sri Ahmad Fuad Ismail of KL claimed that involvement from stakeholders was necessary if the management of urban cemeteries was to surmount its many challenges. According to Ismail,

> If we come to a situation where land becomes scarce, then we have to think of an alternative burial method, perhaps two-tiered or outside of Kuala Lumpur. But this will be done accordingly with the relevant stakeholders involved. (Aziz, 2012)

Another source from the local media stated the problem of land shortage for Muslim burials could be solved through implementation of the tiered cemetery (Mohamed Idris, 2007; Mohamed, 2004; *Utusan Online*, 2008a).

A former minister of Selangor, Dr. Mohamad Khir Toyo, has suggested that new burials be held under huge electrical pylons, which might signal another creative approach (*Utusan Online*, 2008b), whereas authorities are enthusiastically turning burial spaces into landscaped cemeteries (Khalid, 2007b). This kind of change reflects a similar concept to that used in memorial parks and could lead to the privatisation of public cemeteries. Though some of these ideas are not currently being practiced, there remains a range of solutions available. For example, one of the main concerns by *nazir* institutions is to boost the Muslim share in the economic sector. Hence, the management of Muslim memorial parks would be considerably improved by the profitable use of *waqf* land, with official Islamic approbation of course.

In term of professional involvement outside the design field, there are some articles related to Malaysian cemeteries; however, they do not specifically address the spatial issues for burial. For example, Omar, Ishmail and Majeed reported on the benefit of using a geographic information system (GIS) application to identify suitable land in the city for burials. (Omar et al., 2007). Even though GIS is reliable for allocating suitable burial ground based on land profile and usage, it only deals with the extrinsic part of the issue. GIS applications do not deal with the internal issues that occur within cemeteries such as overcrowding or grave arrangement. *Utusan Malaysia Online* has also reported on a plan to use a global positioning system (GPS) application known as *e-pusara* (e-tomb), which serves as a guide for people in tracing graves during their visit (Rosly, 2011). However, the use of this application won’t be necessary if public cemeteries have been equipped with signage which assists visitors to find their way around. Authorities should be able to rectify this problem in the first instance by adopting a clear layout for cemeteries where graves are systematically indicated. There is no doubt that technology can make life easier. However, in this case, the task in designing burial spaces is supposed to be done in consultation with practitioners in the design field such as landscape architects and urban designers. In fact, these professions have a big responsibility in reinterpreting urban cemeteries, as well as redefining the new burial practices in KL’s present context.
2.4.2.4 Lack of study on the relationship between cemeteries and the city

Despite having better facilities and well-kept environments, memorial parks are still opening their beautiful surrounding landscape to deceased family members only. The management still refuses entry to the public into memorial parks, as the interests of the bereaved family members have to be protected. The same situation exists in public cemeteries, where people are restricted from entering the cemetery ground except for the purpose of visitation. Despite these restrictive practices, memorial parks and public cemeteries must be encouraged to recognise a broader role within the urban environment. In this way, the significance of urban cemeteries to the whole city's citizens cannot be neglected.

In the era of urbanisation, urban cemeteries have to be appreciated not only because of its definite function but also as a 'place'. This can possibly be achieved by making urban cemeteries a place of interest due to unique cultural value and historical background (Joga, 2002). However, it is important to emphasise that open cemeteries would not necessarily attract more visitors; the main intention here is to create opportunity and make full use of available green space in the city for the purpose of public recreation. Further, cemeteries serve as a conservational parks due to their role in promoting rich biodiversity in the city, which is done by the educating public (McKinney, 2002). In other words, land shortage for burial isn't so much a problem if people start to look upon urban cemeteries as more than just a place for the dead. People would probably look more sympathetically upon cemeteries if they enriched the overall quality of urban life.

The last study on Muslim cemeteries in Malaya was conducted in 1980, and conducted by Bougas. In his book, Bougas focused on the significant historical aspects of Malay cemeteries in Patani, which can still be traced in Malay burial practices to the present. However, it is hard to find any discussion or writing about Malay cemeteries, especially in the context of urban growth. Three decades after Bougas’ publication, Muslim cemeteries still retain many of their characteristics, with little human intervention. So what KL has at the moment are burial grounds which reflect outdated design principles and practices. There is a huge void that needs to be filled regarding the study of Muslim cemeteries in relation to the city.

Omer has written about the origins and significance of funerary architecture in Islamic civilisation (Omer, 2008). His book mostly studies past events in tracing the foundation of Islamic funerary practices across different regions of the world. Omer does not discuss the integration of Muslim cemeteries into urban space, but traces the factors that contribute to the proliferation of funerary architecture throughout Muslim culture. Thus, there is no thorough study being conducted to understand the progression and correlation between Muslims, cemeteries and the city. The planning aspect of Muslim cemeteries in the city ought to be investigated in order to reveal the potential of burial spaces in modern KL. In doing so, this thesis investigates several cities inside KLMA, including Petaling Jaya and Putrajaya. This study also focuses on Singapore and Jakarta in order to see how burial spaces for Muslims are being administrated in comparison to KL.

Other available studies about Muslim cemeteries are mostly written from the Islamic perspective, which is limited to the religious practices. For example, a book titled Kematian dan Pengurusan Jenazah (Death and Funeral Management; Hashim, 2007) is a ceremonial guide source for Muslims to conduct funerals in accordance with Islamic teaching. The book also states rules and laws in Islamic burial that have to be observed by Muslims. There have been many books of similar content written for Malaysian readers and audiences that emphasise the same messages. In this book, Hashim clearly demands that Muslims adhere to and comply with Islamic tenets by not intermixing burial practices with other cultural practices. The book is very much
concerned with drawing the line between cultural and religious practices among Muslims.

2.5 The next challenge for Muslim cemeteries

There are two main questions that Muslim cemeteries should be focusing on in the future. Both questions will be explained in the following sections.

The question of purpose

Answers to the issue of land shortage and lack of space for burials could easily be proposed by providing new lands as a replacement to the old cemeteries, as well as by adopting more efficient techniques and effective methods of doing burials that best suit the local culture. Even though both issues will not necessarily be solved by introducing extra functions inside public cemeteries, it would likely shift people's perspective towards urban cemeteries as a desirable place to be in the city. Moreover, the maintenance of public cemeteries has sometimes been taken for granted by local councils. The nature of the cemetery as a dead and unattractive place also explains the above perceptions normally associated with this sacred space. By opening up cemeteries for public access one would expect management to address the issue of poor maintenance, which seems less urgent due to lack of visitors into the area. This step would also allow public cemeteries to be continuously used by people even after they have become inactive.

Therefore it is important for authorities to incorporate this secondary use of public cemeteries into its planning right from the beginning. The primary and secondary use of cemeteries has to be planned and built at the same time. Retrofitting landscape elements into cemeteries for secondary use at later stages could still be done. However, it will not leave much room to meet that purpose, which would also reduce the chances of people coming to use and enjoy themselves within cemeteries.

Perhaps it is time for KL to reconsider the way cemeteries are designed and used. There have been many examples where cemeteries are being practically used to provide indoor communal activities, as well as outdoor recreational activities. For example, Wilbury Hills Cemetery (WHC) in the UK is a model that takes advantage of both indoor and outdoor approaches to its secondary use, something that can be adopted in local cemeteries. WHC utilises hybrid functionality within the cemetery by providing communal amenities and facilities for public use (mæ LLP Architects, 2007; JICCM, 2006). Here, the role of a cemetery has become more than just a place for burial; rather, it represents a place for gathering and education as well.

Fig. 2.52 Images of WHC showing the use of pavement as a multiple outdoor space for public use attached to the building facilities

Source: Wilbury Hills Chapel and Cemetery (mæ LLP Architects, 2009)
Even though cemeteries supposedly could be treated in a similar way to other public spaces for secondary use, this comes with some limitations. There is normally a division that clearly separates public and private space and its usage within the cemetery's area. To conclude, public cemeteries in KL should encourage public access as one way to prevent burial grounds from turning to decay, especially right after cemeteries have reached their capacity.

The question of identity

There is no question of prioritising burial practices according to different ancestries, as the objective of this research is to address the common issues faced by Malaysian Muslims in general. The purpose of this research is to include a wider group of Muslims in KLMA, encompassing diverse ethnic and cultural backgrounds with their own unique burial practices. Even though this research focuses on Malay-Muslim graves as the principal subject of interest, the presence of minority Muslim graves from various ethnic groups other than Malay-Muslim deserves some worthy attention. As an example, in newer cemeteries such as KLKMC, a grave belonging to a Muslim immigrant was found within the burial ground. Figure 2.53 shows that the grave belonged to a foreigner who died in Malaysia. This also raises the following question about the identity of graves that should be found in Muslim cemeteries. Despite the strict regulations enforced over graves by management, it is unlikely that graves will be allowed some diversity, as previously done. Will this be the case for Muslim cemeteries in KL in the coming future?

Furthermore, recently authorities have been keen to build Muslim cemeteries using a park concept. The spread of funerary architecture in Islamic civilisation has witnessed the incorporation of planting as well as water elements that surround mausoleums and shrines (Omer, 2008). Even though the idea of locating graves within a garden setting is nothing new in Islamic tradition, in Malaysia this concept is commonly practiced as an individual representation over the graves rather than collectively exhibited. Most of the graves in Muslim cemeteries in KL are decorated with personal ornaments. However, in recent years, the holistic approach of using gardens in Islamic cemeteries has begin to emerge in KLMA. Might we see a Muslim memorial park exhibiting the concept of Islamic garden in KLMA?
Chapter 3: Literature Reviews, Interviews and Site Visits

The three main aims of this research that serve as guidelines are to firstly, initiate the process of regeneration of urban cemeteries in Kuala Lumpur Metropolitan Area (KLMA); secondly, to identify transformation as the key concept in the regeneration of Malay-Muslim funerary practices; and lastly, to identify the potential impacts of such research within the broad processes of urban renewal within the extended region of Kuala Lumpur (KL). The research methods adopted in this thesis include a survey of literature reviews, recorded formal and informal interviews, and site visits within Malaysia and abroad.

The literature reviews presented in this chapter cover four main themes that touch on the aspects of history, key characteristics of cemeteries, sustainability of Muslim cemeteries, and alternative methods to full body burial. Set questions were prepared prior to the formal interviews in order to acquire specific responses. The informal interview, on the other hand, was performed spontaneously without preparing any questions in advance. Six interviews were conducted with different individuals including a representative from the local community, a government agency, private companies, the tertiary sector, and a grave builder. (Refer to Appendix 1 for the complete transcripts of the interviews.) These three methods have been used in this thesis by focusing on the three main aims mentioned earlier in order to develop answers. As for the site visits, there are two categories of case studies which have been previously explained in Chapter 1 under subheading 1.7.2.

3.1 Historical studies of cemeteries

This section of literature is focused on the historical aspects of cemeteries and funeral practices, mainly from the perspective of Western views as well as the Islamic point of view. This will be followed by a discussion on the significance of historical funerary sites in human civilisation, before presenting the historical background of Malay-Muslim cemeteries that is supplemented by two case studies.

3.1.1 The history of Western funerary and cemeteries

During the early 19th century, garden cemeteries became a solution to the issue of overcrowding in graveyards. In the Western world, the design and creation of these cemeteries is occurring. A combination of man-made and natural landscapes has changed the grim aspect associated with cemeteries; once overcrowded and bleak, now pleasant and inviting (Curl, 1980).

Paris's Père-Lachaise, an utmost precedent to the development of Western cemeteries

In French, the association of cemeteries with gardens was first tested in the creation of Père-Lachaise in Paris (Curl, 1980). Père Lachaise is one of the most prominent cemeteries in the history of modern cemeteries.
Renowned for its splendour, beauty and amazing panorama, Père-Lachaise became a popular destination for tourists, enticing travellers from all across Europe and as far as America (Sloane, 1991). Built in 1804, Père-Lachaise served as the template and further refinement for the development of cemeteries in England and America (Sloane, 1991, Curl, 1980). Père-Lachaise is well known for two famous qualities: firstly, its urban characteristic and secondly, its Arcadian landscape (Curl, 1980). The style of Arcadian landscape later went viral in American funeral landscape. Americans loved the sentimental quality found in Père-Lachaise, and it was imitated across all American cemeteries (Curl, 1980). Moreover, grave identification through systematic numbering originates from Père-Lachaise in Paris, which was adopted all across European and American cemeteries (Curl, 1980).

The development of English cemeteries in the 19th century

The cult of individualism, driven by the Renaissance era, as well as the demolition of charnel houses between the 16th and 17th centuries, have both contributed directly to the growing crisis of graveyard overcrowding in Victorian England. The concept of permanent grave ownership, which began during the Renaissance, has accelerated the process of appropriating the cemetery landscape for graves (Curl, 1980). In early 19th century England, cemeteries were located on the outskirts of towns and cities because of several Burial Acts prohibiting intramural interment within the church. This opened the way for the establishment of some of the most acclaimed cemeteries in London, such as Kensal Green (est. 1832) and Highgate (est. 1839). Kensal Green and Highgate are among the earliest examples that bear witness to the separation of churches and graves in England. Moreover, these cemeteries have been highly acclaimed for adding great character to Victorian urban architecture as well as to the landscape (Curl, 1970, p. 135). In the West, Père-Lachaise Cemetery in Paris set the standard in attractive cemetery design.

John Claudius Loudon, and the Garden Cemetery Movement in England

Loudon is one of the prominent figures who have contributed to the development of cemeteries in England. According to Curl:

   Loudon believed that architecture, beauty, scale, and style were not concerned with aesthetics, but with fitness for function. (1980, p. 260)

As a Scotsman, Loudon was very concerned with the practical aspect of cemeteries. For example, Loudon detested the impracticality of invisible lines to define the boundaries between grave plots. They did not precisely delineate individual plots, causing confusion and leading to inaccurate record-keeping. The same problem of chaotic confusion can be found in most Muslim cemeteries in KLMA, where imaginary squares were applied under the method of Silang Tikar. Loudon suggested that this could be rectified by laying out walkways against the existing tombs within the church compounds. Furthermore, he suggested that abandoned church grounds be converted into gardens by introducing more plants. Loudon also advocated for land expansion in order to provide more burial space (Curl, 1980).

Loudon promoted some of the basic guidelines in planning a cemetery that touched on many aspects of desirable characteristics of cemeteries especially in terms of location, quality of soil, perimeter structures and the systematic identification of graves (Curl, 1980).
Location—in terms of location, Loudon suggested that cemeteries be located away from where people live, preferably on high ground and exposed to ample sunlight.

Soil condition that accelerates decomposition—as well as location, Loudon was also particular about the drainage system and keeping the public water supply safe from contamination. He preferred the characteristic of the soil to be chalky and gravelly, which helped to accelerate the process of corpse decomposition.

Walls and fences—Loudon stressed that the use of fences around cemeteries was for security reasons and that the wall should ideally be erected 10 to 12 feet (3.0 m to 3.6 m) in height in order to give a unique architectural character to the cemetery.

Sections and sectors—the labelling of the graves using systematic sections and sectors as found in Père-Lachaise has also been employed by Loudon in cemeteries in England. He ensured that cemeteries were split into sections and then separated further into patches so that graves could be recognised effortlessly (for example sector A, plot 3, etc.). This consistency would allow for efficient administration and record-keeping.

Accessibility—He stressed the importance of ease of access within the burial space. Every corner of the cemetery must be reachable through properly-linked internal roads. In a practical sense, this would easily enable maintenance work; aesthetically, it would achieve a pleasant environmental effect. Loudon also suggested that burial plots be furnished with broad walkways, designed to address the percolation of water run-off.

Softscape—Loudon favoured ‘soft’ landscape vegetation, that is, planting which would not act as a wind break and which would allow penetration of the sun’s warmth. Moreover, he recommended that specific shapes and types of trees be planted within cemeteries, preferably those with pyramidal form and shadowy leafage, in order to enable air and light into the space. Loudon advocated for evergreen rather than deciduous plants, instinctively realising that evergreens were more appropriate and sympathetic to the sacredness and ceremony of a cemetery. On a more practical note, evergreen trees also require less maintenance than deciduous ones, especially during winter. Cemeteries also serve horticultural enthusiasts with various types of plants found in arboretum areas (Curl, 1980).

The development of American cemeteries in the 19th century

The issue of overcrowding for burial in church grounds not only occurred during Victorian England, but a similar scenario was observed in the pre-rural cemeteries era in America where public graveyards were in a deplorable state. As mentioned by Tobey, interment at the graveyard was a challenging task because of overcrowding (1975). Moreover, the condition of the church was found to be dull and totally unremarkable, with no distinguishing characteristics normally incorporated into modern urban development (Tobey, 1975).

In West greater emphasis began to be placed on the beauty of the natural environment surrounding the burial site. The Romantic tradition altered the European perspective on mortality; macabre associations were replaced with charming, emotional ones. The customary celebration of funeral rites was no longer perceived as the central theme of mortality; the attention shifted to the bereavement and grief experienced by the living. This change of viewpoint has been personified through the development of the rural cemetery (Sloane, 1991).
Historically, from the American viewpoint, ‘cemetery’ is an unfamiliar word, only gaining attention circa 1830 (Sachs, 2010). Sloane described the term cemetery as Greek in origin, meaning ‘sleeping chamber’ (1991, p. 55). The term was not widely used until the 19th century, it was adopted by pioneers to mark the status of rural cemeteries from the early graveyards (Sloane, 1991). During this time, cemeteries were regarded as preferable places of burial to the poorly maintained church-administered graveyards. (Sachs, 2010).

The creation of cemeteries can be seen as a great shift in the urbanisation of American society, not only providing a dignified resting environment for the departed, but also creating a place of tranquillity for the enjoyment of the public (Sachs, 2010). The hybrid function of cemeteries demonstrated that the combination of the dead and the living within a single space can be traced back to early 19th century America, when the rural cemetery was at its peak (Sloane, 1991, p.64).

Rural Cemetery

Mount Auburn was the first landscaped cemetery in America, pioneered by the Massachusetts Horticultural Society in 1831. The characterisation of Mount Auburn as a ‘rural’ cemetery was hugely influenced by the European style of scenery-making (especially French and English). The successful invention of Mount Auburn has stimulated the implementation of other rural cemeteries throughout the nation, and later induced the establishment of urban parks in America. As a matter of fact, rural cemeteries were considered the prototype that actually led to the establishment of urban parks throughout America (Sachs, 2010). Originally, the Massachusetts Horticultural Society bought the Mount Auburn land for the purpose of creating an arboretum. However, the area was converted to burial grounds in order to provide an alternative to the escalating issue of burial inside the church graveyards (Tobey, 1975).

Mount Auburn set new standards for the further development of urban cemeteries in America, primarily through the provision of dignified resting places for the deceased and green spaces for the living (Sloane, 1991). The separation of burial ground from the church is a turning point for the funerary practices in America. There are three significant features that distinguish rural cemeteries from graveyards. Firstly, cemeteries are located at a greater distance from the city to accommodate for the city’s growth. Secondly, cemeteries are situated within attractive surrounding landscapes. Finally, the cemetery is now open for public use and interaction (Tobey, 1975).

The concept of rural cemeteries in Mount Auburn has inspired the creation of other similar cemeteries such as Greenwood in Brooklyn, Laurel Hill in Philadelphia and Spring Grove in Cincinnati (Tobey, 1975). Many founders of the new urban cemeteries successively duplicated the model of rural cemeteries in other major cities including Philadelphia, New York, Brooklyn and Albany (Sloane, 1991). Moreover, Mount Auburn incorporates the embodiment of revolutionary concepts such as the coalescence of corpses with mother earth. It was suspected this notion originated from the funerary customs of indigenous people in North America, and not from Europe (Sachs, 2010).

The recognition of Mount Auburn as a place to attract visitors had reached its climax by the late 1830s. By this time, Mount Auburn was known for the strong impression it left on people, luring visitors into and through its surroundings. There have been many publications praising Mount Auburn as the most visited tourist destination within the district (Sachs, 2010). Andrew Jackson Downing’s writings relating to public parks and gardens between 1840 and the early 1850s, provide a straightforward discussion on the accomplishment of
rural cemeteries like Mount Auburn and Greenwood, which offered leisure facilities to all people, regardless of their background. This, in all likelihood, influenced the creation of Central Park (Sachs, 2010).

There was a demand for Mount Auburn to be opened for the enjoyment of minority groups such as African Americans and Jews. However, this progressive thinking only led to a small group of people participating in the enterprise (Sachs, 2010). This event marked an early effort in making cemeteries democratic spaces, regardless of the users’ cultural backgrounds.

**Lawn Plan**

About a decade after the first appearance of Mount Auburn, the Lawn Park cemetery replaced the rural cemetery. The Lawn Park was Adolph Strauch’s brainchild and this emerging trend gained much attention from landscape architects, directors and landowners (Sloane, 1991). Spring Grove became the place intended for Strauch’s Lawn Plan (Tobey, 1975). Strauch acknowledged the primary role of a cemetery as a place for the dead rather than the living. This has been demonstrated through necessary features focusing on the systematic arrangement of graves, as well as controlling the surrounding environment from dominating the landscape. A significant characteristic of a Lawn Park is the vast expansion of cemetery ground made into an open field with few trees. In addition, memorial statues and structures would be arranged in a more regimented order (Sloane, 1991).

Strauch’s Lawn Plan concept is very much concerned with providing a satisfying visual experience to the user by maintaining a clear vision throughout the cemetery. This effect can be achieved by making sure that the use of monuments for a single burial plot is complimentary to the horizontal aspect of the landscape (Tobey, 1975). In comparison to traditional Muslim cemeteries in KLMA, gravestones are normally found set against the landscape. Conversely, gravestones in Muslim cemeteries are commonly erected vertically. This situation is surely in conflict with Strauch’s aspiration of preserving an unobstructed view within the cemetery. Strauch also pointed out that in the event of a pending tombstone, a plant may be used as a substitute, serving as a monument for the grave. He explained that the international collection of trees planted over graves would technically constitute an arboretum (Tobey, 1975).

The concept of a Lawn Plan advocated by Strauch has promoted further use of cemeteries as places of recreation though the maintenance of green patches, the enhancement of natural beauty and the incorporation of botanical gardens into the area. Lawn Plan has successfully lured tourists from a great distance to Spring Grove due to its enchanting nature and beautiful landscape. Millions have visited Spring Grove since it was opened to the public, with 26,000 tourists in 1859 and the figure increasing to 250,000 in 1880 (Ford and Ford, 1881, p. 6). Spring Grove has successfully proven that a cemetery park is capable of providing a public domain with recreational places, complementing its other function as a resting place for the dead. Strauch’s main contribution in providing for the needs of both the living and the dead at the cemetery was made possible through his idea of a Lawn Plan. This concept has been adopted and carried on by future landscape designers (Tobey, 1975).

**Memorial Park**

Hubert Eaton’s endeavour was to restore memorial parks such as Forest Lawn to the golden age of rural cemeteries as places of public interest. By this time, cemeteries were no longer receiving huge patronage, and
had begun to lose their fascination due to the increasing popularity of large outdoor areas. The widespread use of public gardens and parklands marked the downfall of the Lawn Park after the end of the American Civil War (Sloane, 1991). The Lawn Park was succeeded by the memorial park, and Forest Lawn is a great example of a memorial park initiated by Eaton in America. Even though memorial parks retained the same kinds of regulations, restrictions and cautions that were previously applied within cemeteries, however this new type of burial ground incorporated new features and buildings, hoping to draw people in. For example, a museum was been added to Forest Lawn in order to encourage learning (Sloane, 1991).

The construction of memorial parks is usually divided into phases. An enchanting statue that corresponds with the communal virtue of each division, will accentuate the lawn more than the surrounding landscape as its central concept. Memorial parks are even considered to have less maudlin overtones than rural cemeteries where the sense of sentiment is overwhelming (Sloane, 1991).

Initially memorial parks in America were exclusively intended for the white Christian majority. This practice was later superseded as the provision was made by the administrator of memorial parks to equally incorporate the minority groups of various faiths and backgrounds (Sloane, 1991).

3.1.2 The history of the cemetery as a recreational space in Islamic traditions

This section will emphasise the integration of recreational value within the sites of funerary monuments in Islamic civilisations.

The concept of paradise in Islamic garden

A Garden or rawda is literally described in the Quran as the setting to paradise, a pleasurable place for faithful Muslims to dwell and rejoice in the Hereafter.

So Allah rewarded them for what they said with gardens [in Paradise] beneath which rivers flow, wherein they abide eternally. And that is the reward of doers of good (Quran, Surat Al-Mā‘īdah 5:85).

Allah will say, “This is the Day when the truthful will benefit from their truthfulness.” For them are gardens [in Paradise] beneath which rivers flow, wherein they will abide forever, Allah being pleased with them, and they with Him. That is the great attainment (Quran, Surat Al-Mā‘īdah 5:119).

Muslims have since attempted to capture this metaphor of paradise and make it a reality through the expression of living gardens. According to Ruggles, the concept of garden as paradise in Islamic tradition never quite materialised, until it was used in Muslim tomb construction (2011). The placement of tombs inside a garden exemplified the notion of paradise in the Afterlife, reflecting on earth, the sacred verses of the Quran. In other words, the personification of heaven through living gardens was achieved by incorporating the dead into the same spaces (Ruggles, 2011).

The incorporation of tombs into gardens saw the growth of idyllic imagery in relation to the idea of paradise. The garden serves as a place of eternal bliss to the dead soul as well as to the living. Both elements provide a meaning for the other's purpose in a way that is inextricably linked (Ruggles, 2011). In Islamic funerary culture
the concept of a paradise garden is demonstrated on a vast scale through the development of landscaped tombed gardens; on a smaller one, through the skyward movement of climbing plants, which imitate the ascension of a dying spirit towards heaven (Ruggles, 2011).

Spatio-temporal of ‘death’ and ‘landscape’ in Islamic garden

In Islamic culture, gardens are commonly used as resting places for patrons, imperials and holy saints. This well-known practice of burial gardens was popularised during the Mughal and Timurid Dynasties. Funerary architecture has been erected in many areas of Abbasid, Seljuq, Tughluq and Ottoman, where gardens have been adopted as final resting places for monarchs and rulers (Ruggles, 2011). It is necessary to clarify the ambiguity surrounding the analogy and typology of garden burials in Islamic traditions. The word ‘death’ in the subtopics refers to dead bodies that were laid within a particular ‘landscape’ setting. From the historical evidence, the landscape is pertinent to the types of environment that surrounds the ‘death’. Such landscapes may include gardens, complexes and courtyards; it may even refer to the state of these places being verdant (Ruggles, 2011). As for the ‘death’, Ruggles used architectural terms to describe the type of buildings occupied by the dead, ranging from tombs, monuments, mausoleums, sepulchers, shrines, hazira and pavilions which contain tombs (2011). The ‘death’ structures in Islamic funerary tradition are immensely diverse despite the fact that they are prohibited by Islam. Therefore, the use of these terms is interchangeable to explain the spatial relationship between ‘death’ and ‘landscape’ in this study. However, tomb and garden have been utterly employed by Ruggles as a substitute for the two. Historical evidence suggests that the inclusion of tombs into gardens may occur in one of two ways—either simultaneously with the construction of the garden, or added at a later stage to the established garden (Ruggles, 2011).

There are many examples demonstrating the integration of tombs and gardens which can be traced through the history of Islamic civilisation as early as the 12th century. Some examples are shown in Table 3.1. The Table 3.1 clearly demonstrates the relationship of integrated tombs and gardens, showing where the ‘death’ structures are situated or enclosed within the ‘landscape’ setting. These multiple settings can be perceived as equivalent to the function of cemeteries, a concept that Muslims are familiar with today. Despite the examples in the table representing the nobility rather than common people, it clearly substantiates a long-standing association of the ideas of ‘death’ and ‘landscape’ in Islamic funerary architecture.

Informal landscape and formal landscape for tombs

Muslim tombs are found to coexist within informal and formal settings of the landscape. Historical evidence records that tombs and gardens have been constructed in various spatial compositions (Ruggles, 2011). Some of the examples of tombs with informal landscapes are the Necroplis of Chella at Rabat, the Timurid shrine complex at Gazur Gah, and the tomb of Sultan Suleyman, depicted in a pictorial source during the reign of the Ottoman Empire. Examples of tombs with formal landscapes are those of Sultan Sanjar in Merv, graves and tombs of Nasrid rulers adjoining the Court of Lions in Alhambra Palace, the tomb of Tughluq dynasty situated inside the Tughluq garden at Vasant Vihar, and the tomb of Humayun at Delhi (Ruggles, 2011). Both methods of organisation have proven that Islamic funerary culture is concerned with burying the dead within a beautiful and serene environment.

The marked distinction between informal and formal Islamic gardens lies in the difference between privacy and power. Ruggles described the difference:
<table>
<thead>
<tr>
<th>Century / Year</th>
<th>1. Type of ‘Death’ Structure</th>
<th>2. Rulers / Dynasties / Saints</th>
<th>3. Location</th>
<th>1. Type of ‘Landscape’ Setting</th>
<th>2. Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th–10th</td>
<td>Cemetery</td>
<td>Umayyad</td>
<td>Cordoba Alcazar</td>
<td>Open air enclosure (Rawda)</td>
<td></td>
</tr>
<tr>
<td>12th</td>
<td>Tomb</td>
<td>Sultan Sanjar</td>
<td>Merv</td>
<td>Built inside garden</td>
<td></td>
</tr>
<tr>
<td>1352</td>
<td></td>
<td></td>
<td></td>
<td>The first example showing spatial integration between tomb and mosque</td>
<td></td>
</tr>
<tr>
<td>14th</td>
<td>Tomb and mausoleum</td>
<td>Firoz Shah/Tughluq dynasty</td>
<td>Delhi</td>
<td>Built inside garden complex</td>
<td></td>
</tr>
<tr>
<td>1388</td>
<td>Graves / chambered tombs</td>
<td>Nasrid rulers</td>
<td>Alhambra Palace, Granada</td>
<td>Cemetery with open air setting / built in a small garden enclosure</td>
<td></td>
</tr>
<tr>
<td>1310–1334</td>
<td>Graves / tombs</td>
<td>Merinid rulers family members</td>
<td>Necropolis of Chella, located on a hill outside the walls of Rabat, Morocco</td>
<td>A funerary and commemorative complex / built inside a rectangular enclosure</td>
<td></td>
</tr>
<tr>
<td>14th</td>
<td>Tomb</td>
<td>Tughluq dynasty</td>
<td>Tughluq garden at Vasant Vihar, South Delhi</td>
<td>Built within enclosed rectangular complex</td>
<td></td>
</tr>
<tr>
<td>15th</td>
<td>Tombs</td>
<td>Sufi Shaykh ‘Abd Allah Ansari</td>
<td>Gazur Gah, Afghanistan</td>
<td>Shrine complex built within a walled, semi-enclosed area of gardens</td>
<td></td>
</tr>
<tr>
<td>16th</td>
<td>Graves (rest in pavilions)</td>
<td>Royal Sa’adian</td>
<td>Marrakesh, Maghreb</td>
<td>Built within a garden setting</td>
<td></td>
</tr>
<tr>
<td>16th</td>
<td>Tomb</td>
<td>Sultan Suleyman</td>
<td>Ottoman Empire</td>
<td>Funerary complexes built within a walled courtyard</td>
<td>Gathered from manuscript illustration <em>Tarikh-i Sultan Suleyman</em></td>
</tr>
<tr>
<td>16th</td>
<td>Tomb (in a form of garden pavilion)</td>
<td>Humayun/Mughal dynasty</td>
<td>Delhi</td>
<td>Built within a walled garden setting</td>
<td></td>
</tr>
<tr>
<td>17th</td>
<td>Shrine</td>
<td>Saint Sidi Muhammad al-Hajj al-Baqqal</td>
<td>Outside the Medina (the old walled city)</td>
<td>Built within a garden</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1 Spatial analogy between the type of ‘death’ structure and ‘landscape’ setting throughout the history of Islamic funerary architecture.  
Source: *Islamic Gardens and Landscapes* (Ruggles, 2011)
This integrated conception of architecture and landscape is quite different from the casual siting of the mausoleum or pleasure pavilion in a verdant, flowered environment in which the relationship is one of random juxtaposition. (2011, p.108)

Whilst informal landscapes present space for relaxation and tranquillity within the gardens, the formal landscape is none-the-less preferable because of the sense of order and grandeur that it brings. This can be witnessed in the creation of Humayun’s Tomb, Akbar’s Tomb and Shah Jahan’s Taj Mahal. Curl has also acknowledged the significance of Islamic funerary architecture in shaping the grand monuments dedicated to death, through the use of basic geometrical principles (1980). Landscape elements that normally feature in a formal arrangement of tomb gardens mainly include quadripartite and quadrant settings, chahar bagh and axial walkways. Chahar bagh was introduced by Timurid and is a segmentation of a garden layout using watercourses such as channels, cascades, square basins and reflecting pools.

Tomb gardens as part of a recreational space in Islamic culture

In the 16th century, the first Mogul emperor of India chose a river setting to build the great city of Agra. Babur’s decision resulted not only in the development of a magnificent riverfront city, but also in an innovative approach to Mogul gardens and tombs. Initially, the riverfront city began as a riverfront garden. The riverfront garden was later expanded, reaching its peak during the reign of Jahangir where there were as many as 30 riverfront gardens built. Each garden was planned extravagantly, giving the city its majestic, regal character (Koch & Barraud, 2006). Some of these riverfront gardens belonged to Agra’s elite and later become their resting places by erecting tombs within the complex (Koch & Barraud, 2006). The Tomb gardens of Afzal Khan, the Tomb of Parwiz Khan, the Tomb garden of Itimud-ud-Daula, the Tomb garden of Shah Jahan (Taj Mahal) and the Tomb garden of Jafar Khan are some of the fine examples displaying the correlation between tombs and riverfront gardens.

Historically, tomb gardens were not only built to accommodate the graves and tombs of prominent figures. Their purpose was also to enable other activities related to relaxation, recreation, learning and spiritual pursuits. There are many gardens and complexes in Islamic funerary culture which demonstrate the recreational value of cemeteries. This can be seen in the Timurid shrine complex at Gazur Gah and the Tomb of Humayun in Delhi (Ruggles, 2011). Participation of ordinary people in riverfront activities along Yamuna River, took place when the owner abandoned the garden residence after Shah Jahan was captured by his successor Aurangzeb. Since then, the riverfront gardens gradually opened to the public and there was a growing interest in swimming among the locals (Koch & Barraud, 2006). Another example is the use of the Tomb garden of Jafar Khan as a congregational space for the Triveni celebration by Muslims and Hindus during the monsoon period (Koch & Barraud, 2006). Thus, the idea of a space with tombs, used for other activities, is not really a modern construct. The concept of ‘modern cemeteries’ was already implemented many centuries ago.

Conclusion

In Islamic traditions, there are three key features to be borne in mind when preparing spaces for the dead. Firstly, cemeteries do not have to be located in a mundane environment. As a matter of fact, it is preferable to build cemeteries within a tranquil and beautiful setting, echoing the concept of paradise in the Afterlife. A Paradise garden is the absolute epitome of the Quran’s narrative of the Afterlife. Ironically, death serves as a link between earthly paradise and the living.
Secondly, cemeteries coexist closely with other landscape elements. Cemetery gardens share their landscape with walkways, pavilions, stepped terraces, and water features, as well as architectural buildings like prayer halls, *zawiyah* and *madrasa*. Moreover, the historical evidence has also shown that a well-balanced union of tomb gardens within a multi-purpose space can be achieved without major issues or conflict.

Finally, in Islamic traditions, a garden can be transformed into a place of commemoration. This is clearly seen through the practice of garden burials, with tombs able to be incorporated within the construction of a garden or added later to the landscape. For instance, tombs have been erected to occupy the central point within the existing garden or complex. In some cases, the tomb is either attached to the pavilion or concealed beneath it (Ruggles, 2011).

### 3.1.3 Collective identity of historical funerary sites

There are many historical examples demonstrating that funerary sites and monuments have been more than just memorials. For instance, the Koguryo Tombs in China and North Korea, the Kasubi Royal Tombs in Uganda and the Tomb of Askia in Mali—these historical sites have been recognised as World Heritage Sites by United Nations Organization for Education, Science and Culture (UNESCO) for their value as recreational spaces and sites of collective identity.

#### Koguryo Tombs

Koguryo was one of the most powerful kingdoms in Asia. The realm encompassed a vast area of the Korean peninsula and the state of Manchuria, now under Chinese rule. The Koguryo Tombs are comprised of 30 distinctive tombs scattered throughout this region and date from the 3rd century BC to 7th century AD. The tombs served as a resting place for rulers, emperors, nobility and kindred. Most of these tombs are decorated with wall paintings portraying the only surviving remnants of Koguryo tradition and way of life (UNESCO, 2015a).

The Koguryo Tombs have been recognised as precious assets to the historical development and national identity of North East Asian countries like China, North Korea and South Korea. Each nation claimed to have a close affinity with the Koguryo kingdom. For instance, the Koguryo kingdoms used to occupy Manchuria which is now located in the northeast part of China; as a matter of fact, two-thirds of Koguryo dominions are situated within this country. A study conducted by Beijing’s Chinese Academy of Social Sciences revealed a significant Korean contribution to the development of Chinese culture (Choe, 2004).

North Korea and South Korea claimed to have a close connection with this supreme dynasty since the Koguryo sovereign controlled the land in both countries. Whilst most of the important tombs of the Koguryo rulers are located in Pyongyang, none of them are found in South Korea (UNESCO, 2015a, Choe, 2004). South Koreans show great admiration of Koguryo in the same way as North Koreans, since Koguryo's customs and roots serve as a common source for both nations (Choe, 2004). Moreover, Japanese funeral practice is believed to owe its origin to the Koguryo tradition (UNESCO, 2015a).

Ancient burial complexes such as the Koguryo Tombs have provided a deep insight into the existence of modern day China, North Korea and South Korea, through historical documents showing the sophisticated progression of their culture. Thus, the Koguryo Tombs have been highly regarded as an emblem of collective
identity to these modern day countries.

Kasubi Royal Tombs

Geographically situated in the East African region, the Kasubi Royal Tombs is another important site that demonstrates a collective identity. This Tomb of the Buganda Kings resides on top of the Kasubi Hill in Kampala, capital of Uganda. Kasubi Tombs were inaugurated in 1884 and the site originally served as the official residence to Buganda rulers two years earlier. Imperial members and Baganda tribes venerate the Kasubi Tombs as holy shrines due to the site's status as the resting place of Kabaka. Buganda ceremonial rites are normally performed here.

The major feature of the site is the tomb's structure known as Muzibu-Azaala-Mpanga, which is the round hut crowned by a cupola housing the four kings of Buganda. Muzibu-Azaala-Mpanga is regarded as a sacred temple by Baganda tribes because of its reputation as a mediator between the mortal and the deceased, sustaining the relationship between kings and supernatural powers (Kigongo & Reid, 2007). It is believed that the souls of Buganda kings inhabit the confine room known as ekibira within Muzibu-Azaala-Mpanga. Ekibira or 'forest' is a hidden section of Muzibu-Azaala-Mpanga and it is only accessible to certain individuals who were related to the departed kings. Baganda tribes pay homage to these religious devotions by offering various kinds of sacrificial rites to ekibira (Moriset, 2011, Kigongo & Reid, 2007).

At the community scale, the olugya (courtyard) is also one of the most celebrated features of Kasubi Tombs. The courtyard is used for cultural and societal functions related to Buganda festivals until today. As stated by Kigongo & Reid;

"There are ceremonies regularly held at the site, which include, for example, the new moon festival, funeral rights, cleansing of royal objects, introduction of new members of the royal family, special political announcements and consultations. The importance of this continued ritual significance cannot be overestimated. (2007)"

Apart from participating in ritual ceremonies, Baganda tribes also take part in maintaining Muzibu-Azaala-Mpanga, with each clan given a specific task. For example, the Ngeye clan (colobus monkey clan) is responsible for thatching the roofs, Ngo clan (leopard clan) is responsible for decorating the poles, Nakisinge clan (brown grass finch clan) is responsible for maintaining the sacred fire, and Lugave clan (pangolin clan) is responsible for maintaining the royal drums (Moriset, 2011).

Thus, Kasubi Tombs have proven to be more than just a funerary and commemorative complex. More importantly, they act as a lodestone that continues to bear the identity and heritage of the Buganda Kingdom as a whole. The site has been declared by UNESCO to incorporate the impalpable character of Baganda cultural traditions and achievements in vernacular architecture (UNESCO, 2015b).

Tomb of Askia

The Tomb of Askia is located in the city of Gao in Mali and it was built by Askia Mohamed, ruler of Songhai Kingdom in 1495. Under Islamic influences, the construction of the Tomb of Askia was accomplished during the reign of Gao as the seat of Songhai Kingdom (UNESCO, 2015c). The site encompasses unique architectural
structures and cultural landscapes. There are minarets, shaped like a pyramid; a pair of prayer rooms with horizontal coverings; a cemetery; an enclosed perimeter wall; and an outdoor courtyard made of white stone. Similarly to Kasubi Tombs in Kampala, Uganda, the Tomb of Askia shows its communal purpose through the use of religious facilities (mosques) and a courtyard. This open courtyard serves as a common ground mainly used for mutual prayers during the celebration of Tabaski (*Eid ul-Adha*). The open space has also been used to conduct wedding functions among the populace (UNESCO, 2015c). Therefore, a historical site of commemoration such as the Tomb of Askia has proven to be instrumental in the creation and development of a local cultural identity.

3.1.4 Historical background of Malay-Muslim cemeteries

As early as the 14th century, Islam reached the shores of Peninsular Malaysia through Arab traders. Apart from doing business, Islam was introduced to the local population by these Arab traders. This new cult then attained the approbation of the ruling Sultan. Given the Sultan’s extraordinary influence in Malay society, the crown’s conversion guaranteed Islam’s place as the dominant religious creed on the archipelago. This dominance was strengthened when Islam was written into the Malaysian constitution as the official religion of the nation.

Where does KL begin in changing the practices involved in the construction of public cemeteries? In this thesis, regeneration refers to the revival of urban cemeteries through discourse which takes account of sociocultural, environmental and economic factors. The historical survey is useful for two reasons. In the first place, such a survey will identify some of the important developments which have decisively shaped the evolving design of Malay-Muslim cemeteries in Malaysia. By corollary, and in the second place, this survey will assist the thesis to foreground integral aspects of cemetery design and practice which have been neglected or forgotten. Therefore, this thesis will begin discussion of the regeneration process of urban cemeteries by investigating the origins of Malay-Muslim cemeteries in Malaysia.

Bougas’ account

In 1988, Bougas published his report about Muslim cemeteries located outside Malaysian boundaries. In his report, the Muslim cemeteries that were studied reflected the burial practices of a Muslim community in Patani, which is located in northern Peninsular Malaysia in the country of Thailand. The report has been recognised by the Malaysian Historical Society (MHS) as a significant contribution in understanding the practice of Malay funerary ritual. This acknowledgment of Islamic cemeteries in Patani as part of traditional Muslim burial grounds has shown that MHS accepts that the Malay world is diverse in its cultural representation, yet similar traits can be discerned and appreciated. Therefore, the funerary ritual of Muslims in Patani shares the same common features that exist in the entire Malay Archipelago. This also means that there are many traditional Muslim cemeteries spread throughout archipelago as far as Singapore and Jakarta. The point is that this research wishes to seek a resolution for KL by taking account of the Malay-Muslim world which extends beyond Malaysian boundaries.

Muslims in Patani have certain ways of orientating the layout of the cemetery according to its surroundings, as described by Bougas (1988). During the late 19th century, the cemetery and mosque were normally located outside a city’s wall, as shown in Figure 3.1. The cemetery (*Kubo Ayah*) was built before the city and this shows that burial space is the most important facility in the making of the city (*kota*). The figure also suggests
that the cemetery was normally situated closer to human settlements than the city complex. However, no relationship was established between human settlement and the cemetery. As a place to house the dead, Muslim cemeteries do not offer many human activities in comparison to the city complex. Contrary to Johnson’s account of European cemeteries, the role of cemeteries in the city has shifted from being merely a place to keep the dead into a social meeting place in the city. However, in the case of Muslim cemeteries in Patani, the same level of space usage has never occurred among the local community. Urban cemeteries in KL exhibit the same pattern.

In terms of the positioning of the graves, Bougas’ words best describe it:

The north-south alignment of graves in Southeast Asia also fitted in very well with pre-Islamic notions of the cosmos and the cardinals points. In the Indianized states of Southeast Asia, including Patani, a square or a rectangle, aligned to the cardinal points symbolized the universe. Cities, palaces, and temples were all planned accordingly. Aligned to the cardinal points, each was a miniature universe. To produce a square or rectangle aligned to the cardinal points was tantamount to creating order out of chaos, to reproducing the cosmos. There is no direct evidence, but the actual digging of a grave aligned to the cardinal points, may once have been taken as a symbol of creation and rebirth by Patani Malays. (Bougas, 1988, p. 23)

Bougas stated that traditional cemeteries were built based on the cardinal points in a similar way to how the city was planned. Squares and rectangles serve as a guide in representing a highly ordered universe in the planning of the city including its cemeteries. Thus, the orientation and layout of burial grounds within the city provides clues when investigating the creation of Malay cemeteries. Nevertheless, the core features of Malay cemeteries still reflect the design of traditional graves and some of these early burial grounds are still very
much intact. Yet, the fact is that the fabric of modern cities is now more complex, reflecting a population of diverse background. The development of urban cemeteries will have to consider these factors by mitigating the impacts linked to this situation. Therefore, the transformation of Muslim cemeteries will require more than just the application of design and planning as part of the tool in solving the research issues.

Bougas has also noted the role of ‘religious movements’ in taking control over burial practice, specifically in preventing foreign influence over Muslim graves. The role played by this religious movement is similar to the approach taken by The Federal Territory Islamic Affairs Department (JAWI) in KL. The main objective is to monitor the activities over Muslim graves and remove any ‘foreign’ elements which are not considered in line with Islamic teaching. This threat has concerned Bougas because the local Muslim graves are remarkably rich in terms of their cultural representation. The uniqueness of local Patani Muslim funerary architecture can be found in the art of crafting, especially decorative patterns. These extravagant artworks are normally found on the graves and tombs of someone who is highly regarded in society, such as saints, Islamic scholars or royal descendants.

Today, the same situation can be observed in Muslim cemeteries where JAWI is trying to control what people are building over the graves. This step has been taken by the Islamic institution in order to control excessive elements from contaminating Muslim cemeteries. As a consequence, Muslim graves in KL are gradually becoming simplified in form and modest as demanded by Islamic laws.

Traditional Malay cemeteries

In this research, traditional Malay cemeteries represent an extremely valuable resource in developing possible strategies for the regeneration of present Muslim cemeteries. Other than paying respect to the classic style of Malay funerary culture, there could be some pertinent features of traditional Muslim cemeteries which might translate effectively into a modern context. It is necessary to discuss a few traditional Malay burial sites. In choosing representative sites, the research has decided to select Singapore in addition to various sites in Malaysia. The reason behind this is to expand the scope of research, avoiding an overconcentration upon the Muslim community in KL or Malaysia in general. In a logical sense, firstly, Muslims who dwell in the city today represent a migratory movement of Malay people who originated from the rural part of Malaysia known as kampung. Many of these families had lived in kampung for several generations. To some extent, the forefathers of families who have been living in kampungs throughout Malaysia are also a result of migration of people from various backgrounds of the Malay Archipelago that happened thousands years ago.

This migratory pattern was evident long before the first Western incursions in the region, where Sultans ruled this region as the heads of states. The Malay world is rich in culture given its multifarious influences deriving from the archipelago. The main point is that each migration has brought with it various funerary practices which have since resulted in a remarkable cultural heterogeneity within KL. Hence, finding answers to research questions should not be limited to the geopolitical boundaries known today. The investigation of Malay-Muslim cemeteries does not preclude KL from evincing a sense of connection or resemblance to other parts of the Malay Archipelago. Moreover, this seems to align naturally with the aspiration of KL to become a globalised city within the Southeast Asia region.

Secondly, the cultural roots of Muslim cemeteries are spread all over the Malay Archipelago. According to the Encyclopædia Britannica, the definition of Malay Archipelago only includes Jakarta and Manila as the largest
cities within the region, whereas Kuala Lumpur and Singapore have been excluded (2012). Even so, the majority of Malay people that inhabit modern day Malaysia today have come from different parts of the archipelago. For example, the origin of Malay people in Peninsular Malaysia can be traced to areas such as Aceh, Riau and Jambi in Sumatera Island, Javanese Island, Kalimantan, and as far as Sulawesi.

Lastly, in tracing the origin of Malay people in Malaysia, it is also understood that the Malay are included within the Austronesia language group; however, not all Malay practice Islam within this group. Therefore, in this thesis, a ‘Malay-Muslim’ refers particularly to Austronesia-speaking Muslims. Presently, Malays who are practicing Islam reside in the southern part of Thailand, most parts of Peninsular Malaysia including Singapore, the eastern coast of Sumatera, Javanese island, and coastal Borneo including Brunei and Kalimantan. The religious practices in these particular regions of the archipelago are heavily influenced by Islamic civilisation. Though the definition of Malay as an ethnic group may differ according to whether one resides in Malaysia, Indonesia or Singapore, the point is that the Malay within the archipelago are constitutive of diverse cultural practices.

To conclude, multiculturalism has been evident among Malay people for some time; however, this fact is not apparent among Muslim society in Malaysia today. Multiculturalism in Peninsular Malaysia normally refers to a mixed society which includes Malay, Chinese, Hindu and other minority groups. Furthermore, the constitution of Malaysia stipulates that Islam is the only faith for Malay people. As a result, the notion that Malay people are always Muslim is a paramount assumption within Malaysian society, making it hard for local Muslims to accept other religions. This kind of resistance has persisted and is reflected in the formation of Malay-Muslim cultural spaces including cemeteries. Therefore, the diversity of the cultural practices within Muslim cemeteries in KL should be conserved and celebrated. However, at the moment, JAWI is moving in a contradictory direction by making sure that the appearance of all graves is uniform and standardised.

For the purpose of this research, a visit to traditional Malay cemeteries in Singapore has been conducted in order to examine their physical characteristics. Two traditional cemetery sites within Singapore have been investigated in this thesis. These cemeteries were actively used sometime around the 19th century. First is Jalan Kubor Cemetery (JKC), which is situated in Kampong Glam district. Second is Johor Royal Mausoleum (JRM), situated within the same compound of Temenggong Daeng Ibrahim Mosque on Telok Blangah Road. According to Radin Mas Heritage Trail: A Tale of Hills, a forgotten traditional Muslim cemetery is also situated next to these royal tombs, known to be a burial ground for the people of Kampong Marang (RMCCC, 2009). This traditional Muslim cemetery is also known as Kampong Bharu Cemetery due its close proximity to a Malay settlement of the same name.

Jalan Kubor Cemetery

According to the study by Syed Hassoonah Alsagoff, given its excellent state of preservation, JKC represents a veritable archaeological archive of Malay civilisation (2008). The author also stated that there is no clear evidence of who is the real owner of this burial ground. Based on several sources, Syed Hassoonah Alsagoff assumed that JKC is comprised of three divisions which belong to Aljunieds, a well-known Arabic merchants in Singapore, Sultan Hussein who was the ruler of Kampong Glam district, and the Malabar Muslims who are the descendants of Indian Muslims. Due to this claim, this traditional burial ground has also been known by other names such as Aljunied Muslim Cemetery, Kampong Glam Malay Cemetery and Malabar Muslim Cemetery (Syed Hassoonah Alsagoff, 2008). This traditional burial site is rich with historical value and it survives
intact today. For this reason the Singaporean government has been hesitant to develop this piece of land.

During the site visits, the characteristics that have been identified in Muslim cemeteries around KLMA can still be observed in the old Muslim cemeteries in Singapore. It has been discovered that family plots, personal demarcation, monumental structures and random planting are the four main traits of Muslim cemeteries that have been practiced by Malay people throughout the decades. There are many variations in family plots, personal demarcation and monumental structures that have been encountered at JKC in a similar fashion found at Jalan Ampang Muslim Cemetery (JAMC), Jalan Damansara Muslim Cemetery (JDMC), and Jalan Kuari Muslim Cemetery (JKMC). During the site visit, the area of JKC was found to be abandoned and naturally dominated by the various species of native plants. Even though the existing plants have already been succeeded by new ones, the mature trees within the site suggested that there has always been a bond between Muslim cemeteries and their surrounding environment.

To summarise, JKC displays the diversity of funerary practices from various Muslim backgrounds. Apart from being used for the purpose of burial among commoners, the site has also been used as a resting place for people with a higher ranking and status within the society at that time. The variation of *kepuk* and *dapur* has been encountered at the site, which comes in a different style of architecture. This has also indicated that JKC functioned as a burial ground for wider Muslim communities in Singapore other than Malay-Muslims.

![Fig. 3.2 The location of JKC (marked by the red colour pin)](image)

The map shows that JKC's area is covered with an abundance of vegetation. Other than providing the surrounding area with a green buffer zone which helps to filter local air and water, the area of JKC is also functioning as an urban sanctuary and wildlife habitat, promoting rich biodiversity within the city.

Source: Google Maps (access date 31 August 2012)
The existence of JKC has been forgotten by the city development (2011).

Family plots at JKC (2011)

Personal demarcation at JKC (2011)

Erection of a monumental structure over the royal tomb at JKC (2011)

Random planting at JKC (2011)

Due to its old age, it is hard to tell whether the tree has been planted by humans or grown naturally.
Johor Royal Mausoleum

This traditional burial site survives intact today because the Singaporean government has been hesitant to develop this piece of land due to its historical value. This site is also surrounded by commoner graves from the Kampung Bharu settlement which was accidentally rediscovered a few years ago. Today, a mosque named after Sultan Temenggong Ibrahim has been built on the bottom of the hill where the Sultan Mausoleum stood. The supervision of this mosque falls under the management of Johor Islamic Religious Department. Other than to serve as a praying facility for the local Muslim community, the mosque was probably built to provide a stopping point for Johor royalty during visitation to this place.

A huge royal tomb is the focal point of this burial ground where Temenggong Daeng Ibrahim was laid to rest in 1862, along with close members of the family. The tomb belongs to Sultan Johor royalty and it is located next to Temenggong Daeng Ibrahim Mosque. This royal mausoleum is also situated close to the cemetery. According to Radin Mas Heritage Trail: A Tale of Hills, the site was accidentally rediscovered in 2008 by a group of trekkers (RMCCC, 2009). This forgotten cemetery displays a collection of traditional graves that are simpler in appearance.

The tomb is built to indicate the important status of Temenggong Deng Ibrahim as the representative of Sultan Johor in Singapore. However, there are no royal tombs around KL simply because the city is not a royal capital of any Malay sultanate. Royal tombs are normally found in the royal capitals. For example, Klang is a royal town of the Sultanate of Selangor, in the same way as Kota Tinggi has been to Sultanate of Johor. Moreover, the designation of the National Palace as the official residence of Yang di-Pertuan Agong as the head of the state of Malaysia in KL comes much later after the formation of the Federation of Malaya in 1950. Therefore, this royal mausoleum confirms Omer’s statement that the veneration of dead people exists in Muslim tradition including Malay cemeteries (2008). The practice of venerating the dead is not only being practiced among the royalty, but also on saintly graves. This phenomenon has been recorded by Bougas:

> During the 14th and 15th centuries Islam and its concept for the glorification of royal and saintly graves were introduced into Southeast Asia. Today almost all structures found in graveyards in Patani evolved from local efforts to adorn the graves of kings and saints according to these Islamic principles. (1988, p. 49)

Bougas points out that the practice of erecting structures over Muslim graves in Patani derived from the ongoing effort in making tombs for royalty and saints (wali). An interview conducted with Dr. Spahic has also confirmed that was a mausoleum built for non-royal members in Malaysia. Based on his experiences, Spahic stated that there are few monumental graves in Malaysia. However, edifice structures like a mausoleum are commonly associated with royalty. Nevertheless, there is a case in Ipoh, Perak, where a mausoleum was also built for non-royalty members. According to him, the mausoleum could belong to a scholar or saint.

However, it is important to reassess the claim made by Bougas. The fact is that Islamic precept does not approve or encourage Muslims to adorn the graves of the dead. What actually happened is that common people have begun imitating the craftsmanship of this exquisite funerary architecture into their own graves. The funerary architecture that once was exclusively built for the tombs of royalty and saints has gradually been assimilated into the graves of common people. This phenomenon has also been recorded by Bougas:
On the other hand, certain progress prerogatives of the aristocracy have over the last fifty years been appropriated by the common man. The result of this democratisation process is that more and more graves are being adorned with monumental tombstones, items that were once restricted to the upper classes. (1988, p. 73)

The point is that grand tombs existed in old Malay culture, and it has found a way into the modern cemeteries. The tombs found in the public cemeteries are not as big as the tombs found in the traditional cemeteries due to the limitation of space. However, they do resemble some of the features found over the classic Malay tombs such as the use of horizontal kepuk. Moreover, the use of tombs has also been extended as a way to honor the person who has died as national heroes – this includes political figures and war soldiers. The evidence to this phenomenon can be found in the Muslim cemeteries around KL, Singapore and Jakarta. There have been many examples of massive tomb structures over the Muslim graves throughout the case studies, which reflect the continuation of this tradition in contemporary times. The example of the modern day tombs for Muslim burial can be found in San Diego Hill Memorial Park, which is located outside the city of Jakarta. Such tombs may not be the graves of royal individuals, but they represent the aspirations of the wealthy to fashion their burial plots in grandiose style, something hard or mostly impossible to do around general cemeteries in Jakarta.

Fig. 3.8 The location of JRM (marked by the blue colour pin)
Source: Google Maps (access date 31 August 2012)

Overall, the case studies of traditional Muslim cemeteries in Singapore has revealed that:

i. JKC is a diversified Muslims’ burial ground that housed deceased from various ethnic backgrounds. Malabar Muslims are said to be originated from Kerala in India whereas the Arabs originated from the Middle East. In fact, 17 per cent of Muslims in Singapore today are of Indian Muslim descent.
ii. In the case of JRM, there is huge gap that exists between royal tombs and the graves of common people. This also indicates that the veneration of graves has been demonstrated through the material used in construction of an enormous scale.

The flat gravestones are normally meant for a female corpse, whereas the round shaped gravestones are meant for a male. In this picture, the plot was probably meant for a deceased husband and wife.

However, fully grown trees are found in the surrounding area.
iii. Both cemeteries, JKC and JRM, contained graves from different classes of society. In other words, these two traditional cemeteries serve as a resting place for the whole local Muslim community regardless of their background.

iv. There are no certain layout arrangements inside JKC and JRM, as graves are scattered lying all over the grounds. Moreover, graves seem randomly placed without using any sense of grid and order.

v. There are also not so many traces of complex kepuk at both sites other than the gravestones. This shows that the use of kepuk is only exclusive to some people with a high position in society, including royalty and saints. In the case of JRM, the site was built over the steep landform, which is not ideal for the construction of kepuk.

The politics of Malay-Muslim cemeteries

In this research the term ‘Muslim cemeteries’ is preferred, as it is more consonant with the constitution of Malaysia. According to the Malaysian constitution, under Article 160.2, Malay is defined as:

‘Malay’ means a person who professes the religion of Islam, habitually speaks the Malay language, conforms to Malay custom and:

(a) was before Merdeka Day born in the Federation or in Singapore or born of parents one of whom was born in the Federation or in Singapore, or is on that day domiciled in the Federation or in Singapore; or

(b) is the issue of such a person. (Common Law Institute, 2013)

Therefore the terms ‘Muslim cemeteries’ and ‘Malay cemeteries’ are interchangeable in this research. Malay is closely related to Islam.

However, in the modern context of KL, it is customary for the term ‘Muslim cemeteries’ to include all believers of the Islamic religion regardless of their race and background. As long as the person is a Muslim, he or she will have a chance to be buried in this place. Malay cemeteries can be defined as a burial space reserved for members of Malay ethnicity who profess Islamic belief. Depending on the location of these cemeteries, Muslim cemeteries in kampung and rural areas are the usual choice for Malay people. However, the norm in KL is more inclusive: Muslim cemeteries can serve as a resting place for people regardless of their background. This means that immigrant or expatriates are also welcome to be buried here.

The same parallel can be drawn between mosque and cemetery. Attendance at a mosque is open to all Muslims, though congregations will normally comprise a Malay majority. The same goes for cemeteries, where a cemetery is open to all Muslims from various ethnic groups. Bougas uses the term ‘Muslim cemeteries’ in Patani, but he could have referred to it simply as Patani Cemetery, which also reflects a Malay designation. Another important point is that the term ‘Malay’ includes those who dwelt within the Archipelago, comprising many different ethnicities and language groups. For the purpose of this research, the definition of Muslim cemeteries refers to those which service the Malay population who live in Malaysia or specifically in KLMA. Intra-marriage between Malay from various backgrounds has blurred the gap between different ethnic groups.
in Malaysia. Nevertheless the customs of Malay Malaysians exerts a much wider influence over the Archipelago and should not be restricted by the local municipal authorities. It is important to point out that the reason for the selection of Jakarta and Singapore as part of the main case studies is to see how Malay in other parts of the archipelago are dealing with the same problem of burial space. The different political and geographical profiles of these cemeteries are expected to give some indication of the creative approach that can be taken in addressing the problems of Muslim cemeteries in KL.

3.2 Michel Foucault’s and Ken Worpole’s remarks on cemeteries

This section highlights the connection of cemeteries with the concept of heterotopia as introduced by Michel Foucault and is then followed with a few design recommendations for the modern cemetery by Ken Worpole.

3.2.1 The concept of heterotopia

Johnson and Warnicke are two authors who refer to Foucault’s idea on heterotopia in relation to cemeteries. Johnson discusses the idea of heterotopia by using the examples of Loudon’s principles in his work in space making in cemeteries in 19th century Britain (2008, 2012), whereas Warnicke examined the concept of heterotopia by interpreting it as based on the present context of American society’s burial practices in the state of Arizona (2010). The concept of heterotopia that was first introduced by Foucault has also been useful in this research. There are six key principles of heterotopia which describe its characteristics (Foucault and Miskowiec, 1986). However, there are two main principles in the concept of heterotopia which are directly related to cemeteries. These two principles have been discussed by Warnicke and have been further explained in the following paragraphs.

Warnicke explained that cemeteries are part of heterotopia space, which is something that is genuine in its existence as opposed to the concept of utopia. Warnicke also pointed out that Foucault has stated that cemeteries are closely related to the second and fourth principles, which will be discussed in the following material. Warnicke described Foucault’s second principle, which can change meanings over time as religious and social norms evolve (2010). In Foucault’s own words, ‘In Western culture the cemetery has always existed, but it has undergone important changes’ (Foucault and Miskowiec, 1986, p. 25).

Foucault stated that cemeteries are one of the classic examples of heterotopia where the representation of local culture is specifically designated to these spaces and does not remain static. In other words, Foucault reflected that the significance of one’s culture is an ever-changing phenomenon which is determined by society’s current thoughts and way of thinking about life. For instance, transformation in funerary culture can be witnessed throughout the history of Western civilisation, and the changes can be recognised in the way people choose to believe and practice. Foucault’s observation has applied to places in the Western world in which cemeteries have been constantly viewed as a place where mortality comes to an end. However, this connotation has changed with people’s understanding of their faith and culture. Therefore people’s perception towards cemeteries have continued to change in accordance with the zeitgeist of certain eras that have had a great influence in shaping human thinking.
Consequently, people's attitude towards death has actually affected the way that funerals are carried out, and the way cemeteries have been designed. There have been many publications among scholars that touch on the subject of transformation in a funerary culture which confirms Foucault's second principle. The discussions mostly revolve around the common interest of people reinventing new practices in funerary culture due to various factors (Powell et al., 2011; Clayden et al., 2010; Park, 2010; Shinya, 2004; Breen, 2004; Vandendorpe, 2000; Harris, 2007). This includes the emergence of recently developed rituals due to the increasing growth of secular society (Venbrux, Peelan and Altena, 2009; Heessels and Venbrux, 2009). This pattern could probably be recognised in the local context of KL following the local history that keeps on changing according to its own time and interpretations.

Cemeteries have always been put in the traditional context within Asian culture including Malaysia. In recent years, the rapid pace of development in the city area has become the main threat to urban cemeteries, with so many arising issues of land shortage and lack of space for burial. These spatial issues have become a gentle reminder to Malaysians that burial spaces are fragile. Even though these spatial issues are not as severe in comparison to other Asian countries, however, it is an alarming fact to notice that cemeteries have begun to lose their place in the construction of KL as a city. For example, it becomes difficult for authorities to allocate land to be used as a cemetery in the city due to various reasons that highly prioritise the use of land for commercial use as well as residential projects.

Existing cemeteries can no longer maintain their capacity as the city's population continues to grow, and this means opening up new land in a similar fashion to the way it has been done before. This has always been the case in Malaysia, where old cemeteries are succeeded by new ones in order to keep up with people's demand for new grave plots. Although there has been incremental evolution in the way graves are being presented, from the grandeur and elaborately decorated, to a new rendition of being simplified and more contemporary, yet in the case of Muslim cemeteries, people still cling to customary practices which have embodied the Malay funerary architecture for a very long time. For Malay society, the cultural traits connected to graves have been carried from one generation to another, even though some of them are found to be unnecessary, because they are not in line with Islamic teaching. This can be explained in such a way that Malay burial practices have been influenced by other faiths and beliefs which preceded the arrival of Islam into the Malay Peninsula. It is hard to predict what factors will change for Muslim cemeteries from their present form and function. Yet one thing is certain and that is as long as 'Muslim cemeteries' maintain an exclusivity this notion of religious sentiment will always be used as the main reason to protect and uphold everything that revolves around it.

For the time being, it can be said that the social and environmental situation in KL can be considered as the contributing factors that would likely change the way Malaysians look at the cemeteries, rather than change from secularisation. By looking at the urban issues, it is disturbing that the city of KL has slowly begun to lose its green open space to development. Furthermore, the Malaysian public are showing a lack of interest in defending their right to outdoor spaces, which has resulted in people spending more time inside shopping complexes rather than pursuing their fitness and recreational activities. In addition, life quality in KLMA has also been constantly threatened by flash floods, acute haze and the heat island effect. This situation has really impacted on the health and lifestyle of many city dwellers, and it is a challenging time for KL administration to maintain the nation's progress without jeopardising the wellbeing of citizens.
It is time these symptoms were rectified; moreover, urban cemeteries can be part of the solution. However, there will be some conflict of interest between different parties and cultural resistance before the idea will be completely accepted by people as part of the normal practice within the city's landscape. Therefore, it is important for this research to highlight the meaning of cemeteries to Malaysians as being predominantly and always interpreted through their cultural and religious practices. As concluded by Warnicke pertaining to the connection between Foucault’s second principle of heterotopia and the case in Arizona, that the representation of cemeteries is likely to evolve simultaneously with human progression (2010). This might also be the same case for KL in the near future. The transformation of urban cemeteries in KL could only be instigated by incorporating ‘new meanings’ in order to address the other aspect of city lifestyle that is concerned with finding the right balance between the sociocultural domain and nature. These new meanings could possibly be attained by introducing some extra roles into the urban cemeteries.

For Foucault’s fourth principle, Warnicke explained that often cemeteries ‘are connected with temporal discontinuities’ (2010, p. 182), which can be of two types: museums or libraries that collect objects originating from different eras and geographic areas for display in a single location; or travelling fairs that exist only temporarily or seasonally on the outskirts of community (2010). This fourth principle described the nature of heterotopia as being worldly and of limited existence. In relation to the cemetery, Warnicke refers to every individual as being mortal because human lifespan has its own expiry date. Thus, cemeteries can be interpreted as a place where people are transformed into a nonexistent entity. The other perspective in this situation is that cemeteries have become an entry gate from the real world to the next one, which many Malaysians believe to be a spiritual journey as prescribed by the religious teaching. In Islam, cemeteries can be perceived as an intermediary world known as barzakh that link the temporal world and the hereafter.

Warnicke has stressed that with the change in the way people think about the subject of death, along with the combination of the latest machines and equipment, there have been some significant repercussions regarding burial practice as well (2010). For this reason, the investment of technology in the methods of burial in Malaysia can only be propagated if the public are positively open and optimistic about it. There have been some examples of such advancement of application in conducting burials in a local scene such as the use of an excavator and the installment of precast concrete in preparing for a burial plot, as well as the newly introduced terraced cemeteries. However, there have been no further explanation and detailed discussions as to why they were adopted in the current practice. For that reason, this research should be aware of the current situation in Malaysia in order to be parallel with the development of local funerary practice.

Johnson has also confirmed Foucault’s second principle, which shows through his writing the funerary reforms in European history. In Western culture, people’s ideas on death have drastically changed from being highly controlled by the church in the beginning, and then transformed into being very individualistic where people have gained more freedom on how and where they wish to be buried. A shift in thinking has also explained the placement of cemeteries in relation to the city. The location of cemeteries has changed from being attached to the church in the 18th century, and later on moved to outside the city’s perimeter, which was motivated by the propaganda that the city should be hygienic for the wellbeing of the people. In the end cemeteries were moved to suburban areas, which is what we can see in most cities today (Johnson, 2012, 2008).
There are two important things based on Johnson's writing in describing the history of cemeteries in modern European practice. Firstly, the order of arrangement has been used as a way to solve the spatial problems in a burial space. Spatial arrangement is a necessary tool in cemeteries in order to have control over the allocation of graves in a highly systematic way. By taking the example of cemeteries in the Medieval time especially the Holy Innocents’ Cemetery, Paris (les Innocents), the sense of organisation within the graveyard is non-existent because of unsystematic sequence of burial plots. During this time, the act of burial was merely done as a way to dispose of the bodies, with less care and respect towards the dead. For example, corpses have been buried in a shared grave within a single plot without having any sense of placement and identification. Moreover, graves have been placed close to each other with multiple bodies laid on top of each other. This situation happened due to constraints of space inside the church's holy ground, as well as the competition for the dead to be buried within chapels (Johnson, 2012, p. 3).

Secondly, cemeteries have become an open space for other activities to take place in town, which has eventually turned into a place of social contact between people. This circumstance is caused by the fact that there are few public spaces available in town that could accommodate multiple activities in one place. In addition the idea of a cemetery has also been challenged by the Enlightenment. Johnson exemplified that the Holy Innocents’ Cemetery has been able to attract the local population such as children, adults and elderly to use the space in their own interest as a playground, a relaxing ground, as well as a meeting place (Johnson, 2012, p. 3).

In fact, based on Loudon years of involvement in planning cemeteries, Johnson concluded that cemeteries are a place that encompassed multiple functions other than just to contain the spread of diseases into a wider city's population. Cemeteries integrate a mixture of elements from financial management, social wellbeing, appreciation of arts and beautiful landscape, to offering a learning opportunity through the surrounding environment (Johnson, 2008, pp. 787–788). In other words, much of Loudon's ideas are to emphasise the design of cemeteries that are meant for both the dead and the living. Therefore, the concept of heterotopia needs to be fitted into one. The key argument of the thesis that a cemetery should enjoy wider public use, as a space for the living and the dead. Cemetery space must become heterotopia.

3.2.2 A vision for modern cemetery design

In the concluding chapter of The Last Landscape, Worpole has clearly articulated architects’ refusal to engage with issues pertaining to the dead (2003, p. 179). This situation is not dissimilar to that in Kuala Lumpur, where design architects are also not really involved with the concerns of providing space for the dead. Hence, it is necessary for relevant professionals to be more proactive in playing their part in this aspect of urban development.

Worpole has brought three new trends regarding final resting places for the dead, to the reader’s attention.

New architectural responses to cremation, its buildings and landscapes; the powerful response to the communal mausoleums and wall niches that dominate cemetery design in southern European cultures; and finally the rise in preference for natural burial, particularly in northern Europe. (2003, p. 183).
In response to these new innovations, cremation and communal mausoleums are expected to have less connection with Muslim burial. It is understood that Islam opposes cremation as a method of disposing of the body. Moreover, the corpse has to be buried underground and cannot be contained within a room or chamber at ground level. In terms of natural burial, Islamic burial can certainly be classified as such, although this might not be fully recognised by Western society. The interesting question to ask here is whether Muslim cemeteries should follow the same path taken by eco-cemeteries, and dismiss any form of human impact over nature such as kepuk and gravestones?

According to Worpole, the key to designing space for the dead such as columbaria and memorial parks, depends significantly on the designers’ success in creating a sense of place. The absence of genius loci in memorial parks can be perceived when no interconnection exists between buildings and landscapes (Worpole, 2003). Worpole highlights some of the places well known for the amalgamation of both elements—Kongenshus Mindepark in Jutland, Denmark, Vietnam Veteran’s Memorial in Washington DC, and Thames Barrier Park in East London.

One of the finest examples of Islamic architecture, displaying the triumph of a perfect matching between building and landscape, between indoors and outdoors, is the Alhambra Palace in Granada, Spain. The magnificent courts and gardens in the Alhambra have become the quintessential essence of Islamic architecture, and it was regarded by Worpole as a great contribution of the Islamic World to Western Civilization (2003, p. 185). Local architects and designers should take the initiative to strengthen the uniqueness of a place by setting the Alhambra as their benchmark. The idea of having graves inside the garden can be achieved by once again bringing the spirit of Islamic architecture into the establishment of Muslim cemeteries in KLMA.

Worpole has also pointed out his concern at the lack of beautiful scenery and funeral ceremonies in the places which mark the dead. This absence of beauty and ritual has become commonplace and is noticeable everywhere in our modern society (2003). It is important, however, that these two elements be incorporated into the creation of memorial parks and landscapes in order to retain the significance and meaning of these spaces.

3.3 Key characteristics of cemeteries

Cemeteries have always been perceived as an undervalued subject in Malaysia, hence this thesis would like to change people’s perspective about this matter. In general, urban cemeteries in KL have not been regarded as similar to public spaces such as public parks. Public cemeteries deserve the same treatment and attention just like other urban infrastructure. For instance, full and inactive cemeteries in the Western cities have been preserved and open for public use. The old cemeteries are being taken care of because of their historical value. Even though many Malaysians understand that cemeteries are a place to house the dead, there are many reasons for not abandoning them. Urban cemeteries should be interpreted differently so that people’s attitude towards them will change.

This research will examine the relationship that exists between cemeteries and cities. It is important to see how cemeteries will adapt to the process of urbanisation in KL despite the challenges that come from contested space, dense population and the pursuit of sustainable development. However, before going any further, it is important to define cemeteries from the academic point of view. There are some basic terms
associated with cemeteries that can be distinguished clearly based on their characteristics. In doing so, Rugg's paper on defining cemeteries has been consulted (Rugg, 2000).

### 3.3.1 Physical characteristics

Rugg has recognised the gap found among authors who discuss cemeteries in specific terms. What Rugg is trying to do is to set up standards and common terms that can be used at international levels across different fields by referring to cemetery practices that occur in the US, Australia and Europe. Moreover, Rugg's paper represents material from various disciplines such as history, historical archeology, geography, sociology and social policy. Rugg's study is particularly useful because of its interdisciplinary character.

In her discussion, Rugg has presented four key characteristics regarding the place of burial: physical characteristics, ownership and purpose, sacredness, and the ability of the site to celebrate or protect the individuality of the deceased (2000). Rugg discusses these characteristics in relation to churchyards, burial grounds, mass graves, war cemeteries and pantheons. In this research, Rugg's four characteristics will be used to elucidate the nature and function of Muslim cemeteries.

**Location**

Rugg stated that the relocation of cemeteries from inside the city to the outside urban perimeter was not only caused by the concern for public health, but also allowed for burial grounds to expand significantly in size.

Cemeteries are generally located close to but not necessarily within settlements. When cemeteries were first introduced in number in the second half of the 18th and first half of the 19th century, many were laid out perhaps half a mile away from the more populous areas of town. This trend reflected a conscious attempt to relocate the corpse – which by the 18th century was increasingly deemed to be a danger to public health from inner-city churchyards to a site at the edge of town. This location also meant that cemeteries could be substantial in size – far larger than the overcrowded churchyards. (Rugg, 2000, p. 261)

A similar scenario can be drawn between Rugg's statements and what happened in KL. The motivation behind relocation of Muslim cemeteries or burial grounds away from human settlement is caused by two problems. Firstly, it is due to the spatial issue and, secondly, because of the low values attached to cemeteries. People have a negative perception towards cemeteries, and this has caused authorities to put them far from residential neighbourhoods. As a result, the gap between cemeteries and neighborhood housing has widened, as revealed by KLKMC and S9MC. In the case of old cemeteries, JDMC is an example of an isolated island in the city. In recent years, the burial sites at JDMC have been expanded in order to provide for more grave plots in the newly open sections. Even though the location of JDMC is in the inner city of KL, this area has less interaction with the surrounding areas. This disconnection can also be explained due to the use of perimeter boundaries.

In Singapore, Muslim burial sections have been integrated at Choa Chu Kang Cemetery (CCKC). CCKC is located on the west end side of the island, which is further from the city centre. The same concept has been introduced in Taman Selatan Memorial Park (TSMP), where Muslim burial grounds have been put together in
one place with other religious sections. TSMP is situated on the southern part of the new administrative city of Putrajaya. TSMP has been located away from the settlement, and integrated as part of a public park. In Jakarta, San Diego Hills Memorial Park (SDHMP) has been remotely developed outside Jakarta city as a new concept for burial grounds that caters for all religions as well as nonconformists.

In the case of Muslim cemeteries in KL, a similar pattern can be observed. The location of cemeteries has moved away from the closeness of human settlement to an area far away from the residential housing. Such action will not only allow for much larger areas for burial, it also enables the cemetery’s area to expand in the future if there is a need to do so. With this apparent trend in the development of Malaysian public cemeteries, burial ground has increased substantially in size due to the issue of space. This can be witnessed in two examples: KLKMC and S9MD.

Therefore the location of Muslim cemeteries has shifted from one pattern to another. These changes have been greatly influenced by the rapid development that happened in the cities of KL, Singapore and Jakarta. This observation on the placement of cemeteries in KL has conformed to what has been reported by Rugg; the location of cemeteries tends to move away from the settlements, and it basically results in cemeteries becoming larger in size (2000).

Established perimeter

Rugg explains that the use of boundary structures around cemeteries is secondary. Cemeteries are supposed to be separate because of their main function as a place to rest the dead.

As well as location, cemeteries have a number of other obvious physical properties. The most immediate of these is an established perimeter. In some instances, the boundary is marked by a hedge or other planting. Commonly, a more substantial structure is used: either a high wall or railings, or a combination of the two. The boundary structure is by no means an incidental feature of the site. (2000, p. 261)

Even though the use of perimeter walls exists in the traditional Muslim cemetery of Kampong Glam, they are rarely used in the traditional cemeteries, especially in kampung. In the context of urbanisation, the perimeter wall has begun to be part of the Muslim cemeteries for two reasons: firstly, it is to protect the dead inside the graves and, secondly, to shield the living from having to look over the burial sites, which can be unpleasant. From here on, the use of boundaries has become a standard characteristic of urban cemeteries, as a confined space within the city.

In Islamic teaching, no boundary structures for Muslim burial space are prescribed. Hence, there is no need for Muslim cemeteries to be guarded with walls or fences in order to avoid any mischievous deeds. The method of full body burial itself is sufficient to keep the body safe and protected from any predators. If the owners are worried about their graves being exposed to threat by not having a perimeter boundary at the cemetery, then a moderate kepuk with a low cost materials and vandal resistance could perhaps be promoted. Furthermore, bodysnatching has never been reported in Muslim graveyards. The nature of burial is very modest by shrouding the body only; there are no valuables left with the body. Therefore, the use of boundaries is not entirely necessary in Malaysia other than to serve as a demarcation area. Rugg clearly argues that boundary
and entrance is an essential part of cemeteries that define its specific function apart from the rest of the city (2000). This statement should be given further clarification through the perspective of urban design.

Though a perimeter is supposed to segregate burial spaces from the urban environment, the use of a perimeter has prevented the public from entering. The ‘exclusiveness’ of a cemetery as a place to house the dead has been reinforced through the use of perimeter structures around the cemetery, such as walls and fences. However, this should not be the case, because the purpose of cemeteries can be multiplied depending on where the location is. For instance, the hybrid function of cemeteries within the residential neighbourhood can be extended for the wider use of communities around the area.

Wilbury Hills Cemetery (WHC) is the perfect example of a community-based cemetery that provides for indoor and outdoor activities for the public. One-metre (3.2 feet) high shrubs along the road define the perimeter boundary of WHC, instead of the hard structures. The main entrance is the only part that is made of hard structures, whereas most of its perimeter is made of softscape material. Therefore WHC is more visually accessible and welcoming from the driveway. This would be a completely different experience if a solid wall had been used instead. Therefore, the boundary structures should be replaced in Muslim cemeteries to serve more than a single function. The barrier between cemeteries and the outside world should be designed in a less intrusive way, so that it is visually accessible to the public eye.

Fig. 3.15 WHC aerial view
The fact that this cemetery did not use solid walls as a perimeter boundary is probably due to its location outside the city limit.
Source: Google Maps (access date 31 August 2012)
In KL, the use of hard structures as a boundary has been continuously utilised until today. Usually a solid wall has been used and this has completely blocked the view to the outside. In some instances, a mesh wire fence is used to demarcate the cemetery's boundary, even though the use of higher fences is still permitted for a transparent view from the outside. However, people have a strong affinity with softscape materials such as shrubberies rather than the hard materials.

In the case of Jakarta, general cemeteries are normally populated with people who live and work nearby the cemetery. In Jakarta, people who live closer in the proximity of cemeteries treat the place as part of their daily living. For example in Karet Bivak General Cemetery (KBGC) and Pondok Kelapa General Cemetery (PKGC), there are many human activities taking place inside the cemeteries in Jakarta other than the ones in Malaysia. It is a fact that the foundation of cemeteries is meant to be a space for the dead; however, the atmosphere does not have to be so. Nevertheless there is no sin or wrongdoing about it. It is still not too late to introduce and promote this idea into the public realm in KL. It seems to be the right thing to do as green space in KL is gradually diminishing. It is also a good incentive in encouraging people to be involved in outdoor activities and a healthy lifestyle. Even though the public attitude in KL is not expected to change drastically in utilising the cemeteries' spaces in a similar way to people in Jakarta, nevertheless all opportunities to encourage such a shift should be pursued.

The fact is most Muslim cemeteries in KLMA today are bounded by higher perimeter structures. Today's public cemeteries in KL do not fulfill the city's aspiration in achieving sustainable development. The foundation of Muslim cemeteries in KL is simply to screen their existence from the public eye, instead of addressing the societal needs of urban dwellers to gain more access to recreation.

The use of concrete walls is no longer necessary due to increasing disintegration between the cemetery and the city. According to Scheer and Scheer, spatial integration is one of the key features in creating a sustainable urban form in order to promote cohesive design in the city (2002). Therefore, visual barriers have to be broken down because they will not permit the cemetery to be converted into a multiple purpose area. Moreover, the use of boundaries in the city will encourage segregation from the outside world. As a result, the space of cemeteries has become abandoned, as people rarely go there.
3.3.2 Purpose and ownership

Even though this research is focused on the public cemeteries around KLMA, the scope of this study is not limited to cemeteries under public management. Accordingly, cemeteries run either by local authorities or private companies will also be included in this research as long as the objective to create sustainable urban cemeteries is achieved.

Rugg stated her opinion about the role of cemeteries as a place for the dead and it should be able to accommodate people from various backgrounds:

The principal function of the cemetery – as with many other burial sites – is the interment of the dead. However, as with other sites, the population represented by the dead is an important consideration. Generally cemeteries serve a complete community, with the catchment area being an entire district or town. (2000, p. 262)

However, despite the segregation, these minority communities still remain part of the whole: cemeteries, for the most part, accommodate all. (2000, p. 263)

Unfortunately, this has not happened in KL since its earliest foundation. King points out that the history of early KL is divided into three stages as shown in Figure 3.17, which are dominated by Chinese, Malay and Indian cultural influences (2008). This pattern is also reflected in the creation of urban cemeteries where each ethnic group has its own burial grounds. As a result, urban cemeteries in KL are divided between religious groups. Therefore, the purpose of the establishment of urban cemeteries in KL has been solely motivated by the response to the cultural needs of each ethnic group.

Recently the idea of integrated cemeteries has started to gain attention in KLMA, for example in TSMP in Putrajaya. Though it is still far from being considered as integrated on the physical level, nevertheless TSMP is one step closer to bringing multiple cemeteries together into one area. The point is that the core of urban cemeteries is universal in accommodating burial facilities for everyone in the city. TSMP has become a new landmark that symbolises the unity among Malaysians. This sense of unity can either be found in small- or large-scale cemeteries. For example, WHC is a community-scale cemetery within a town area, whereas SDHMP is a grand-scale burial space located beyond the city centre. Though TSMP might seem to be the replication of public cemeteries in Cheras, nevertheless this dimension of old cemeteries has been built with only a single purpose. Unlike Cheras Cemetery (which is made of Christian, Muslim and Indian cemeteries), there is an urgent awareness about providing more function than just a dead space in TSMP.

In terms of ownership, the type of management for Muslim cemeteries has already been explained in Chapter under Section 1.5.2. In general, Muslim cemeteries in KL are administered by public authorities, and private burial space like memorial parks also exist around Malaysia. The type of ownership mostly determines the way urban cemeteries are being operated. However, in KL most cemeteries usually have a single role, which is to accommodate the funeral function. Moreover, the management of cemeteries in Malaysia has persistently carried out the funeral ceremony according to local customs and religious beliefs regardless on the type of ownership. But this is not always the case in the Western world.
Fig. 3.17 Three main areas of circles: Malay, Little India and Chinatown

Source: Kuala Lumpur and Putrajaya: negotiating urban space in Malaysia (King, 2008)
According to Rugg, cemeteries in Europe, the UK and America are normally found to be more secular rather than religious in terms of the ownership:

In many European countries, the municipality has dominated the provision of cemeteries, which tend to be managed as any other local service, for example environmental health enforcement or recreational amenities. Private enterprise has also constituted a leading agency for cemetery establishment: in the USA, through private corporations; and in the UK in the 19th century through joint stock companies. Although the scale of operations may vary—ownership may be by a large multimillion dollar business concern or a town council operating only one site—the essential feature is that ownership is principally secular. In most cases the involvement of religious authorities tends to be marginal, although there are exceptions. (Rugg, 2000, p. 263)

In the case of KLMA, there is only one type of ownership for Muslim cemeteries. The management of Muslim cemeteries is normally under the city municipals. This includes all local authorities that administer every city’s district in KL as well as in the extended metropolitan region. In KL, Kuala Lumpur City Hall (DBKL) is in charge of the provision of Muslim cemeteries with a co-supervision from the religious institution JAWI.

To conclude, there has not been much reform of Muslim cemeteries in Malaysia in terms of ownership. This has to change as a way to improve burial facilities to be parallel with other urban infrastructure. Obviously, the municipals in Malaysia could not compete with the way privately owned companies run and manage the burial space. People have a right to choose a much better product. However, in the case of Muslim cemeteries, such an option is yet to appear in KL. The creation of SDMP in Jakarta is an eye opener for Malaysians that Muslim graves can be part of a grand-scale memorial park. Therefore, the same concept might be adapted to the local context of KLMA.

3.3.3 Sacredness

Muslim cemeteries are also considered to be a sacred place just like any other cemetery. The sacred side of Muslim cemeteries is closely associated with the religious aspect of Islamic funerary culture. There are two facets of sacredness pertaining to Muslim cemeteries. The first is focused on the way the corpse is disposed and protected, while the second reflects the relationship that exists between the bereaved and the deceased. In this section, the sanctity of Muslim cemeteries will be explored, especially in relation to the current issues of land shortage for burial in KLMA.

The documentation of burial as the way to dispose of the dead body was first introduced in the event of Habil and Qabil (Cain and Abel).

Then Allah sent a crow searching in the ground to show him how to hide the disgrace of his brother. He said, “O woe to me! Have I failed to be like this crow and hide the body of my brother?” And he became of the regretful. (Quran, Surat Al-Mā’ādah 5:31)

According to the verse, Allah sent down two ravens to demonstrate the action of concealing the dead body for Qabil to follow. This practice has since been carried forward not only in Muslim culture but also in Jewish and Christian traditions.
According to Islamic perception, the sacredness of the Muslim body is very much dependent upon the way the corpse is being handled from the moment of washing the body to interment. For example, the burial has to happen within 24 hours after the death is announced. It is believed that the soul of the dead cannot be released until the body has been buried. Therefore, the funeral ceremony has to be done as soon as possible and this is done as a sign of respect to the dead. Apart from that, the ritual of body washing signifies the action of purification by cleansing the body before it can be returned to the earth. In Islamic tradition, Muslims believe that man is created from the earth, hence full body burial has always been accepted as the right method which seems to fit with that notion (Hashim, 2007).

### 3.3.4 The site’s ability to protect the living and celebrate the individuality of the deceased

The sacredness of cemeteries can also be described in terms of the site’s ability to protect and celebrate the individuality of the deceased.

> Much of this respect rests largely on the fact that the site acts as a context for grief, and it is the bereaved that need to be protected from inappropriate activity. (Rugg, 2000, p. 264)

In regards to Rugg’s opinion, there is no doubt that the role of cemeteries is also to protect the dead from any inappropriate activity. However, relating to the issue in KL, the right question to ask is whether the sacredness of Muslim cemeteries will come under threat if the burial site is going to operate as more than just a place to protect the dead. Rugg clearly stated that the protection of cemeteries is a matter of concern to the bereaved people. Hence, the authorities have been doing a great job in KL after all these years in making sure that the graves are all being kept in a safe place. However, the care and concern of the deceased could be shared among a much wider group of public by letting them inside the area.

By opening cemetery grounds to the public, the safety level of the graves within the cemeteries will be increased, as there will be more people going in and out of the cemeteries for other reasons than just visiting the graves. The public is already aware of the regulations that should be observed inside the cemetery. In other words, by incorporating the public into the cemeteries, it may somehow compensate the concern for protection of the deceased on behalf of the bereaved. For example, a site visit to PKGC in Jakarta has shown that a populated cemetery will help to ensure the continuation of the safety of the deceased graves from any attempted vandalism.

The issue of opening cemeteries to the public has not been raised and discussed in detail in Malaysia. Even though there has already been some examples of public cemeteries with so-called hybrid functions, this idea has somehow not received much attention from the Malaysian public. Perhaps local scholars and academicians could take a more active role in changing urban cemeteries in Malaysia. The classification of green areas in KL, which is prepared by Zainul and others in their paper, should have included urban cemeteries as part of the city’s public green area (Baharuddin et al., 2010).

This incidental exclusion would create a wider gap between cemeteries and other public spaces in KL. Apart from little effort by the government in promoting this concept to the wider region of suburbs in KL, the lack of preparation in the planning stage has also hampered the process of transforming urban cemeteries into a park or garden theme to become part of the public recreational area. There has to be involvement of the pro-
professionals from the design field, such as town planner, architect and landscape architect, in the conceptualised design and preliminary stage.

Rugg and Dunk also stated that the sacredness of cemeteries is eventually going to get lost with the passing of time. Depending on the burial policy at the cemeteries in a particular place, the commitment to visit the graves is determined by the hierarchy of the person within the society, as well as by the existence of family members of the bereaved around that period of time.

In some of the older Victorian cemeteries in the UK, the areas still in use continue to be subject to strict regulation and high quality grounds maintenance, but policy becomes more relaxed in the older areas of the site, since their importance as a locale for grief has passed with time. (Dunk and Rugg, 1994 as cited in Rugg, 2000, p. 264)

This is because the relationship that exists between bereaved and the deceased will inevitably fade. When the cemeteries have reached full status, the burial site will pretty much turn into a dead space. If these practices continue to persist in KLMA, local authorities have to appreciate the ongoing challenges of future management. This impact has happened once in South Korea, where the nation’s capital city Seoul and other main cities are encroached by surrounding cemeteries due to the rapid transformation of land into graveyards (Park, 2010, p. 23). Therefore the future use of full cemeteries has to be emphasised right from the beginning. This is crucial, especially when there is no policy obligation to reuse graves by means of tenure, because cemeteries will eventually become inactive.

3.3.5 Reflective discussions on the key characteristics of Taman Selatan Muslim Cemetery

In this section, all the key characteristics of cemeteries that have been previously discussed will be revisited with a specific reference to Taman Selatan Muslim Cemetery (TSMC), which is the largest burial ground at TSMP. Among many other Muslim cemeteries in KLMA, TSMC has been chosen for certain reasons; firstly it represents Muslim cemeteries at the early phase of transformation in being responsive to the urban environment, whereas most Muslim cemeteries that came before TSMC have not exhibited any remarkable changes. Secondly, TSMC is currently at the forefront in implementing the concept of sustainable development. Thus, the creation of TSMC has become the benchmark for the same kind of development to follow within KLMA.

The focus on analysing the adaptability of Malay-Muslim burial practices is challenged by the conventional practice of funerals and the availability of ground space in Malaysia. Despite the stereotypical mindset among Malaysians who are still preoccupied by pessimistic thoughts toward burial spaces, the creation of TSMC in the new town of Putrajaya has established a benchmark for the conventional way Muslim cemeteries are built in KLMA. As a new, well-planned city, the development of Putrajaya has focused on the concept of a ‘City in the Garden’, which explains the formation of TSMC as a park cemetery (Putrajaya Holdings, 1999). Even though there is still some room for improvement, TSMC has set up a new direction by raising the standard for public cemeteries in Malaysian cities. The following discussion will be based on the present state of TSMC, covering every key characteristic of cemeteries, which include physical characteristics (location and established perimeter), purpose and ownership, sacredness, and the site’s ability to protect the living and celebrate the individuality of the deceased.
Physical characteristics (location and established perimeter)

KLMA still has plenty of available land outside the city. The pattern of development in KL has shown that people's dwellings are located outside the city due to the high cost of living in the city. This process of decentralisation has suggested that most urban dwellers prefer to be buried close to where their home and family are. As a result, new public cemeteries are expected to be getting larger in size and will be located within the city's suburbs.

The increment of area for burial space will primarily be used to integrate recreational facilities with the public cemeteries in promoting outdoor activities to surrounding users. The incorporation of this secondary usage within public cemeteries in KLMA is a necessary step in turning the concept of sustainable development into reality. However, a set of design rules will have to be followed in order to execute a proper segregation between the uses of these two. It is important to avoid the conflicts of usage between the main and secondary function of public cemeteries.

To sum up, even though Muslim cemeteries have always been regarded as urban sanctuaries in the city, it will take more than just the beauty of the landscape to attract people into them. The hybrid function of cemeteries will have a greater chance of success only if urban cemeteries are being strategically placed in their urban surroundings, along with a proper treatment of the perimeter that encourages easy access as well as welcoming. For example, TSMC has been designed with a fair amount of ingress for every corner of the area in order to encourage access from pedestrians and vehicles. However, TSMC has been planned to be within the public park in Putrajaya rather than close to the residential area. As a result, there have not been many people around TSMC using the space and the facilities provided around the area. Thus, it is important to have suitable surrounding contexts for urban cemeteries if authorities wish to maximise the facilities provided inside the cemetery areas.

Even though the outdoor and indoor features at TSMC are definitely going to increase public patronage of these amenities, TSMC is still not able to attract many visitors compared to the ordinary public parks in Putrajaya. The main reason is that there aren't many motivations for people to interact with the cemetery's surroundings.

Purpose and ownership

The TSMC layout plan has been designed in a systematic way from the point of entry to the details of the grave plots. The design concept behind TSMC is intended to encourage the public to be drawn into the cemetery's ground by widening the main entrances and providing communal facilities such as gazebos and a musolla (a smaller mosque) inside the perimeter. Even though the outdoor and indoor features at TSMC are definitely going to increase public patronage of these amenities, TSMC is still not able to attract many visitors compared to ordinary public parks. The layout plan of TSMC has been designed with a clear indication for vehicle movement, as well as enabling people to have access for the purpose of light recreations such as walking and jogging. These kinds of activities are possible because TSMC was built as part of a green network in Taman Selatan.
Apart from that, integrated cemeteries should be continued in the future; in fact this concept should be further extended within KLMA. Even though there are some examples of integrated cemeteries in KLMA, the role of burial space could also be expanded to promote interaction among the living. In this way, the exclusiveness of burial space for one particular religious background will be eliminated so that a sense of harmony within society can be encouraged. This would also open up opportunity for people to learn about ritual and burial practice of other cultures.

There is also a need for multi-ownership of public cemeteries in Malaysia so that people will have more flexibility not only in choosing their final resting place, but also taking part in leisure activities provided inside the area. Accordingly, government should authorise public cemeteries to be run and managed by different types of organisations, which is not necessarily monitored by JAWI.

Sacredness

It is almost impossible to measure the sacredness of Muslim cemeteries, as it is something invisible to the naked eye. As explained under Section 3.3.3, the sacredness of Muslim cemeteries can be related to the way the corpse is handled, especially before and during the process of interment. There is not much issue in maintaining the sacredness of Muslim cemeteries in Malaysia because there is no direct interaction that happened between the dead and the living right after the completion of burial. Even though people will come to visit the graves at certain occasions around the year, this activity is finite. According to Dunk and Rugg, the sacredness of cemeteries will fade and disappear with the absence of surviving family members from visiting graves (1994). Once a cemetery has reached this condition, regulations imposed inside the area can be eased to allow for more activities to take place.

In the case of TSMC, the landscape inside the area is capable of providing opportunities for distinctive uses as an inactive cemetery. Therefore, it is important for urban cemeteries in KLMA to be developed in a similar way as TSMC due to the fact that sacredness will only last as long as grave visits occur.

The site's ability to protect the living and celebrate the individuality of the deceased

For this key characteristic, people's feelings need to be taken into account when ensuring that graves are going to be in a safe condition. Protection of the dead inside the graves is normally symbolised by walls which are supposedly used to mark the cemetery's boundary. This is a common practice in Malaysia, as observed in TSMC, where the boundary made of walls and fences are erected to enclose the whole area. Here, the use of a perimeter structure is used protect graves inside the cemetery, as similarly found in former Muslim cemeteries. However, the reality is walls and fences are meant to be used for demarcation and not necessarily to guarantee the safety of the graves. As a structure they surely can keep people away from the site, but they can't stop vandalism from happening, as humans can. A greater number of visitors could probably lower the risk as well as prevent vandalism from happening inside cemeteries. This could be another advantage in opening cemeteries for public use.

Thus, in discussing whether public cemeteries should be maintained as a private or an open space for the public, this debate is very much determined by the mentality of KL citizens themselves in accepting this concept as a 'new' practice within their own culture. Changes to the burial practices inside urban cemeteries are dependent on this crucial factor, as the culture itself is a reflection of the current state of society.
3.4 Sustainability of Muslim cemeteries

This thesis will investigate the impact of urbanisation upon conventional Muslim burial spaces and, more broadly, Malay-Muslim society, specifically within the context of KL. The shift in the preferred locations of Malay cemeteries from rural settlements to urban environments has to be analysed. How are these elements related and how do they influence each other? In doing so, the progression of Muslim cemeteries will be recognised by examining changes that happened to cultural traits and practice. Moreover, this study advocates promotion among the Malaysian public of the vital role that cemeteries can play in contributing to sustainability within the city, for example as a form of climatic control, evident especially among the old cemeteries with their mature trees. Finally, discussion regarding the evolution of Muslim cemeteries from being known as sacred sites into open spaces is expected to have significant impacts on the Malaysian social lifestyle as well as the local funeral industry.

3.4.1 Culture

The concept of death in Islam

The concept of death in Muslim tradition can be explained in the following way. In Islam, barzakh is a place for Muslim souls to dwell right after they have died. Barzakh can be regard as a transitional realm where the spirit of the dead will be waiting before it can go to heaven. In other word, barzakh is the temporary world for the dying souls while waiting for the Judgment Day (Qiyamah) to arrive. The Judgment Day begins with the resurrection of the dead from the graves, and it is believed that Muslims will arise from the graves with their body returning in a physical form. During this time, all the deeds performed by Muslims during their lifetime will be assessed before they can enter Paradise (Janah), and live eternally in the afterlife (Akhirah). The afterlife to a Muslim is the continuation of mortal life in this world in an immortal state.

Therefore, in the context of Islam, graves can be regarded as an entry into the world of barzakh, which separates Muslim souls from the world and the hereafter. However, the body has to be buried in order to set the soul free into barzakh. Due to this belief, Muslims conceive of the grave as a place of ‘resting’ and bodies should be treated with the greatest respect in the same way as a living person. This also explains the reason for the prohibition of exhumation in Islam (haram). Removing a corpse from the grave is considered disrespectful to the dead, and such action requires an extraordinary reason for doing so. The remaining corpses should also be treated with great care.

According to common belief, the corpse will eventually deteriorate a few months after it was buried, especially in Malaysia's hot and humid weather. However, it is safe to say that graves should be protected at any cost, based on the belief that the dead will come back to life once the soul is returned to its body on Qiyamah. For that reason, Muslim cemeteries are actually housing ‘living’ bodies without souls, and kepuk is the only visible medium that connects the passing soul with the living. Due to these motives, the nexus that exists between the dead and the living has been established for a very long time in Malay funerary rites.

Kepuk

This research acknowledges that prior to the Islamisation of Malay in the Peninsula during the 15th century, the Malay ancestors had been greatly influenced by the burial practices based on the religions that preceded...
Islam such as Hindu, Buddhist and animistic traditions. As a result, these former burial practices were absorbed into Malay tradition following the arrival of Islam. This phenomenon has been recorded by Bougas, in his report, Bougas stated that non-Islamic elements have survived and remain evident within local funerary rites; indeed, this phenomenon can be aptly observed in the landscape of Muslim cemeteries in Patani (Bougas, 1988).

The inheritance of pre-Islamic burial practices has never been regarded as problematic until recent decades. The survival of pre-Islamic funerary practices has become a problem because there are some contradictions between the customary practices in the pre-Islamic funerary rites with the Islamic teachings. For example, Malay traditional burial practices normally emphasise the glorification of the graves, on the one hand, while Islamic teaching promotes modesty and the waste of money for the purpose of building grand monumental structures for the graves. This has been recognised by Bougas:

Religious and cultural traditions continue to shape cemeteries today, in ways that often seem contradictory. Developments in modern Islam, on one hand, are seemingly leading to simpler graveyards in Patani. Strict adherence to the prohibition against erecting structure over graves and a strong belief in the equality of all men in death among modernists in Patani has produced in some instances graveyards devoid of monumental tombstones and structures of any kind, with graves marked by natural stones or Jarak trees. (1988, p. 73)

Currently, JAWI plays the role as an enforcer in the public cemeteries around KL to ensure that Muslims are following the Islamic precepts in crafting the design for the graves kepuk. Building monumental structures is prohibited in Islam because it is unnecessary to spend such money on the dead. In his book, Hashim explained the nature of Muslim burial practices over the graves based on the Islamic religious law. According to Hashim, spending excessively for the construction of kepuk will not benefit the deceased. This is because there is no single benefit gained out of this practice other than to serve as part of the Malay customary rites, as well as to reflect personal attachment to the deceased. The deceased will not benefit spiritually and the families will not even be rewarded with any sort of deeds (Hashim, 2007). Hashim's arguments are purely based on religious perspectives not psychological ones. Studies have shown that memorialisation through material cultures existed and will always be the fundamental aspect of the deathscape (Hallam and Hockey, 2001).

However, contrary to these religious views, isn't there really a possibility that the use of kepuk will serve a good purpose for the living? Generally, kepuk fulfills another role in identifying the graves other than using the gravestone. This rule applies especially in the old days because Muslim cemeteries lack systematic arrangement in assisting visitors to identify graves. There is also no clear indication of burial sections within the cemetery's grounds, which has led some people to built grave foundations that they can be easily recognised. This also explains the reason why there are so many variations of material and colors being used inside Muslim cemeteries. Therefore the aspect of legibility for the sake of visitors' convenience has to be taken into consideration as well. Unless a reliable directory map along with the efficient organisation of space is being provided to visitors, this issue will become less of a concern among them. It is clear that kepuk has a main function to mark the location of the grave within the cemetery other than being perceived as purely aesthetic in value.
**Kepuk and sustainability**

This section discusses three different situations between the choice of maintaining *kepuk* in the original form, modifying *kepuk* to suit the concept of sustainable development, or removing *kepuk* for the sake of being sustainable. This section will describe the advantages and disadvantages of each choice. The question to be answered is should Malay cemeteries lose this unique trait? The research will look into both the pros and cons of losing *kepuk* as a trait in Muslim cemeteries from four different perspectives of sustainable development.

**For the sake of culture**

It is clear that Muslim graves can only retain the traditional style of *kepuk* when they are being placed outside public cemeteries, as found in SDHMP in Jakarta. It is likely that *kepuk* will remain a feature within SDHMP rather in public cemeteries due to differences in ownership and purpose of each facility. However, this option is not yet available to Muslims in Malaysia simply because there are no private memorial parks existing around KLMA. There have been many examples where graves of well-known figures are found to be furnished with a glorious *kepuk* in new public cemeteries. However, this circumstance has actually denied the right of those without any particular societal status to have the same privilege. In the case of a municipal-owned burial facility, the management of public cemeteries in KLMA has begun to standardise the physical appearance of graves. This was motivated by awareness of the issues of overcrowding and lack of space for burials, as well as the desire to enforce religious teachings. The minimisation of *kepuk* has been implemented as one of the ways to handle this situation, particularly in public cemeteries. This action, imposed by JAWI, has recognised *kepuk* as one of the prominent features erected over the grave in Malay funerary culture. However it has been executed in a limited capacity.

Contrary to this, there are numerous examples observed within Muslim cemeteries around KLMA, where people exaggerate *kepuk* design. This is not permitted by JAWI. As a result of this evidence, there is the possibility for Muslim cemeteries to be turned into democratic spaces, in order to create a balance between having graves with or without *kepuk*. Therefore, the landscape of urban cemeteries in KLMA should be reformed to demonstrate this. A similar concept of memorial parks as witnessed in SDHMP has to be established, to substantiate the practice of democracy in Malaysia. In addition, the practice of exhumation to allow for family burials at CCKC in Singapore is not considered to be a sustainable one, since the *kepuk* cannot be torn down after the expiration of the burial period. If a grave plot is intended for the burial of other family members, then the use of permanent *kepuk* is inappropriate and impractical. A simple version of kepuk would probably best suit this situation, along with the use of prefabricated techniques. Thus, if family plots were going to be utilised in public cemeteries within KLMA, the conventional method of building *kepuk* would probably be replaced by this emerging trend. In this way, there should be less complication in disassembling *kepuk* for future reuse of graves.

**For the sake of environment**

Based on site visits conducted in various places, the conventional *kepuk* in Muslim cemeteries does not really contribute in any way to the state of being sustainable environmentally. Extravagant monumental structures are not considered sustainable as they take too much space which could allow for more burials to take place. In terms of modification to permanent structures, SLG has shown a minimal impact of human intervention on the environment by building less monumental structures. A simple plaque or epitaph has become a substitute for conventional style monumental structures over the graves in this Christian cemetery. This has result-
ed in a modest cemetery landscape but an organised and regimented order. The sewerage system has also been carefully thought out in discharging the storm water into its surrounding area, which has rarely been taken into account by most public cemeteries in KLMA.

As a matter of fact, in some situations kepukks are found to be unsustainable environmentally. The case studies in Jakarta have also shown that the removal of grave structures is done in order to ease the impact of urban flooding, as well as to increase the amount of green space at the same time in order to create more accessible public space in the city area. However, some family members have protested against this because it makes it hard for people to locate their family graves. Some of these examples can be found in the general cemeteries such as KBGC and PKGC. In this case, the removal of grave structures has placed the focus on the environment, rather than accommodating the cultural needs of the people. Therefore, provision of greener environment has become the main concern in the redevelopment of general cemeteries in Jakarta. The cultural traits of Muslim burial rites have now become secondary elements over Muslim graves, at least in general cemeteries around Jakarta.

For the sake of society

In a similar way to the environment perspective, the existence of kepuk has got nothing to do with being sustainable socially. The reason being that there is no connection that can be drawn between these two, as Muslim cemeteries have never included any social aspect inside the burial space as part of cultural practice.

For the sake of economy

The case studies of JAMC and SDHMP have suggested that members of the royal family and those from the noble classes can still use tombs as their final resting place. Both studies have shown that Muslim graves do not necessarily have to be modest in form—especially in cases where funding is not an issue to the family of the deceased. On the other hand, Muslim graves can also be aesthetically simple, as we find in a cemetery such as the Garden of Peace in the UK. However, to some, kepuk is still seen as economically unsustainable because of the high cost that bereaved families have to bear. For people who cannot afford a lavish kepuk, there are alternatives available. Modifications in design and materials may allow for a more cost-effective substitute, whilst some have even opted to design and build their own version of kepuk, thus also creating individual and personalised memorials, as distinct from the mass produced ones. Moreover, Islam does discourage Muslims from spending too much money on their graves and kepuk. For this reason, Islamic teaching should be emphasised and promoted more than any other aspect because of the inherent value of moderation placed on Muslim funerary practices. On the other hand, the complete removal of kepuk from Muslim graves would surely put the funeral industry into jeopardy. Protection of this niche industry inside Muslim cemeteries should be taken into consideration. Therefore, an economic balance should be maintained between the customers and the grave builders, to ensure that both parties receive just and fair consideration.

Material culture

It is acknowledged that the burial of Muslim corpses does not use coffins and caskets, except in certain cases where it is necessary to use them (e.g. for a higher water table). In a way, the burial of a Muslim corpse can be seen as a ‘green’ method without affecting much of the underground environment. The white shroud known as kaffan that is used to wrap the body is the only thing that will be buried with the corpse. It is common knowledge that the corpse will be shrouded without any material object on the body. Any foreign objects
Graves have been standardised using white colors which can make it hard for visitors to identify their graves.

The glorification of the dead is shown by the excessive use of kepuk structures in PAm (2011)
cannot be buried along with the corpse, as it is *haram*. Therefore, the materialisation of memory in Malay-Muslim cemeteries has always been taken place over the graves’ surface.

In the Malay-Muslim funerary tradition some Muslims like to display the material culture on the graves. This might be influenced by the person secular thinking. The memory-making process over the grave is normally begun after the burial has been accomplished. Depending on how long the bereaved will take the time to return and visit the burial site, there really is no standard timespan that needs to be observed, other than to follow up with some cultural ceremonies to commemorate the dead, which are usually held at the deceased’s house.

According to Hallam and Hockey, there are three conceptualisations of death that will eventually define the treatment of the grave right after the interment:

> The capacity of the corpse to trigger and shape the memories of the living crucially depends upon the ways in which death is conceptualized as either a continuity, rebirth, or as the absolute end of life. (2001, p. 131)

Even though the authors have explained this concept in the context of modern England with a focus on the Christian tradition, there are many similarities that were found in Muslim cemeteries. Graves have been treated in a way the deceased family wishes the graves to look. Thus, there are many variations of *kepuk* over Muslim graves that have been built in a simple and modest form, an average approach, as well as excessively. This phenomenon has shown that Muslims have various aspirations on how they prefer the dead to be remembered. Another way to look at *kepuks* is that they are the medium of memorialisation, which has been mentioned by Gibson (2004).

The memorialisation of the grave is an important aspect in Malay funerary culture, as it exists in other cultures. As an example, when interviewed on 11 February 2011, Mr AM Ghazali (JAWI) shared his story about how a Singaporean Muslim sought his permission to have his parents’ graves transferred into one of the public cemeteries in KL. The reason behind this man’s request was driven by his motivation to escape the Singaporean mandatory law on exhumation. The anonymous Muslim male wished to have his parents’ graves exhumed and transferred into a small burial plot with other deceased people. The man was not in favour of exhumation and refused to comply with how Singapore deals with Muslim graves. In the end he was granted transfers for the bodies to be taken to a Malaysian public cemetery for eternal burial.

This case clearly shows that Muslims should have access to multiple choices regarding how they want their own family members buried. It also shows that Malay people are still in favour of permanent graves. Even though the bereaved might not spend much time during their grave visit, it is important for them to know that their families’ grave is always there. The removal of memorial elements along with the material culture is not received well by some Malaysians. This can be seen in any typical public cemeteries in KL where some graves have been built on a grandiose scale. This limitation to the grave might not be a big problem to non-Muslim Malaysians, as memorial parks will provide another alternative to the public cemeteries. Hence, Malay-Muslims should also be given other alternatives where they are open to more choices in personifying the grave’s physical characteristics.
The embodiment of graves memorialisation through material culture that exists in Malay-Muslim funerary practices can be witnessed in the old cemeteries in KL such as JAMC and JDMC, though some exist in the new cemeteries such as KLKMC and S9MC. As the only visible ‘human touch’ object, kepuk can be regarded as the most valued asset of memorialisation in Muslim cemeteries, apart from gravestones. Islamic perspectives pertaining to these unsuitable Malay customary practices have to somehow work simultaneously with the long-established form of Malay funerary architecture, or another way around. In fact, Hashim points out that any architectural activities involved in relating to the graves are actually measured by the actual intention and purpose of kepuk to be built by the family members of the deceased (2007). Human thoughts and feelings are a very subjective matter; thus how can we read what lies behind people’s real intentions?

To conclude, the memorialisation at Muslim graves can be divided into three categories:

- The essential form of memorialisation will be the inscription of the text over the gravestone in which the deceased’s details such as names and date of deceased will be displayed.

- Putting visual objects on top of the graves that is not part of the structure of the grave.

- Tending the grave as an act of memorialisation. This is shown by the use of plant as a temporary grave makers, later followed by types of plants normally associated with the graves.
Freedom of practice

Bougas has noted the role of ‘religious movements’ in taking control over burial practice, specifically in preventing foreign influence over Muslim graves (1988, ). The role played by these religious movements is similar to the approach taken by JAWI in KL. The main objective is to monitor the activities over Muslim graves and remove any ‘foreign’ elements which are not considered in line with Islamic teaching. This threat has concerned Bougas because the local Muslim graves are remarkably rich in terms of their cultural representation. The uniqueness of local Patani Muslim funerary architecture can be found in the art of crafting especially decorative patterns. These extravagant artworks are normally found on the graves and tombs of someone who is highly regarded in society, such as saints, Islamic scholars, or royal descendants.

Today, the same situation can be observed happening in Muslim cemeteries where JAWI is trying to control what people are building over the graves. This step has been taken by the Islamic institution in order to control excessive elements from contaminating Muslim cemeteries. As a consequence, Muslim graves in KL are gradually becoming simplified in form and modest as demanded by the Islamic laws. In KL, JAWI is given a mandate to ensure that the implementation of Islamic law over the cemetery’s ground is being monitored. As an Islamic institution, JAWI is taking control of the widespread prohibited cultural practices that contradict Islamic precept from the Muslim graves. On the other hand, these prohibited cultural practices over the graves have not been protected and would likely diminish.

Some of the examples of these prohibited cultural practices are normally concerned about grave hardscape and finishes such as the simplification of kepuk and the ritual of wrapping gravestone with white cloth. Some people are willing to spend a huge sum of money for their beloved graves because they want to be appreciative. It is also serves as form of memorialisation. According to Hashim, excessively ornamental tombs are forbidden within Islam, detestable because they are perceived as inherently wasteful (2007). Yet the reality is that people will exercise their own judgment when it comes to the ornamentation of their graves, a preference undoubtedly influenced by their status, wealth and personal interpretations of Islamic teaching. JAWI might offer Muslims guidance in these matters; however the relationship between man and God is increasingly understood as a very personal matter, subjective in nature.

Public cemeteries have their limitations, and with the strict controls enforced by JAWI, Malay-Muslims may be forced to find other places free from the heavy restrictions imposed by JAWI. However, this is unlikely to happen since public cemeteries have become the only place to bury the dead for most Muslim in KL. Muslims and people in general have their own freedom to imagine how their graves should look, and public cemeteries are not an ideal place for flights of the imagination. Understandably, grave ornamentation reflects a healthy diversity of personal taste and emotional investment towards material culture. The cost of building graves also plays an important part in decision-making regarding grave design.

This situation can be seen in public cemeteries around KL. The case studies in several Muslim cemeteries in KL have shown that each Muslim grave is unique and has distinct characteristics. For example, some graves have plants growing on the top, some graves have white cloth wrapped around the gravestones, and some graves are decorated beautifully while others have nothing except a simple mound and pebbles over the ground. This mix of different styles is normally more obvious in the older cemeteries such as JAMC, JKMC and JDMD than in the new cemeteries.
Therefore the religious aspect of Muslim burial practices has to be examined in order to align with contemporary living without completely letting go of traditional burial practices. For example, in Islam, Muslims are encouraged to visit graves to remind them of the afterlife (Hashim, 2007). However, Muslims rarely go to the cemetery within a year. In reality, Muslims are usually visiting the graves at certain occasions, especially on the Eid ul-Fitr (Hari Raya). Hence, there is a missed opportunity for Muslims to properly observe this religious tenet. This situation could be changed if cemeteries were designed differently, with the objective of promoting visits to the cemetery for other than cultural reasons. In doing so, cemeteries should have their own medium or attraction that could complement this religious teaching. In other words, the thesis is suggesting ways in which the Islamic values in funerary practices can be accommodated within the landscape of the cemeteries without jeopardising the richness and uniqueness of Malay burial rites.

3.4.2 Environment

The sustainability of Muslim cemeteries is linked to the green factors that could help to improve the quality of the urban environment. It is common knowledge that cemeteries have always been regarded as places which contain a high representation of funerary culture including Malay burial rites. However, there is a need to highlight this significant role of cemeteries as part of the green network in the city that helps to contribute to a sustainable urban environment. This fact is something that has been missed in Malaysian society. It is important to make the Malaysian public aware of this so that people will be more appreciative toward cemeteries and perhaps change the way they perceive them. Malaysians should realise that cemeteries have multiple roles rather than just as a place to bury their dead. This realisation can be hard to discern because it is invisible to the naked eye. The other functions of cemeteries will be explained below.
Urban sanctuaries

Cemeteries have always been spots in the city that retain vegetation, which help to promote a rich biodiversity within the urban ecosystem. In Muslim cemeteries, the burial grounds are normally filled with lots of mature vegetation planted over the graves, which have resulted from random planting practices. The continuation of this practice through periods of time has increased the amount of trees and shrubs grown over the cemetery sites. In the end, the landscape of Muslim cemeteries are found to be dominated by the vegetation and eventually turn the area into its very own unique sanctuary. The absence of human activity for most of the time at cemetery compounds has left the space abundant with flora, which has also attracted small species of fauna. This phenomenon can be witnessed in the old public cemeteries where burial capacity has reached its maximum, such as in JAMC and JDMC. Species like birds and squirrels also dwell inside the cemeteries creating a sense of peace and tranquility. Even so, visitors have not taken advantage of this natural opportunity in their outdoor activities. This peacefulness that exists inside the cemeteries has not motivated people in KL to utilise and enjoy this space. This situation can be explained due to the factors below.

Unchanging culture towards cemeteries

Firstly, cultural sentiment towards places of burial among Malaysians is still deeply rooted in every ethnic group. Some people still cling to the old tradition and superstitious beliefs towards cemeteries. For example, Malay people are not culturally close to the cemeteries because of their belief in ghosts. This perception could have been strongly influenced by the atmosphere of cemeteries that are normally found to be eerie due to the lack of maintenance. Outside Malay tradition, Chinese superstition towards cemeteries has also perceived cemeteries as a negative space. It is believed that cemeteries will bring bad luck, thus Chinese communities make sure that they don't live within close proximity to these places. There has been a case where a Chinese community objected to the new plan of development to build a Muslim cemetery close to their residential neighbourhood (Aziz, 2008). This is believed to be motivated by the cultural belief in Feng Shui and not solely based on hatred towards other people's sacred spaces.

In the history of American culture, cemeteries have gradually emerged into a place of recreation especially for common people to retreat to during their days off. City dwellers might go to these cemeteries as a place of respite. The placement of cemeteries outside the city’s fringe has led people to spend their leisure time in the same space that is meant for the dead despite the lack of public parks in the city (Schuyler, 1993). Such a phenomenon has never emerged in any urban cemeteries within KL. This is probably caused by the cultural beliefs and traditions that deter Malaysians from doing so apart from the absence of vast fields for burial in the city. Even though the Kwan Tung Cemetery (KTC) is the largest traditional burial site for Chinese in KL, the site has only become a place of historical attraction and recreational activity after decades of being inactive. This later use of KTC reflects what is occurring in the Western cemeteries in the American cities in the early stages. This has shown that recreational use has always been imposed over burial spaces, though it might come at a different phase of the cemetery’s lifespan.

The creation of TSMC in Putrajaya has demonstrated an effort taken by the government in making Putrajaya a ‘City in the Garden’. This requires Malaysians to be more dynamic, not just in terms of their physical surroundings but also in their mentality. Therefore, the attitudinal shift of Muslim communities has to be parallel with the vision in changing KLMA into a garden nation.
Planning regulations at the cemeteries

Secondly, the regulation set by JAWI has prohibited the public from entering cemeteries without a reason other than to attend a funeral service or to visit graves only. For these reasons, cemeteries are not commonly used by the public. Therefore, it is important for the authorities to be more lenient in order to promote burial spaces as an alternative to the parks for public outdoor activities. As a religious institution, JAWI has to work along with the city's municipal authority, DBKL, in deciding what sort of recreational activities can respectfully coexist with the solemnity of religious observance and funerary rites that can take place within the cemetery itself. The types of activities allowed might be limited from semi-active to passive. The space boundary and limitation is important as the local authorities are expecting a higher level of participation from the Malaysian public. In doing so, local authorities probably want to re-examine the regulations inside the cemeteries to be less restrictive and more user friendly. For instance, the proper covering of the awrah as a dress code inside cemeteries might hinder people from entering the area as shown in Figures 3.30 and 3.31. Even though there is no guarantee that people will get involved in this foreign cultural practice, nevertheless there will be an effort to cultivate the idea of cemeteries as parks and gardens among the Malaysian public.

Fig. 3.30  Sign designating appropriate clothing within JAMC (2011)
Fig. 3.31  Sign designating appropriate clothing within JDMC (2011)
Fig. 3.32  Regulation board prohibiting people from entering the area without any business at KLKMC (2011)
Fig. 3.33  Regulation board prohibiting people from entering the area without any business at JDMC (2011)
Urban flood control

Another environmental concern pertaining to cemeteries is to reduce the event of urban flooding in the city especially during the monsoon season. It might not be common knowledge in Malaysia that urban cemeteries can also function to lessen the impact of urban floods in the city, especially KL. After going through a period of rapid development, KL has more area of hard surface than in the early days. Buildings, pavement and roadways contribute to the severe flash flooding, because there is only a small amount of green area that can help to alleviate the water run off in the city. Even though the Stormwater Management And Road Tunnel (SMART) was built to solve this issue, it does not eliminate the flooding, which still happens in some parts of the city. Thus there should be more approaches to deal with this issue.

Cemeteries can to some extent help manage the issue of urban flooding in the city. For example, the objective of the greening field in public cemeteries in Jakarta City adds more natural ground that will increase a higher absorption of surface water run off into the earth. The step is to mitigate and reduce the risk of flooding in the city. The city of North Jakarta is prone to flooding during the rainy season (Salim and Firman, 2011). Heavy rain will wash away part of the city and the greening field is part of the precautionary measure taken by the city’s administration to deal with this issue.

Fig. 3.34 Flash flooding in KL

Flash flooding is an event that happens every year. The amount of green area should be increased and cemeteries have already been equipped to play a role. But perhaps the cemeteries in KL can play their role more effectively by adding more natural ground inside the area.

Source: The Star Online (Ramli, 2011)
Fig. 3.35  Environmental zones in the Jabotabek Metropolitan Region Development Plan 1983

The diagram divides Jakarta metropolis into five different environmental zones. The map indicates that regions I and II are the areas most prone to flooding.

Source: Governing the Jakarta city-region: history, challenges, risks, and strategies (Salim and Firman, 2011)

Fig. 3.36  Tegal Kunir General Cemetery in North Jakarta (2012)

This cemetery is a small-scale cemetery located in North Jakarta. The graves are totally immersed in water, due to a high water table below the ground.

Figures 3.37 and 3.38 display general cemeteries in Central (KBGC) and East Jakarta (PKGC) after they have been redeveloped by authorities. The greening of public cemeteries is a step to counter the immediate urban flooding in Jakarta city. Apart from that, this step was also introduced to provide the public with alternatives to insufficient green space in the city.

Therefore, this suggests that there are significant advantages in locating cemeteries within the existing development of the city rather than far outside the suburbs. It is a rare to find this type of development that promotes green areas other than gardens and parks. In Malaysia, the standard requirement for most project developments is set at five to 15 per cent of green area. These percentages are not sufficient to manage the urban flooding issue in the city. Thus, the development of cemeteries in KLMA should incorporate the greening field as a way to counter urban flooding.
3.4.3 Society

Muslim cemeteries in Malaysia evince little social interaction. This is because cemeteries have never been considered a place for socialising apart from people attending the funeral ceremony. There are no social gatherings at the cemetery nor any outdoor activities. In the context of the Islamic religion, cemeteries are specifically meant to be a place to house the dead. The fact is that the bodies are disposed through interment which require the placement of grave plots in a similar way to other major religious practices.

However, with the emergence of park cemeteries such as TSMC, it is a possible that Malaysian perspectives towards cemeteries could see their incorporation within a social lifestyle. At the moment, the use of KLKMC and S9MC as an extension of the public park is not yet apparent. These Muslim cemeteries were built using the concept of a park garden even though both have only managed to reflect the character of a park or garden to a limited degree. The question that matters now is whether Malaysian park cemeteries will be surrounded with a beautiful landscape without accommodating any recreational activities and still prohibit free access to the public. If free access is granted to the public, then what are the possible implications of this?

In proposing an answer to this question, the research will use two main points as the basis for its argument. One is gathered from the past and the other is from the present. The first point refers to the use of pavilions in Malay cemeteries which suggests that they could promote socialising among local communities. The second point refers to issues of lack of public space in the city. The case study in Jakarta has shown that public cemeteries could help the city to provide alternative open green space for the public.

This study also attaches significance to the kariah as more than a burial committee in Malay funeral culture. The role of kariah in Islamic society has to shift beyond the provision of funeral ceremonies. In a manner similar to urban parks, which are supposedly owned by the public, cemeteries should be more open, even contributing to the sense of belonging shared by members of a given community. At the moment, the link between Muslim communities with their burial spaces is barely realised in Malaysia. This fact has been acknowledged by the author:
Beside regular maintenance from the city council, Muslim communities are expected to take part in keeping up the cleanliness of their own graveyard. This is normally conducted by organising occasional events between the kariah members (Muslim communities) and local authorities. In a way, Malay people remain very much attached to their graveyard at the community level through their kariah. However based on the site visits to several public cemeteries around Kuala Lumpur metropolitan, the relationship between Malay people and their cemeteries is physically loose. Efforts to establish greater social ties among kariah members will positively impact on cemeteries, and will provide further opportunities to draw people into this space. (Mohamed Afla, 2012, p. 542)

Public amenities as the magnet to attract people to cemeteries

In his study, Bougas has observed that the pavilion is a common feature in every Muslim cemetery in the region of Patani (Bougas, 1988, p. 60). There are two types of pavilions found in Muslim cemeteries: ritual related Balai Hantu and also the ordinary pavilion known as Rumah Wakaf. These pavilions can be looked at as the basic amenities in a similar way as building facilities inside Muslim cemeteries today. Therefore, the research is looking at factors and conditions that could help to reinforce the social function of cemeteries through landscape elements such as a pavilion.

Bougas has not described the use of Balai Hantu other than to note its link to the animistic belief of local people prior to the arrival of Islam in Patani. Balai Hantu literally means ‘Ghost Hall’ in Malay language and now it is the only remnant that is left of this animistic ritual. Balai Hantu also becomes a sign of how traditional Malay practices are normally associated with superstitious beliefs that have somehow influenced and shaped the perspective of many Malay people towards cemeteries today. Even though the popularity of animistic practices have long been forgotten, nevertheless its presence can still be traced in many aspects of Malay traditional practices. The remnants of Malay animistic practices is believed to retain its existence in some Malay traditional cemeteries such as Jalan Kubor Cemetery (JKC) located in Kampong Glam in Singapore (Syed Hassoonah Alsagoff, 2008). In her studies, Syed Hassoonah Alsagoff argued that KGMC should not only be conserved because of its uniqueness but also its potential to be turned into an outdoor archive exhibiting the richness of Malay animistic practices. Malay people have been involved in worshipping supernatural powers and spirits at the gravesides in the past. However, with the arrival of Islam in the region of Southeast Asia, this is no longer being practiced because it contradicts Islamic precepts. Even though this practice has been carried on to this day by a small group of people, it was unknown to general knowledge. Furthermore, such practice is definitely forbidden from taking place in today’s cemeteries. To conclude, Balai Hantu used to be an essential element to Malay cemeteries but it is no longer relevant in the modern day. Balai Hantu does not have the quality in setting up any social environment due to its association with ritual.

The other type of pavilion found in Muslim cemeteries in Patani, known as Rumah Wakaf, has no relation to any ritual other than to function in the same way as a common pavilion or gazebo found in Muslim cemeteries around KL. According to Bougas, in Patani, pious people normally donate these pavilions so that they can be used for the common good. This can be distinguished through its name which literally means ‘Charitable House’. Contrary to Balai Hantu, Rumah Wakaf has a positive notion to its name and function. Visitors normally used Rumah Wakaf as a resting spot while spending time at the gravesite (Bougas, 1988, p. 60). Another important observation from Bougas is that:
In the past, however, a rumah wakaf was the focal point for important annual kenduri given for the benefit of the dead, feasts for the benefit of any given deceased person were only held during the short period after his death. (Bougas, 1988, p. 61)

In the context of contemporary Malay society the same annual function to commemorate the dead normally takes place at the home of the deceased family members. This has suggested that the social use of Rumah Wakaf has been abandoned and shifted to take a more indoor approach than outdoor. Nevertheless, Bougas’ observation has shown that Malay communities used to conduct social functions to commemorate their late family members. Therefore, the social aspect of Muslim cemeteries is found to be associated with more than just a permanent structure like a pavilion.

In the next part, this research will discuss building facilities attached to the cemeteries. In doing this, the research has observed some case studies that shows the connection between building facilities with the cemeteries in promoting social functions within the community. The first case will discuss the local context found in Muslim cemeteries around KLMA. Both TSMC and S9MC have been built offering extensive facilities such as washing rooms, prayer rooms and ablution facilities as well as a multipurpose room that can be used for meetings. There is no doubt that the facilities provided here meet the needs and functions in assisting and conducting every stage of the burial process. This is because not every corpse has surviving family members, such as the homeless and unclaimed corpses from the hospital.

It is also noted that a mosque has been built inside TSMC; this was actually a common thing in the past especially in the rural areas. The logical reasons behind this are to make the funeral ceremony move quicker and more easily by taking advantage of having cemeteries close to the mosque. By having a mosque close to or inside the cemetery area, this promotes its use for social functions more regularly. In other places outside Malaysia, it is common nowadays for cemeteries to have building facilities that focus on the unity, multi-religious and wider aspects of social communities. This example can be found in a large-scale cemetery such as SDHMP in Jakarta and even in a small-scale cemetery such as WHC in UK. Apart from providing basic facilities, they also provide parking spaces, cafeteria, benches and water closets. Both WHC and SDHMP has shown that the cemetery areas can be potentially turned into something more than just dead spaces.

In the case of WHC, the building facilities are located at the outer limit of the cemetery’s area rather than centralised, which is exercised by SDHMP. Surely people in KL will find it awkward to gather and spend time by the graves, even though it is nothing extraordinary among people of lower socioeconomic background in Jakarta. In order to control people’s movement inside the cemetery, the concentration of human activity is normally kept to certain parts of the cemetery. Most of the activities that happen in these cemeteries are linked to the indoor buildings such as washing facilities, prayer hall and multipurpose hall, whereas outdoor activities will become a secondary activity to complement existing building facilities.

This practice has also ensured that there will be less interference between the public and the graves. This is important so that the level of physical disturbance can be kept at a minimum. It should be noted that the deceased families expect the public to respect their graves, thus there should be a clear regulation that can control their behaviour. Even though there are some outdoors activities being offered at cemeteries, most happen around and nearby the building facilities. For example, WHC uses surrounding nature to educate children from the local communities about the biological and ecological environment. In the case of SDHMP, the management team extends the use of worship premises such as a church building and the Muslim
prayer hall to not only facilitate the funeral ceremony, but also social and culturally related events like weddings and festival feasts, such as the fast breaking ceremony during the fasting month of Ramadan.

Therefore, this has shown that culture is not a factor or barrier that hinders social interaction inside Muslim cemeteries; it has been happening at Muslim cemeteries and elsewhere in the past and it seems to be reappearing again in KLMA. The only thing that would hold Malaysians back from accepting this growing practice is the attitudes of the majority of Muslims, who still cling to old values and traditions. To conclude, people only find themselves attracted to public spaces because of available facilities provided around the place. Amenities like Rumah Wakaf indicate a starting point for Muslim cemeteries to appropriately integrate social functions within public cemeteries that can be achieved through extensive infrastructures as shown by SDHMP. This has become the main rule to increase the chances for people to participate in the activities held inside cemeteries.

Urban cemeteries as an alternative to the lack of public space in the city

In this section the thesis argues that cemeteries are part of public space in the city. The lack of green open space in the city has become increasingly critical. Public spaces in KL are gradually diminishing and yet people are not being informed about the threat to their health and social lifestyle. The quality of outdoor lifestyle and social wellbeing for the city’s dwellers has a direct link to the issue of public open spaces in KLMA. The lack of public spaces in the city signifies that there is less interaction in promoting integration among communities. The government is less concerned with incorporating public spaces in major development projects, which makes the problem worse. The objective to achieve a sustainable city that was set up in the Kuala Lumpur Structure Plan 2020 (KLSP2020) is still far from reality.
Fig. 3.40 Building facilities in TSMC (2011)

Fig. 3.41 Building facilities in S9MC (2011)

Fig. 3.42 Building facilities in SDHMP (2011)

Fig. 3.43 Building facilities in WHC

Source: Willbury Hills Chapel and Cemetery (ASCE, 2008)
There have not been many scholars in Malaysia wanting to discuss this issue and bring it to a wider audience. Moreover, public voices are rarely heard in their demands for better and more public spaces in Malaysia. Yet, some Malaysians have addressed this matter and are hoping for a change. In his blog, ‘Niki’ has raised his concern over the lack of public space in KL (Cheong, 2010). In Cheong’s opinion, as a developing country it is important for city dwellers to have easy access to parks and public spaces. Therefore, government has to take this situation seriously and improvement is needed in the city’s future plan. In the light of this event, existing urban cemeteries should not be taken for granted. It might not be an ideal place for people to socialise, nevertheless government could use cemeteries as an alternative in offering some solution to this escalating issue.

As was discussed in the last section, cemeteries have a lot of potential to incorporate public space into their design. There is no doubt this would offer some solution to the lack of public space in the city; however, it might take a while before Malaysians can adopt this as part of mainstream culture. Based on one day’s observation conducted at TSMC, there were no people spending time there even though the cemetery area has been furnished with adequate facilities. This has suggested that Malaysians are not yet exercising this part of their culture and they might never do it. However, people would find themselves attracted to the cemetery as long there are human activities going on at the facilities’ buildings.

In Malaysia, spaces for recreational use are normally found within the city or located close to residential areas. However, the reality is that public parks in KL are inaccessible because of two main reasons.

Firstly, large public parks are normally located at a great distance to where people live. The fact is most working Malaysians in KLMA have to spend long hours commuting every day to work. Living in outer suburbs has become a lifestyle and a normal thing to do for the majority of the population in KLMA, and this phenomenon has been explained by Maidin and Mohamad in their journal article (2011). According to Maidin and Mohamad, it has become a custom for people in KLMA to live and work at different locations due to the high cost of living in the city (2011, p. 791). KL does not accommodate low-cost housing, which has resulted in many green areas in KLMA being turned into residential areas.

This has also shown that a huge population of people who live beyond the city centre have to travel long distances to go to work by any means. This situation has become worse every year because public transport networks in KL are still not extended to meet the travelling needs of every passenger who has to commute from different corners of the outer suburbs. In other words, city dwellers have difficulty spending time at the existing urban parks because of the traffic congestion on the roads. This situation could be the reason why Malaysians do not bother to go to the parks in the city, as the majority of them prefer to make the journey back home outside the metropolitan area. Even if people have the intention to go to the park to socialise or for fitness, some of them have other commitments such as domestic duties that they have to attend to and it would be late in the day by the time they arrived home.

Shuid pointed out that affordable housing is one of the future challenges that need to be addressed in KL city centre (2004). This suggestion was formulated based on the KLSP2020, with the objective of bringing people back to the city to create a lively city regardless of whether it is day or night. This is one of the steps taken to make the city more sustainable by creating a lively urban environment through people’s activities as has been outlined in KLSP2020. However, this has still not encouraged people to spend time outside home due to security reasons such as a high crime rate in the city.
Between 1984 and 2000, residential land use in the city grew; in contrast, residential land use in the city actually fell from 390.58 to 254.88. The same pattern can be seen for open space and recreational space.


Table 3.2 KL and city centre land use 1984–2000

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Kuala Lumpur 1994</th>
<th>Kuala Lumpur 2000</th>
<th>City Centre 1984</th>
<th>City Centre 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential</td>
<td>3,822.03</td>
<td>5,489.56</td>
<td>390.58</td>
<td>254.88</td>
</tr>
<tr>
<td>2. Commercial</td>
<td>504.36</td>
<td>1,091.71</td>
<td>254.88</td>
<td>318.99</td>
</tr>
<tr>
<td>3. Industrial</td>
<td>474.63</td>
<td>553.05</td>
<td>4.12</td>
<td>0.93</td>
</tr>
<tr>
<td>4. Institutional</td>
<td>1,851.51</td>
<td>1,620.80</td>
<td>266.04</td>
<td>163.06</td>
</tr>
<tr>
<td>5. Open Spaces/Recreational</td>
<td>585.93</td>
<td>1,579.56</td>
<td>179.28</td>
<td>170.25</td>
</tr>
<tr>
<td>6. Community</td>
<td>922.95</td>
<td>1,382.44</td>
<td>89.931</td>
<td>35.79</td>
</tr>
<tr>
<td>7. Undeveloped Land</td>
<td>7,104.73</td>
<td>5,740.61</td>
<td>0.00</td>
<td>137.89</td>
</tr>
<tr>
<td>8. Squatters</td>
<td>2,404.31</td>
<td>570.63</td>
<td>129.12</td>
<td>31.46</td>
</tr>
<tr>
<td>9. Other Uses</td>
<td>6,550.61</td>
<td>6,192.69</td>
<td>498.69</td>
<td>566.68</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24,221.05</strong></td>
<td><strong>24,221.05</strong></td>
<td><strong>1,812.64</strong></td>
<td><strong>1,812.64</strong></td>
</tr>
</tbody>
</table>

As suggested by Shuid, affordable housing should be promoted in the city centre as a way to increase the population in the inner city (2004). However, low-cost housing normally has a poor standard of living environment, especially for people who normally live in a high-rise buildings such as flats and apartments. People who live in this kind of dwelling do not have access to the front yard and back garden as compared to landed property. Thus the absence of greenery in the city arguably diminishes the quality of life experienced by city dwellers.

Secondly, apart from the pattern of settlement that does not promote regular use of public parks in the city, residential neighbourhoods scattered around the KL suburbs are also found to be unattractive, which makes them very unwelcoming. In the case of neighbourhood parks, these are normally found within a small-scale area and are in a poor state due to lack of maintenance. As a result people are not keen to make an effort to go outside rather than spend their time inside the shopping mall.

A weekend visit to the local neighbourhood is a deterrent for lots of people who live in residential neighbourhoods, because parks are normally found to be in a poor state, due to the lack of basic amenities and fitness equipment, as well as vandalism. In other words, the local council has to provide better neighbourhood parks if KL is really concerned with striving to be a liveable city. This has suggested that the government has to develop more urban green spaces and recreational facilities in every suburb rather than focusing on the inner city. Baharuddin and others noted that KL is still in the stages of formulating answers to add more urban green spaces in the city area either by planning or through design (2010).
As cities grow rapidly and population density increases in both formal and informal settlements, healthy space such as green space become small and less accessible. Urban growth has contributed to high competition in land use. As a result, the limitation in access to land is identified as contributing factors facing the urban green spaces in modern cities. For example, the city of Kuala Lumpur is currently seeking an alternative approach to urban planning and design in order to increase its urban green spaces. (Baharuddin et al., 2010, p.)

Due to this fact, opening urban cemeteries as accessible green spaces to the public in KLMA seems to be the logical thing to do.

The design for suburban cemeteries should be fully equipped with communal infrastructures that can be use by everyone, and most importantly integrated with public parks as has been practiced in WHC and Taman TSMC. In fact the community facilities such as indoor sports and community halls could be located within the same planning area as cemeteries, which has been pointed out in many case studies. This would increase the number of visitors to the park and make the most of the land that has been allocated for this kind of development. Integration between cemeteries and other social infrastructure will enable maintenance to be done at the same time, as we know that public cemeteries in Malaysia are having a hard time maintaining their surrounding landscape.

3.4.4 Economy

Bougas has observed that Patani Muslims are known to have various artistic kepuksa which were done manually (1988). Bougas appreciated the making of gravestones and kepuksa as a valuable example of handcraft in funerary architecture. And today, the handicraft work has been replaced by modern grave makers who use machines in the process of making the kepuk. The method of making kepuksa has also changed using many different materials. A grave maker interviewed on 8 February 2011, Mr MA Faizal Muhamad explained that the choice of material used in kepuk-making had to comply with the rules and regulations set by the management. The grave-making rules differ from one cemetery to another depending on the local authorities.

*Kepuk*-making business

In Malaysia, the kepuk-making industry is the only business that relates to Muslim funerals. This is because the funeral ceremony in Islamic tradition is normally performed by members of the kariahs, and this is expected to continue for many years to come. Acus Enterprise, Nissan World and Pusara Abadi Enterprise are some of the company names that are involved in the grave-making business in Malaysia. Customers are being exposed to a vast catalogue in choosing the right grave for their deceased. The cost of building the kepuk depends on how much people are willing to spend: the price can start as low as MYR 500 (around AUD 150), skyrocketing to MYR 7,000 (around AUD 2,200). Most of the time, the monument structures are the last part to signify the completion of the grave cycle from the moment of interment to the erection of the tombstones. The kepuk-making process normally happens a few months after the body is buried. However, some people prefer not to employ any services from grave makers and choose to do it in their own way.

As a business with a niche market, grave or kepuk makers are the only part of Muslim cemeteries that have become a profitable industry. However, this business is also controlled by cemetery management. Every grave maker has to register with the local authorities before they can offer their service to people. This is to
ensure that people are protected from any mischievous acts while the job is completed. Every cemetery normally has a few grave makers who are appointed by the local authorities. Thus, JAWI is the gatekeeper for anything that happens inside the cemetery compound. JAWI has set the standard regarding how Muslim graves should be, whereas local municipal authorities are responsible for allocating the land for the purpose of burial. These two factors seem to be consistent in the public cemeteries.

The future of grave builders

Today, grave construction is carried out by commercial interests; indeed, it has become a reputable niche industry. The qualities of kepuk produced by the grave makers are much better than the traditional ones in terms of construction. The existence of these funeral industries in Malaysia has proliferated, resulting in the instant emergence of numerous architectural grave styles which can now be seen in the public cemeteries around KL. Moreover, the interpretation of Malay graves has once again been demonstrated as people are exposed to more choices of graves that suit their tastes as well as their price range. However, with strict regulations by JAWI, the future of this industry is under threat and the art of Malay funerary architecture is likely to vanish sooner than expected. This will also threaten the freedom of people to exert controlling interests over their graves.

Mr MA Faizal Muhamad is an active grave builder offering Muslims his services within KLMA. During an interview on 8 February 2011, Mr MA Faizal Muhamad explained that kepuk has always been permanently built over the grave, a method of construction that he has practiced his entire career. This technique has been around for quite some time and is widely used in Muslim cemeteries. There are a few steps involved in making the grave and the method ensures that the grave is built to last (MA Faizal Muhamad 2011, 8 February). Firstly, he has to make sure that the ground is flat before the kepuk can be built. Secondly, he has to check that each corner of the kepuk is at the right angle. Thirdly, strong glue is poured into every corner angle. Finally, concrete will be used to bind marble onto the structure (kepuk). This technique is very durable because it prevents the marble from cracking easily, and the only way to disassemble the kepuk is by demolishing it. Grave makers will normally charge for their services according to the material chosen by customers. The material offered by the funeral industry ranges from terrazzo, tiles and marble to granite. Customers are expected to pay between MYR 1,000 to MYR 7,000. However, in an area with higher earning, customers would have to spend more and it can reach up to MYR 14,000. The distance and location of the cemetery will also determine the price that customers have to pay (MA Faizal Muhamad 2011, 8 February).

Therefore, it is important to notice that the policy and guidelines set up by the authorities will have a direct impact on the landscape of Muslim cemeteries. Moreover people also need to accustom to the new policy even though conflicts between cultural and religious practice persist. This will affect the method of construction used at the graves sites by the grave makers, which also means a shift in the way kepuk is built and functions. Prefabricated graves will probably replace the traditional way of making kepuk as seen in TSMC. Though people can still choose a lavish style of kepuk for their graves in PAm, such freedom may be an unsustainable practice. This is because the kepuk will eventually be demolished in order to make way for the next burial right after it has reached the 15-year period (NEA, 2002, 2008). In such cases, the kepuk will have to be torn down, which is wasteful. Moreover, the management team must then find ways to dispose the used kepuk. Unless prefabricated kepuk are used on the graves, it will be a complicated task for the management to disassemble them.
Concrete is being poured into the mould of kepuk by the grave makers.

Concrete is being poured into the mould of kepuk by the grave makers.

The first layer of concrete is being left to dry under the sun, before the next layer of kepuk can be built.

The second layer of kepuk that has already been dried under the sun. The next step will involve the grave builders to complete the finishes for kepuk as well as erecting the gravestones.
3.5 Alternative methods to full body burial – Part I

In KLMA, local authorities have complete control over burial practice inside Muslim cemeteries. Enforcement of the regulations by religious institutions such as JAWI are more apparent especially inside the new cemeteries such as KLKMC and SDMC. Yet, to some extent visitors are still allowed to perform rituals associated with traditional customs, along with the placement of material culture over the grave which is not prescribed by Islam. The management of Gardens of Peace has stated clearly their position pertaining to the burial practices by setting up a specific rule. The rule states that any rites that are not mentioned in the religious precepts are considered to be cultural customs and cannot be performed at the graves. The management of Gardens of Peace will not tolerate or even accommodate practices that are not in accord with Islamic precepts. As a consequence, all graves in Gardens of Peace look the same, which is in line with the Islamic teaching that requires modest grave treatment. However, this situation does not reflect the true nature of Muslim funerary practice in Malaysia.

A recent example that adopts a more compact approach is the Muslim cemetery located in the town of Altach, situated in the state of Vorarlberg in Austria. Altach has a Muslim population of over 8 percent. Completed in 2011, this Muslim cemetery was designed by Austrian architect Bernardo Bader. This garden cemetery occupies 8,400 square metres of land and contains a total of 700 graves (Singhal, 2012). The use of this cemetery is intended for Muslims living in towns and cities within the Vorarlberg region. Apart from enabling Muslims to inhume their dead according to Islamic practices, the construction of the cemetery was also intended to address the issue of repatriating Muslim corpses to their country of origin (Chichisan, 2014). This cemetery was designed with the intention of maximising the use of burial spaces. Its goal was achieved through the simple orientation of plots, the adoption of modest funerary architecture and buildings that blend seamlessly into the surrounding environment (Singhal, 2012). The burial ground is divided into five sections and each area is treated as an outdoor space separated by a low-lying wall (ArchDaily, 2012). Moreover, the site is fully equipped with facilities such as ablution rooms, musholla (a prayer room) and congregation room to assist Muslims in performing the necessary rites for the preparation of the body for burial (Singhal, 2012).
Even though Hashim has explained the method of constructing grave plots for interment, there is no specific guideline as to how Muslim graves are supposed to look physically (2007). Moreover, there are many variations of grave treatments that have been found in Muslim cemeteries since the old days. The distinction between classes within Malay society has been presented in the historical cemeteries between commoners and royalty, and this practice continues in TSMC.

The case study presented opens up future possibilities for existing urban cemeteries in Malaysia. This thesis examines each method used in the case studies in terms of spatial and environmental concern. These two features become the main priorities in the making of urban cemeteries in the future for two reasons. Firstly, the spatial issue has increasingly become a threat to the current cemeteries, especially the old ones, and, therefore, it is important to find a way that can help prolong the use of cemeteries as a place to house the dead. Secondly, the green aspect of Muslim cemeteries has been around for a very long time, thus it should be promoted in the development of urban cemeteries.

The spatial aspect of Muslim cemeteries can be examined in three ways; (i) the use of permanent structures especially kepuk which contribute to the lack of space for burial, and overcrowding inside the cemetery; (ii) the modification of grave plot that focus on the improvement of both, corpse handling during interment, and efficiency of space; and (iii) the feasibility for every method of full body burial to be adopted and implemented inside Muslim cemeteries. The main intention of this thesis is to evaluate the pros and cons of every method of burial presented here before formulating solutions and answers. The green aspects of Muslim cemeteries can be explored in two ways; (i) in the use of random planting which enhance the biological factors inside the cemetery; and (ii) in the way the corpse is buried inside the grave. This can be perceived in the absence of coffins for burials. The only thing that is being buried with the corpse is a shroud and a plank of wood or unbaked bricks. Therefore, these customary practices should be maintained and continued.

The next sections present some of the methods of burial that have been gathered and documented through site visits. Each case study displays some modifications to the traditional methods of full body burial. However, the modifications shown here do not make changes to the way bodies were being prepared (shrouded) and disposed (buried), except with the exclusion of second burial.
3.5.1 Tiered cemeteries

Al-Jamiul Badawi Muslim Cemetery (AJBMC)

AJBM is located in Kepala Batas on the northern part of Peninsular Malaysia. A terraced cemetery was utilised in AJBMC because there is no available space left for burial in the existing cemetery. After considering a few alternatives, a terraced cemetery was chosen as an ideal solution to the issue of overcrowding in AJBMC. The local Muslim community has preferred not to build a new site for a burial ground for a few reasons. Firstly, the new land on which the cemetery will be built will be a large financial burden. Secondly, the new burial site might not be feasible in terms of its distance, because this would hinder the funeral procession from being completed quickly. Lastly, some people prefer to be buried close to the family graves as a way to maintain the connection with the existing cemetery. The kariah or local Muslim community has decided not to pursue exhumation because it involves managing the existing corpse. The disinterment process appears to have problems and is inconvenient to the surviving family members. Another reason for this method to be employed in AJBMC is because of the threat from a high water table that causes flooding during the monsoon season. Therefore, to build a new burial site is likely to expose new graves to this problem.

Based on the site visit, this technique is more practical for small-scale cemeteries such as for towns where people prefer to be buried in the same ground as their ancestors. This method also seems to fit the situation where a high water table has become a problem. A tiered cemetery is a spatial solution to the problem of overcrowding by creating a new layer of earth over the existing landform. In doing so, the ground level was elevated from its original place to create a new layer of burial plots as shown in the Figure 3.49. The diagram suggests that there can be more than one body allocated to one grave, with the new additional plot being

![Working diagram of tiered cemetery](image)

A new layer of soil with 4 feet (1.2 m) depth will be added on the existing ground in order to create extra room for the next interment. A distance of 4 feet (1.2 m) will be reserved between the first buried corpse (Jenazah 1) and the new one (Jenazah 2). Before the new layer of soil can be poured over the original ground, the old gravestones will have to be removed and put back on the same grave right after the terracing is completed. In the case where a new corpse has been buried, the new gravestones will be placed next to the old ones which seems to make the cemeteries become packed and overcrowded, with too many of them existing at the same time.

Source: Cemeteries and Crematoria Planning Guideline (JPBD, 2011)

Translation: Nisan (gravestone), Kaki (a unit of measurement in feet), Jenazah (corpse), Aras tanah baru (new ground level), Aras tanah lama (previous ground level), 4 kaki tambakan tanah baru pertama (an addition of soil of 4 feet)
built at the later stage. However, without the use of permanent structures to confine each grave plot, it will be difficult to be accurate with the precision needed to equally divide plots beneath the ground. In this case, the situation can be drawn as similar to building a house without walls and boundaries. Thus, the line between plots is hard to justify because there are no exact walls and boundaries made.

Fig. 3.51 Tiered cemetery during construction at AJB-MC in Kepala Batas, Penang
Perimeter walls have been erected surrounding the cemetery’s area in order to hold and contain a new layer of soil.
Source: Cemeteries and Crematoria Planning Guideline by JPBD

Fig. 3.52 Completed terraced cemetery at AJBMC in Kepala Batas, Penang (2011)

Summary of terraced cemeteries

This method involves a complicated process: in the case of AJBMC, the topping of another layer of soil is possible because it is such a small area and, more importantly, the cemetery’s perimeter was raised using concrete walls. However, the reverse direction in undertaking this project can turn this technique into a great spatial solution for Muslim burials. For instance, tiered cemeteries can be constructed at the beginning of the cemetery’s project rather than at a later stage. Other than the standard burial practice, a tiered cemetery method has been incorporated as a new method in the draft guideline prepare by JPBD. Nevertheless, the feasibility of this method has not yet been proven. The implementation of this method does not seem feasible for a cemetery with a large area. To conclude, this technique should be regarded as a last resort, because it involves a complex process for the preparation of the site. Before the project can even start, an inspection consisting of a set of tests will have to be conducted by various agencies to evaluate the suitability of the site to be turned into a terraced cemetery. Unless the conditions of this method have been addressed in the beginning, it would be much easier to execute this method at the site. In should be noticed that the objective of this method is only to address the issue of land shortage for burial by reusing the existing cemeteries.

3.5.2 Confined structures

Subang Lutheran Garden (SLG), Shah Alam, Selangor
San Diego Hill Memorial Park (SDHMP), Karawang, Jakarta
Pusara Aman (PAm), Choa Chu Kang Cemetery, Singapore

In the underground level, interment for Muslims requires the bodies to be positioned at a specific angle. Thus, the incorporation of confined structures has to respect the religious requirements for Islamic burial including the placement of the bodies. The dimension of the grave plot has to be specifically designed in order to allow
ample room for the positioning of the bodies by the gravediggers. There is no doubt that the application of confined structures provides half of the answer to the issue of land shortage. Confined structures such as precast concrete and a concrete vault are not only capable of maximising the number of grave plots within a cemetery but also enable terraced cemeteries or tiered graves to be built at the same time. In this way each grave will be able to contain up to three bodies within a single plot. Even though the precast concrete has already been used in a non-Muslim cemetery such as SLG in Shah Alam, at present, Muslim cemeteries in KLMA have still not adopted any technical solution in the making of grave plots.

This method is also known as the concrete vault or concrete crypt. Confined structures have been used as burial plots to contain coffins under the ground in SLG as well as in SDHMP, though there is no coffin used in Muslim sections at SDHMP. The use of precast concrete has enabled the burial ground to be divided into rooms of similar space under the ground. In SLG, this method has been used to maximise the numbers of plots within five acres of land. In the case of PAm, under the new burial system introduced by National Environmental Agency (NEA) the use of confined structures has been modified to satisfy Muslim practice regarding full body burial.

Instead of traditional earth burial plots, a burial plot in the Crypt Burial System (CBS) takes on the form of a concrete crypt without a base. The new crypt graves aim to save space and make the cemetery more accessible. (NEA, 2002, Background information section)

Even though such a method will help to utilise the space inside PAm to its optimum level, it does not necessarily make the cemetery become more accessible as claimed by NEA. From the site visit conducted at PAm, many graves are found to be built with grand looking kepaks and lavishly decorated with various elements of material culture. Unless these cultural activities are closely monitored by the management, as in the case of SLG, the addition of confined structure beneath the ground will not necessarily make cemeteries or burial sections more accessible except during the interment. Careful management of what is occurring at ground level is required.

Fig. 3.53 The use of concrete crypt at PAm in CCKC (2011)

Concrete crypt has enabled land to be use effectively as a place where second burials for Muslims occur. In a way, this site can be regarded as a Muslim version of an ossuary which is systematically built under the ground.
The method of using concrete to contain the bodies under the ground is not a new idea. In Australia stacked grave plots can be found in Rockhampton, Queensland. By using a prefabricated system the cemetery is able to hold more than one body within a single grave plot. In fact this method has also been implemented at Woronora Cemetery in New South Wales (NSW), which has been reported in *The Sydney Morning Herald* (Power, 2013). The terminology of the method used here might be different than the one used in SLG, SDHMP or PAm. However, it is the similar concept that has been used in many countries in dealing with the limited supply of land for burial, as well as making the most of the space.

![Fig. 3.54 Prefabricated method (also known as a Modern Burial System)](image1)

Prefabricated method is being practiced at Rockhampton Memorial Gardens in Queensland, Australia. This method requires major earth work for preparation of the site before the confined structure can be installed. A similar process has been practiced with the construction of precast concrete in SLG.

*Source: The Sydney Morning Herald* (Power, 2013)

![Fig. 3.55 Preliminary preparation of burial site at SLG](image2)

Preliminary preparation of burial site at SLG

*Source: Lei Wei Min*
Summary of confined structures

Contrary to the way burial grounds are usually being built at public cemeteries, the use of crypt vaults as confined structures has enabled grave plots to be built over the hilly landform at SDHMP. This approach should be encouraged in the development of public cemeteries because it is considered to be a good practice without leaving much impact on the existing environment. The construction of crypt vaults will have to be altered, especially the bottom of the grave plots in order to suit Islamic burial practices, certainly if this method is going to be employed in local public cemeteries. This means that the position of the body has to be placed in accordance with Islamic methods, with either niche or trench graves.
Will Malay Muslims accept such a new method? The issue of cultural acceptance will not be a major concern because there has been some evidence that proves that such techniques can possibly be employed for domestic use as well. The fact is, concrete vaults have been applied to Muslim burials in SDHMP in order to maintain the natural topography of the site. Even though the use of concrete vaults in SDHMP is to enable graves to be built over the hilly landform rather than as a spatial solution like in SLG, nevertheless it has proven to be religiously permissible and culturally possible.

To conclude, the use of confined structures such as grave plots is highly recommended for urban cemeteries because of its higher level of efficiency in utilising limited space. The combination of this technique with the terraced cemeteries will allow for extensive use of land for Muslim burials in the city by doubling or tripling the number of bodies that can be interred in a single grave.

On the other hand, even though this method helps to maximise the use of space within a small given area, the deployment of this method will require a huge investment of funding compared to the conventional burial practices. Nevertheless, the effectiveness of confined structures is worthy of future investment. This has been proven in SLG and it should be adopted in Muslim cemeteries in the city area as one of the ways to prolong the use of public cemeteries as a place to house the dead.

3.5.3 Reinterment

Pusara Abadi (PAb) and Pusara Aman (PAm), Chuo Chu Kang Cemetery, Singapore

The last technique is reinterment or second burial. This technique would not likely be practiced in Malaysia because of the ethical issues and cultural sensitivity with removing bodily remains from old graves to new ones. Even if Malaysians are willing to compromise to embrace this new technique, it would be perceived as too radical and Malaysians are not quite ready for it yet.

However, having said that, Muslim populations in other cities such as Singapore and Jakarta have already adopted this practice due to the critical issue of the scarcity of land for burial. In Singapore, the 15-year burial period has caused Muslims to embrace exhumation so that the same burial plots can be reused for new bodies. The policy has been introduced in order to control the use of the limited supply of land on the island from being turned into cemeteries, especially in the city area. The priority of land development in the city area has
been focused on residential and commercial use. Therefore, the government has taken stern action in monitoring the utilisation of land for burial from sprawling much further. This unavoidable situation has required the government to centralise the burial facilities into one place at CCKC. CCKC is located on the northwest end of the island and it is the only active public cemetery in Singapore. In CCKC, Muslim graves have been exhumed and transferred from old sections (PAb) to the new (PAm). This is happening because of the introduction of burial tenure, something that has yet to be seen in the Malaysian cemetery systems.

Summary of reinterment

The purpose of reinterment is to allow for the same grave plot to be used again for a new burial. However, this thesis will highlight some of the reasons why KL should not employ the method of reusing the graves as a way to address the issue of land shortage for burial in public cemeteries. The main obstacle will come from cultural resistance, as Muslim communities still prefer to have graves in perpetuity. Apart from that, second burial involves a complicated process and requires a huge investment of money, especially when it comes to adoption of technologies such as precast concrete and a concrete vault. Managing remaining bones is something JAWI has to think about, especially given the sensibilities around exhumation. To conclude, reinterment should be avoided at all costs in the development of urban cemeteries in the future. It is obvious that exhumation will generate more problems than solutions. Malaysians consider exhumation as the least favourable choice and it should be the last resort for Muslim burials.

3.5.4 Stacked burial

General cemeteries in Jakarta

In the case of Jakarta, burial periods have also been practiced in public cemeteries to cope with the issue of land shortage for burial. As a city with a massive population and high statistics of annual mortality rates, Jakarta has been under constant pressure to cope with the escalating demands for grave plots. Jakarta has only a small percentage of available burial plots left, because most of the general cemeteries have already reached their capacity. As a result, Jakarta has imposed burial periods as a way to ease the serious problem of lack of space for burials in the city.

The issue of limited space for public burial in Jakarta has been reported by Joga in The Jakarta Post since 2002 (2002). According to The Jakarta Post the city’s public cemeteries will be full by 2013, as the city is only left with 31.8 hectares of land for burial purposes (2011a). It was reported that the City Cemetery Agency
is hoping to alleviate the impact of land shortage by urging people to conduct burials over their relatives’ graves. This multiple use system is also known as a stacked burial method, in which a single grave can accommodate up to three bodies, with a year gap in between burials. In 1960, reusing graves for burial was first introduced as a policy in Jakarta. However, this policy has not been well received by the public due to a lack of participation. Apart from that, with the issuance of bylaw No. 2/1999, graves structure such as tombs and mausoleums can no longer be built within public cemeteries. Under this legislation, graves should not exceed more than 1.5 metres (4.9 feet) by 2.5 metres (8.2 feet) in dimension (The Jakarta Post, 2002).

Summary of stacked burial

The objective of stacked burial is to extend the use of graves as well as cemeteries without having to provide a replacement by opening up new ones. In the case of KL, stacked burial should be adopted into Muslim cemeteries for one reason only, which is to promote the practice of family plots. People will find themselves connected with the cemeteries where family members are laid to rest, and this will increase a chance for people to be buried in the same grave plots or the same cemeteries.

3.5.5 Summary of the four methods

The main objective of all the methods of burial presented before is to maximise the use of grave within a single burial plot. Each of the methods allows for graves to be used either in perpetuity or temporarily. Hence, the decision between these two is going to be a critical point when it comes to planning urban cemeteries. Taken together, these methods demonstrate the creativity of the local administration or small communities in handling the problem of their burial space. To conclude, tiered cemeteries, reinterment and stacked graves are methods normally used after cemeteries have reached full capacity, whereas confined structures is the only method that is built before the actual burials take place. The combination of these methods will surely give an excellent outcome in dealing with burial issues in KLMA. For instance, tiered cemeteries can be done differently. Instead of pouring a new layer of earth after the cemetery becomes full (which creates difficulties), the concept of a tiered cemetery can be employed the other way around, from the early construction phase of the cemetery. In other words, the burial plots should actually be built at least more than 11 feet (3.3 m) underground, allowing two layers of burial plots, rather than the singular capacity rendered by a depth of only seven feet (2.1 m) (refer to Figure 3.49). In order to achieve this, confined structures can be introduced to build up the burial plots. The use of permanent structures is important to maintain the same size between grave plots, especially if making the most of the space is to become a top priority inside the cemetery. Even though concrete crypts have been adopted in SLG and PAm, nevertheless an environmentally friendly material can perhaps be used as an alternative to minimise the impacts to the subterranean environment.

In the case of PAm, the combination of reinterment with the use of concrete vaults has allowed for the graves to be reused for the next burial. However, a new piece of land has to be allocated for the purpose of transferring the remaining corpses into a new spot. Eventually, more space will be required in PAm and PAb to fulfill this purpose. At the moment, the allocation of new spaces for second burial at PAm is a tedious process as the old graves at PAb will continuously be exhumed and transferred into a new reinterment site in order to convert the area into new burial sections. As for stacked burial, the same treatment should be imposed on this method in a similar way to terraced cemeteries. Instead of doing this method as a solution for a full cemetery, it would be appropriate for stacked burial to be done in the early phase of construction along with the use of confined structures.
3.6  Alternative methods to full body burial – Part II

The research has been discussing the way cemeteries are being managed and how graves are being operated by local authorities in KL and elsewhere to accommodate burials according to the geographical condition, by following the relevant Islamic precepts. This includes the way graves are being arranged using the technique known as Silang Tikar. However, there are other methods of burial that do not require as much space, as opposed to burials where the ashes are scattered in the air, in the water, or over the ground and obviously cremation, where the remains will be stored in a columbarium. However, these options are not accessible for Muslims due to the religious barrier. In this section, this research identifies a collection of alternative methods and techniques for Muslim burial in response to the arising issue of land shortage in KLMA, within the South-east Asia region as well as overseas.

3.6.1  Sea burials

Ocean burials do exist in Muslim culture but only in contingent circumstances. For instance, if a Muslim died during their pilgrim voyage to do hajj in Mecca, then the body would be managed the same as on land. It is permissible to bury the body in the ocean with weights. This is normally done in the middle of the ocean; however, such methods clearly show that the body should be disposed with honour and respect. However, the means of transport has greatly improved these days. If Muslims die overseas, their body still has a high chance of being transported back for burial. In Malaysia, this normally happened to soldiers who died overseas such as on the battlefield. Even though the sea burial seems to be a reasonable solution to the spatial issue in the city, there is a need for the bereaved to have a physical connection with their dead. The place where the body is put to rest, including graves, tombs, columbarium, trees (for green burial) and earth (for scattering the ashes), will eventually become the medium that links the deceased and the bereaved. This relationship is difficult to translate to the ocean because no shrine can be built and the placement of material culture is definitely not possible.

In Hong Kong, during their burial ceremonies, the bereaved are only allowed to leave a particular type of flower that easily decomposes in the ocean. The reason is because authorities are trying to ensure that the sea will not be polluted. Furthermore, sea burials can only take place at a certain distance from the land and it also depends on the clearance of the tides as well as the weather conditions. These factors are extremely important to ensure people's safety during ceremonies. Kong has raised this environmental concern in her paper (Kong, 2011). Even if Muslims applied this method of scattering the ashes, this has been proven to be detrimental to the environment, especially when the ashes are dissolved in the sea. Marine species would be affected and the quality of the water would become contaminated. This aspect of legislation has to be thoroughly considered before it could be implemented over Malaysian shores. On the other hand, this method of sea burial has also been opposed by some people in Hong Kong as it is contradictory to Chinese superstitious belief. For example, a sea burial will cause the soul unrest, and it won't be at peace. For a green burial, some believe that the spirit of the body will get stuck between the tree roots (Kong, 2011). These events may have repercussions for the surviving family members and their succeeding generations. Though some modern-minded Chinese in Hong Kong might dismiss the old superstitious belief, in Malaysia cultural beliefs are still being honoured and followed. To conclude, science can deal with the biological processes which are involved in death, but investigation of ‘life after death’ seems beyond the reach of scientific inquiry. Therefore, this cultural belief cannot be completely eliminated as well as other religious beliefs and burial practices.
3.6.2 Cremation

Cremation is one of the most popular methods chosen by Americans to dispose of corpses. It is considered to be more economical and pragmatic. However, this method is disapproved by some religious institutions especially Judaism and Christianity for a reason that it is disgraceful way of disposing the dead and such custom belongs to the heathen (Code & Poston, 2014). Malay-Muslims in KLMA will most likely not accept cremation. There are five main reasons that explain the rejection of cremation. Firstly, under the teaching of the Sunni Islam, cremation is strictly forbidden (Hashim, 2007). This is not respectful to the dead body in Islam and is totally unacceptable in Muslim culture. The reason for this is that Muslims believe that during the Qiyamah the souls need the bodies to rise up from the graves. Therefore, the sacredness of graves in Islamic tradition lies in the protection of the body until the arrival of Qiyamah. The action of burning the corpse to Muslims is a form of humiliation of the body and should be avoided at all costs. In a similar way to the other religions, the transition of the soul from this earth to the afterlife is a crucial part in someone’s life. The concept of afterlife is important in Islamic tradition, and the preparation to this event begins by taking good care of the dead body including the method of burial involved in disposing of the corpse. Hence, the possibility of cremation in Malay-Muslim burial culture is unlikely to happen. Though the cremation will definitely consume less space and eliminate the need for permanent plots than the conventional grave burial, the objective of this thesis is to look for more than just a spatial solution.

Secondly, cremation can be regarded as a one-way solution to the existing problem in KL. Other urban issues that relate to the cemeteries such as dead space, abandoned public cemeteries and vandalism also need to be addressed at the same time. More importantly, the structural building of storage for ashes such as a columbarium will not promote the outdoor experience for humans to consolidate their emotions with the surrounding environment. It is argued that outdoor burial has proven to be more beneficial to the bereaved in accommodating their sadness during the interment. The Woodland Cemetery in Sweden is a great example of such a case, where nature has been regarded as the supporting element by providing emotional support and comfort during the funeral procession (Johansson et al., 1996; Constant, 1994).

Thirdly, cremation is repugnant due to the threat that is posed to the planet. During the immolation process, poisonous gases are released into the atmosphere. These are harmful to humans and to the earth (Earthtalk, 2008, Tressider, 2015). Although cremation is low in cost, the process involved is not. A cremator consumes significantly high power in order to burn down the whole body, thus the expense to run it is considerably high (Tressider, 2015).

Fourthly, the validity of this method is somehow being questioned due to the condition of utilising the space in Muslim cemeteries around KLMA. It is important to notice that the spatial issue in Muslim cemeteries is not mainly caused by the method or interment itself. From the observation on the case studies around KL, there have been other factors that contribute to the problem of overcrowding, such as poor grave arrangement and random planting over graves. For example, graves in the old cemeteries such as JAMC and JKMC are found to be in inconsistent order. The alignment of graves in the old Muslim cemeteries has not been spatially efficient. What happened is that new layers of graves have superseded the earlier graves due to the constraints upon space. This is because the burial ground is steadily filling up each year, and the situation gets worse especially in the cemeteries without any additional available land, as there is no chance for burial space to expand. The same thing happens with the practice of random planting, where there has been less
control over the growth and maturity of trees or shrubberies at the graves over time. Therefore, overcrowding is more likely caused by external features that are found over graves rather than the method of burial use. In other words, Muslim cemeteries are still able to maximise the use of space within a small area, which has been exemplified in SLG. These factors seem to be acknowledged and rectified in the new cemeteries such as KLKMC and S9MC. Both cemeteries have been developed on a larger scale than any previous Muslim cemeteries in KLMA. This also reveals that there is still available land around KL.

Finally, burial issues in KL are not as critical as other Asian cities like Jakarta, and the burial policy is not as constrained as what has been practiced in Singapore. According to the data record from DBKL and JAWI, the availability of land around KL for Muslim cemeteries is still under control. Moreover, case studies in some places around Malaysia, Singapore and Jakarta have demonstrated a few alternatives that can be adapted to the problems in Muslim cemeteries around KLMA. At present there is no need for Muslims to go to the extreme because there is a technical solution that can be employed as an alternative for burial. Even though there were some historical events where mass Muslims bodies were buried, such instances are only permitted to avoid the spread of disease and where an individual burial would be time consuming. This method only applied in certain circumstances such as war massacres and natural disasters, in order to avoid contagious diseases from spreading. Therefore, cremation is not the ultimate solution to the problem of land shortage in public cemeteries in KLMA.

### 3.6.3 Natural burials

The use of formaldehyde in embalming the body has proven to have a negative side effect on the environment. The embalming liquid contains formaldehyde which is eventually dissolved into the soil, thus contaminating the underground water and affecting subterranean ecosystem at the same time. This risk can be addressed by opting for green burials in preference to burial in a more natural way. Damage to the environment must be avoided. Green burial is an environmentally friendly approach to interment because there will be no dangerous chemical residue as a consequence of embalming (Code and Poston, 2014, McCausland, 2008). Moreover, this new method of burial is also concerned with minimizing human impact over mother earth by promoting the use of coffin that is made of environmental friendly materials, and replacing gravestones with a subtler sign that could easily blend with the nature (Code and Poston, 2014, EarthTalk, 2008, McCausland, 2008). It is has been exposed that a long tradition accommodating burial in America has contributed to significant waste of precious trees that was made into coffins (Earthtalk, 2008, McCausland, 2008).

There have been few changes in Muslim burial practices in the last decades. Full body burial is a conventional method of interment for Muslims that has been practiced for many centuries in Malaysia. However, there are some circumstances where adjustments have been introduced in the local Muslim cemeteries. In the Islamic tradition, full body burial can be regarded as a natural way to bury the dead. This method of body disposal is considered to be sustainable because there are few non-biodegradable materials included. The corpse is wrapped inside the shroud by using a few pieces of white cloth. Other than the shroud used to wrap the body, the natural decomposition that occurs beneath the ground only incorporates the deterioration of organic matter from the corpse. Also there is no coffin used except in certain circumstances where the water table is high or the soil structure is weak.
In a way, the full body burial in Islam can be looked upon in a similar way to the natural burial that has been widely practiced in some parts of the world such as the UK. In the UK, natural burials have been getting a lot of attention from people as the new preferred method to dispose of their dead. There are many places around the UK where people can perform green burials as an alternative to cremation. The transition from cremation to green burial as the ‘next big thing’ has shown that sustainable burial is a primary concern in Western funerary culture (Powell et al., 2011). Even though Muslims have been doing it because of their cultural practices, there are a few similar characteristics that can be found between the Muslim ways of burial and natural burials. Natural burials share the same characteristics to Muslim burials. For example, natural burial does not require the use of a coffin, which is very much the same as an Islamic burial. Trees also exist in green burials as well as in Muslim grave cemeteries, though their use might be slightly different. More importantly, the objective of natural burial is to minimise the impact on the environment, where zero monumental structures are being used to mark the graves. This can be another reason for Muslim cemeteries to lose the kepuk, which is to support a more sustainable approach in the burial grounds. Moreover, this scenario has already been happening in Muslim graves at general cemeteries in Jakarta. For example, the greening of cemeteries in KBGC and PKGC is giving a clue to the possibility of Muslim graves not having a solid and permanent epitaph anymore.

Both methods are using minimal man-made materials inside the ground in order to reduce the impact of human waste on the environment. However, on the ground level, natural burial does not require any physical marking of the graves whereas Muslim graves still display the typical use of gravestones, which is something that can be found in other religious cemeteries as well. Though the method of burial for Muslims share some similar features to natural burials in the way the body is being interred, Muslims still cling to the burial rites that take place on top of graves. In other words, the objective of natural burial is completely motivated by ecological concerns, whereas Muslim burials are only showing half of the ecological treatment which happens under the ground. At ground level, Muslim graves are only supposed to have two forms of marking by using a simple kind of gravestone and by raising up the grave’s surface into a mound. Gardens of Peace in the UK is a good example of how Muslim graves have been done accordingly to Islamic precepts. According to Hashim, the Islamic precept requires Muslims to build the grave moderately without spending excessively on the gravestone and monumental structures (2007). Similarly to natural burials, the grave markers are normally made of simple materials such as stone or wooden plaques. There are also some cases where any form of memorialisation is forbidden, leaving the burial ground to look as natural as it can be (Clayden et al., 2010). Unfortunately, this has not been the case in many cemeteries in the Muslim world. Traditionally, Muslim cemeteries have always displayed the architectural side of their funerary culture lavishly, including in the Malay culture. The fact is that Islamic burials have already been promoting the type of materials that have less effect on the environment both on the ground and at subterranean levels as required by Islamic teaching.

The question is, how far do Muslims want to embrace the ecological value of burial spaces? The answer very much depends on how much they are willing to change in their cultural traits. In the case of general cemeteries in Jakarta, the objective for greener urban cemeteries does not necessarily preserve the cultural traits of Muslim cemeteries. Therefore, this research will not only be addressing the underground profile of the graves, but also the surface level. These two profiles are inseparable and should be treated as one rather than separated. The challenge of this research is to experiment with the idea that ecological practices can exist side by side with the spatial treatment for the graves.
Chapter 4: Findings, Results and Reports

4.1 Approach to data analysis

After getting the data, the major task in qualitative research is to ‘get rid of it’ [sic] (Wolcott, 1990, p. 18) by using data selectively to exemplify, illustrate, or illuminate the story the writer wants to tell. (Sandelowski, 1998, p. 376)

This section explains the approach as well as the method of operation employed in data gathering, and how the data has been analysed to generate results as shown in Figure 4.1. In this research, four principles of sustainable urban forms including conservation, integration, providing open spaces and compactness have been used to categorise the data derived from the first and second categories of case studies. Each of the 16 items has been structured to meet the criteria of the selected four categories. The categorisations of the checklist items under sustainable urban forms have been applied to facilitate the process of data analysis to be more manageable and tangible.

<table>
<thead>
<tr>
<th>First Category of Case Studies</th>
<th>Second Category of Case Studies</th>
<th>Checklist Items</th>
<th>Checklist Categories</th>
<th>Method of Evaluation</th>
<th>Characters of Sustainable Practices for Muslim Cemeteries</th>
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<tbody>
<tr>
<td>2. JDMC</td>
<td>8. SLG</td>
<td>2. Grave spatially</td>
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<td>3. JKM C</td>
<td>9. PA/PAAb</td>
<td>3. Degree of openness</td>
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<td>4. TSMC</td>
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<td>5. KLKMC</td>
<td>11. PKGC</td>
<td>5. Topography</td>
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<td>6. SSMC</td>
<td>12. SDHMP</td>
<td>6. Drainage system</td>
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<td>13. SBC</td>
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<td>8. Perimeter boundary</td>
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<td>9. Spatial relationship</td>
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<td>10. Vehicles accessibility</td>
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<td>11. Softscape</td>
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<td>12. Area</td>
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<td>13. People activities</td>
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<td>14. Facilities provided</td>
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<td>15. Hardscape</td>
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<td>16. Graves arrangement</td>
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Fig. 4.1 Methods of operation employed in data gathering and how it has been analysed to generate results
These four principles will also perform a means of reduction in interpreting the data, by systematically putting items of similar characteristics or functions under the same category. The reduction has been implemented by finding the relevant data that answers the research hypotheses, which are listed as follows:

i. The research speculates on the next direction for urban cemeteries in KL rather than solely providing answers to the spatial issue. Even so, the research will accentuate elements from certain sites that demonstrate the efficient methods of performing burials, as a response to the issues of overcrowding and land shortage.

ii. This research investigates ways to integrate cemeteries as part of public space, by taking into consideration the current urban issues in KL. In doing so, the research will accentuate the elements from certain sites that demonstrate this quality, as a response to the urban issues such as lack of open space, urban heat islands and flash flooding.

Each element or item recorded from the first and second categories of case studies has been examined closely, as the principle of sustainable urban form based on the distinct features that closely relate to them. For example, items (15) Grave hardscape and (16) Grave arrangements have been put under category (D) Compactness, as both elements have the same role when determining the density level of graves inside the cemeteries.

Even though Scheer and Scheer have outlined eight significant characteristics (2002), only four have been chosen to be used in analysing the data (see Chapter 1, page 23-24). Each principle of sustainable urban form has been carefully examined in order to establish the connection with the 16 items, and some have been defined and expounded differently from their original meaning, as presented by both authors in order to suit the sustainability context of Muslim cemeteries. The exclusion of other four principles has been explained in Chapter 1 as they are found to be irrelevant in establishing the connection between sustainability and Muslim cemeteries. The application of sustainability development that emphasises the balance between social, economic and environmental as well as the stability within the three types of landscapes – emotional, community and commercial – have been used as a method when evaluating the data. In doing so, the ‘operative diagram’ introduced in Chapter 1 (Figure 1.4) will serve as a framework guideline for the implementation of sustainable development in Muslim cemeteries. This set of rules has been applied when evaluating the data:

i. **Society:** the sustainability of the community landscape is determined by how sustainable the social sector is at Muslim cemeteries in a sense that it is able to attract and bring people together to the area other than for burials.

ii. **Economy:** the sustainability of commercial landscape is determined by how sustainable the economic sector is at Muslim cemeteries in a sense that it is able to generate revenues for the funeral industry as well as local entrepreneurs.

iii. **Environment:** the sustainability of the emotional landscape is determined by ways to sustain the environment sector at Muslim cemeteries in a sense that it is able to promote ecological stability and protection of surrounding nature.

It is expected that this procedure will help generate and identify the characters of sustainable practices in Muslim cemeteries in KLMA.
4.2 Data collection and analysis

There are two categories of case studies involved in this research. The first category is focused on Muslim cemeteries in Kuala Lumpur Metropolitan Area (KLMA), whereas the second category is not limited to Muslim cemeteries, and some of them are located outside Malaysia. Unlike the first category, the second category is a collection of cemeteries that have been visited across Malaysia, Singapore, Jakarta and Melbourne.

There are three reasons why this research employs the second group of case studies. Firstly, to observe how sustainable development can be implemented outside Kuala Lumpur (KL). Secondly, to see how the same cultural and religious backgrounds of Muslims are dealing with the lack of land for cemeteries. Finally, data gathered from the first case studies has shown that there is not much difference between the cemeteries, in terms of burial practices and management. Thus, the second case studies serve to explore further both aspects beyond the boundary of KLMA. This addition is expected to widen the perspective of the study into a much broader context in formulating solution and answers.

Data for both categories has been collected by using a set of checklists during the site visits as shown in Table 4.1. The checklist is made up of 16 elements that are commonly associated with Muslim cemeteries, comprising physical features of the site, the cultural practices which are performed by the visitors at the graves, and the administrative practices that are performed by the management, including the provision of amenities. Photographs of every item observed in every site have been attached to Appendix 2.

<table>
<thead>
<tr>
<th>Type of Observation</th>
<th>Checklist Items</th>
</tr>
</thead>
</table>
| 1. Physical features of the cemeteries | - Area  
- Site location  
- Perimeter boundary  
- People activities  
- Degree of openness  
- Vegetation  
- Topography  
- Drainage system |
| 2. Cultural practices as performed by the visitors at the graves | - Grave practices  
- Grave spatiality  
- Softscape  
- Hardscape |
| 3. Administrative practices as performed by the management | - Grave arrangement  
- Spatial relationship  
- Vehicles accessibility  
- Facilities provided |

Table 4.1 The 16 elements observed at the site of case studies: three main types
The findings of each item in both case studies have been presented in a form of diagrams along with the summary from tables 4.2 to 4.17. Data acquired from the diagrams was interpreted and then converted into certain keywords or phrases as shown in tables 4.2 to 4.17. The summary of each item has been assessed based on the two following criteria:

- Elements that contribute to make the burial space more effective inside the cemeteries.
- Elements that contribute to make urban cemeteries more open to the public.

This research has employed content analysis for both the first and second categories of the case studies by identifying keywords or phrases. Apart from making the analytical process more refined, keywords and phrases are used to represent the complexity of qualitative data.

Analyses typically fall into one of two categories: content and thematic. In content analysis, the researcher evaluates the frequency and saliency of particular words or phrases in a body of original text data in order to identify keywords or repeated ideas. (Namey et al., 2007, p. 138)

In analysing the data, the research has employed thematic analysis.

Thematic analysis, in contrast, is more involved and nuanced. Thematic analysis moves beyond counting explicit words or phrases and focuses on identifying and describing both implicit and explicit ideas. (Namey et al., 2007, p. 138)

The study has summarised the relationship between the identified keywords and phrases with the sectors of sustainable development. This is done in order to validate the connection that may or may not exist between the two, and more importantly, it is also a way to notice whether cemeteries are confirmed to the state of being sustainable in three main sectors of society, economy and environment.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Conservation</td>
<td>1. Grave practices</td>
<td>The sites either allow or restrain the traditional practices and material cultures from thriving.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Keywords / phrases</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal attachment, memorialisation, regulations</td>
<td>Graves are mediums that connect the living to the dead. The ritual practices involved over the graves are closely related with human emotion and psychological levels.</td>
</tr>
</tbody>
</table>

Table 4.2 Findings and results on element of grave practices for the first and second category of case studies
Table 4.3  Findings and results on element of grave spatiality for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Conservation</td>
<td>2. Grave spatiality</td>
<td>The sites either provide adequate space or lack of space for the grave rituals. The grave rituals refer to the common customs that Muslims usually perform at the graves. For instance, the reading of talqin by Imam normally takes place next to the grave. The ritual will be accompanied by the attendee's after the body has been buried. The same spots (both right and left side of the grave) will also be used by the family members during the graves visit in the future. (*Talqin readings does not apply to non-Muslim graves)</td>
</tr>
</tbody>
</table>

**Keywords / phrases**

| Dimensioned, disappeared | Space for grave rituals has to be protected and accommodated in order to encourage people visiting the graves. |

Table 4.4  Findings and results on element of degree of openness for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Conservation</td>
<td>3. Degree of openness</td>
<td>The sites are either shrouded by clumps of trees which are planted randomly, or exposed to the sunlight due to gaps between tree plantings.</td>
</tr>
</tbody>
</table>

**Keywords / phrases**

| Exposure | Trees have some influence how people's moods are affected at the site. There has to be a balance in controlling the right amount of sunlight that covers the site. |

**Data Analysis**

Table 4.3  Findings and results on element of grave spatiality for the first and second category of case studies

Table 4.4  Findings and results on element of degree of openness for the first and second category of case studies
Table 4.5  Findings and results on element of vegetation for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Conservation</td>
<td>4. Vegetation</td>
<td>The sites either posses sanctuary-like or park-like quality. The quality for both are interpreted in two ways:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>i. The maturity of the vegetation and,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. The amount of existing vegetation found at the sites.</td>
</tr>
</tbody>
</table>

**Keywords / phrases**  
Biodiversity, mitigate urban microclimate

**Data Analysis**  
Plants at the cemeteries are essential in helping to regulate the local weather.

Table 4.6  Findings and results on element of topography for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Conservation</td>
<td>5. Topography</td>
<td>The sites are either built over the flat or sloping ground.</td>
</tr>
</tbody>
</table>

**Keywords / phrases**  
Flat ground versus natural landform

**Data Analysis**  
Hilly ground offers more visual interest as well as being aesthetically pleasing in comparison to the flat ground.
Table 4.7  Findings and results on element of drainage systems for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Conservation</td>
<td>6. Drainage system</td>
<td>The sites are either exposed or concealed its drainage system, or a combination of both.</td>
</tr>
</tbody>
</table>

**Data Analysis**

Surface and subsurface drainage

Drainage systems are important to mitigate water run off sufficiently from the site especially during rainy season. Supervision for natural drainage is essential to ease the situation.

Table 4.8  Findings and results on element of site location for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Integration</td>
<td>7. Site location</td>
<td>The sites are either closely situated to the surrounding neighbourhood or isolated from the surrounding contexts.</td>
</tr>
</tbody>
</table>

**Data Analysis**

Isolated

Cemeteries have to be incorporated as part of the city’s social life.
Table 4.10 Findings and results on element of spatial relationship for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Integration</td>
<td>9. Spatial relationship</td>
<td>The sites have either connected or disconnected internal footpath networks which also affect its level of accessibility.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Keywords / phrases</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vehicle circulation within cemeteries is crucial to attract more people into the place. Cemeteries could only encourage participation from the public if good footpath network was being provided.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Data Analysis</strong></td>
</tr>
</tbody>
</table>

Table 4.9 Findings and results on element of perimeter boundary for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Integration</td>
<td>8. Perimeter boundary</td>
<td>The sites are either surrounded by solid walls or see through fences, or a combination of both which becomes the boundary. Some of the sites have more than one point of entry.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Keywords / phrases</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perimeter boundaries create separation between the cemetery and the surrounding area, preventing any possibility for communication and other social activities to take place within the site. The use of the perimeter boundary without physical structures has to be encouraged at the site.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Data Analysis</strong></td>
</tr>
</tbody>
</table>

Table 4.10 Findings and results on element of spatial relationship for the first and second category of case studies
Table 4.11 Findings and results on element of vehicle accessibility for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Integration</td>
<td>10. Vehicle accessibility</td>
<td>The sites either allow vehicles to park close to the facilities building and burial spaces, or park outside the cemetery's walls.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Keywords / phrases</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited vehicular access</td>
<td>Cemeteries will not be able to attract visitors by having too much control of the location of parking spaces at the sites.</td>
</tr>
</tbody>
</table>

Table 4.12 Findings and results on element of softscape for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Provide open space</td>
<td>11. Softscape</td>
<td>The sites display various common types of shrubs over the graves.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Keywords / phrases</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defining the space, visibility</td>
<td>Without certain arrangement, various types of plants found at the sites could create a confined space, as well as a sense of loss and confusion to users.</td>
</tr>
</tbody>
</table>
Table 4.13 Findings and results on element of area for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Provide open space</td>
<td>12. Area</td>
<td>The sites are either expanding to accommodate more burial space, or becoming inactive due to exhausted land. (*AJBMC is expanding vertically)</td>
</tr>
</tbody>
</table>

Keywords / phrases

Increasing in size, as well as the scale of operation

Data Analysis

The expansion of cemetery areas has the opportunity for the site managers to engage with the public, by operating more complex functions.

Table 4.14 Findings and results on element of people’s activities for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Provide open space</td>
<td>13. People activities</td>
<td>The sites have some or hardly any people visiting the graves. There was a funeral ceremony taking place in some of the sites.</td>
</tr>
</tbody>
</table>

Keywords / phrases

Restriction due to regulations

Data Analysis

Cemeteries regulations have to be revised in a way to attract people into the sites.
### Table 4.15 Findings and results on element of facilities provided for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Provide open space</td>
<td>14. Facilities provided</td>
<td>The sites either provide basic or extended facilities to accommodate funeral ceremony's and grave visits.</td>
</tr>
</tbody>
</table>

**Keywords / phrases**

**Data Analysis**

Lack of amenities

Apart from providing essential amenities for funeral ceremony's and grave visits, the provision of facilities for recreational purposes is crucial to serve as a magnet in drawing people into the site.

### Table 4.16 Findings and results on element of hardscape for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. Compactness</td>
<td>15. Hardscape</td>
<td>The sites are either displayed varieties or limited materials used for grave structures. The method of construction for the graves is either done in a traditional way or prefabricated.</td>
</tr>
</tbody>
</table>

**Keywords / phrases**

**Data Analysis**

Simple and moderate kepuk, simplification of kepuk

Some of the sites still maintain grandeur structures over the graves which have been practiced due to personal preferences and exclusiveness. Methods of construction for grave structures has become less complex, and in some cases they are completely removed or omitted due to concern of using the space.
4.3 Report

Another of the most important decisions that qualitative researchers have to make is how to balance description, analysis and interpretation (Lofland and Lofland, 1995; Wolcott, 1994 as cited in Sandelowski, 1998, p. 376). Description here refers to the ‘facts’ of the cases observed; analysis to the breakdown and recombinations of data that allow researchers to manage and see them in new ways; and interpretation to the new meanings researchers create from their treatment of data (Sandelowski, 1998, p. 376).

For the purpose of reporting, all items have been put under the same themes used in the checklist categories as shown in Table 4.18. The characteristics of sustainable practices of graves and cemeteries can be divided into two parts. Altogether there are five items under the graves and 11 items under cemeteries. The report of each theme has been done by interpreting the significance of every characteristics of sustainable practice in connection to the concept of sustainable development. Each theme has also been used to synthesise the characteristics of sustainable practices inside Muslim cemeteries as presented under tables 4.19 to 4.22.

Table 4.17 Findings and results on element of grave arrangement for the first and second category of case studies

<table>
<thead>
<tr>
<th>Theme</th>
<th>Checklist Item</th>
<th>Summary of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. Compactness</td>
<td>16. Grave arrangement</td>
<td>The sites are either arranged with graves in a loose arrangement or in a systematic way.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Keywords / phrases</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loosely arranged (e.g. Silang Tikar) versus highly regemented</td>
<td>Cemeteries need a systematic way of arranging graves within the site to reduce and avoid problems such as overcrowding and lack of space.</td>
</tr>
</tbody>
</table>

Table 4.18 Categorisation of 16 elements according to four themes

<table>
<thead>
<tr>
<th>Concerning graves</th>
<th>A. Conservation</th>
<th>B. Integration</th>
<th>C. Provide open space</th>
<th>D. Compactness</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Grave spatiality</td>
<td></td>
<td></td>
<td></td>
<td>16. Grave arrangement</td>
</tr>
</tbody>
</table>

| Concerning cemeteries | | | |
|-----------------------|-----------------|----------------|-----------------------|----------------|
| 3. Degree of openness | 12. Area        | 7. Site location | 13. People’s activities |                |
| 6. Drainage system    | 10. Vehicle accessibility |                |                       |                |
A. Conservation

Under the theme of conservation, there are six elements concerning graves and cemeteries that are divided into two parts. Grave practices and grave spatiality are concerned with graves, whereas degrees of openness, vegetation, topography and drainage systems are concerned with cemeteries. The theme of conservation deals primarily with the social and environmental sectors of sustainable development.

<table>
<thead>
<tr>
<th>A. Conservation</th>
<th>Items</th>
<th>Characteristics of Sustainable Practices</th>
<th>Sector of Sustainable Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concerning graves</strong></td>
<td>1. Grave practices</td>
<td>Allow freedom of practices at the graves but within a controlled environment.</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>2. Grave spatiality</td>
<td>Allocate spaces for the grave rituals.</td>
<td>Social</td>
</tr>
<tr>
<td><strong>Concerning cemeteries</strong></td>
<td>3. Degree of openness</td>
<td>Introduce systematic plantings at burial sections that focus on trees with vertical forms and low dense foliage.</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>4. Vegetation</td>
<td>Promote planting at the sites.</td>
<td>Environment</td>
</tr>
<tr>
<td></td>
<td>5. Topography</td>
<td>Protect the natural landform as much as possible from being altered.</td>
<td>Environment</td>
</tr>
<tr>
<td></td>
<td>6. Drainage system</td>
<td>Provide multiple drainage systems.</td>
<td>Environment</td>
</tr>
</tbody>
</table>

Table 4.19 Characteristics of sustainable practices for Muslim cemeteries under the theme of conservation

**Grave practices and grave spatiality** - The first two elements under conservation, grave practices and grave spatiality, can be put under the social sector because both involve the implementation of ritual practices over the graves. It is important to notice that grave practices can be regarded as part of social freedom in modern society today. Grave practices are a form of personal reflection that display visitors’ emotions towards their dead, which are either performed collectively by family members or by an individual. For this reason, it is also necessary for management to provide appropriate space for these kinds of rituals to take place. The research suggests that these cultural rites continue. However, they should be carried out within the grave's demarcation line to prevent the same complications found in conventional cemeteries from happening.

**Degrees of openness** - Atmosphere inside old Muslim cemeteries is commonly described as gloomy due to a lack of sunshine penetrating the site, whereas in some new cemeteries the sunlight is fully exposed due to the absence of mature trees. These settings are found to be unsuitable to attract people to the site. It is important for cemeteries to have the right balance between these two to create a pleasant experience for visitors and the public. The right degree of openness can be achieved by introducing systematic plantings that focus on trees with vertical forms and low, dense foliage especially in every burial section.

**Vegetation** - The presence of vegetation at the cemeteries should be promoted to serve as a backbone for the environment sector. It is obviously a necessary element that should be maintained within the site and it is essential in order to make cemeteries into park-like places where people want to spend time. However, trees, shrubs and grasses should be introduced into cemeteries by referring to the last characters of sustainable practice as a guide, where only certain types of trees are preferred. Furthermore, vegetation will have to be arranged systematically, in order to define the space, as has been suggested in this research under the softscape element.
**Topography** - Topography is another element that falls under the environmental sector, due to its close association with nature in a similar way to vegetation. The term ‘landform’ can also be used to represent this element, though topography normally consists of the area’s physical features, both natural and artificial. This means that the construction of cemeteries normally involves the cutting and filling of earth, and this has always been the case with Muslim cemeteries. People should always work with nature rather than against it. This thesis suggests that cemetery developments should minimise the changing of the landform. There are two reasons why this should be the practice for future development in urban cemeteries. Firstly, protection of natural topography will also mean less interference with rainwater, which is a crucial factor in helping to mitigate water run off. Secondly, natural topography should be maintained for aesthetic qualities, as has been witnessed in San Diego Hills Memorial Park (SDHMP).

**Drainage system** - The drainage system is an important feature like any other element in sustaining the environment sector inside urban cemeteries. The drainage system is as crucial as the element of topography in channeling surface water runoff from the site. There are cases where water ponding has appeared inside cemeteries, which shows a lack of sensible site planning. In order to prevent this problem, cemeteries should not only rely on man-made drainage but also work with natural drainage which could be built on the site such as rain gardens. This would also be beneficial in the event where enormous amounts of water can be discharged effectively, to ease the impact of urban flooding particularly during the wet season. Apart from that, as a place to dispose of the dead mainly through the method of decomposition, management should pay particular attention to the percolation and treatment of water discharged off the site so that it will not cause any harm.

**B. Integration**

Integration is the theme that focuses on the social sector of sustainable development. All the four elements under this theme are concerned with the aspect of accessibility with the outside world, as well as connectivity within the cemeteries.

<table>
<thead>
<tr>
<th>B. Integration</th>
<th>Items</th>
<th>Characteristics of Sustainable Practices</th>
<th>Sector of Sustainable Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerning cemeteries</td>
<td>7. Site location</td>
<td>Integrate cemeteries into urban and housing planning.</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>8. Perimeter boundary</td>
<td>Promote interaction between the site and the surrounding area.</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>9. Spatial relationship</td>
<td>Provide internal road networks for vehicle access. Well connected pedestrian walkways.</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>10. Vehicle accessibility</td>
<td>Multiple entry points and parking spaces for vehicles.</td>
<td>Social</td>
</tr>
</tbody>
</table>

Table 4.20 Characteristics of sustainable practices for Muslim cemeteries under the theme of integration

**Site location** - The site location of cemeteries should be integrated into city and housing planning to make sure they will not be deliberately isolated physically or visually. Scheer and Scheer have defined integration as providing a mixture of land uses (2002). For this reason, cemeteries should be integrated into the city’s development regardless of the scale of the project.
**Perimeter boundary** - Even though cemeteries can be integrated through the mixture of land uses stated earlier, nevertheless the perimeter boundary of the site should be planned and designed in such a way that it would promote interaction between the cemeteries and the surrounding areas. The use of solid walls and continuous fences are not suitable to define a cemetery’s area as this will go against the purpose of this theme.

**Spatial relationship and vehicle accessibility** - The accessibility of cemeteries from the surrounding context can be improved by making sure the site is linked internally by a vast corridor system and road network. Other than promote public attendance at the site, good circulation will also ensure cemetery areas will attract more human activities. Moreover, it is important for the site to have multiple entry points and parking spaces for vehicles. The idea of having a dedicated parking space in one area will restrain people’s movement from exploring the site further. For this reason, cemeteries should encourage the movement of drivers and motorists all over the site. As vehicles are the main medium of transportation in KL, it is important for cemeteries to have this feature for the user’s convenience.

**C. Provision of open space**

As a theme, providing open space is associated closely with the social and economic sector. This theme is very transparent in terms of its meaning and there are four elements that can be used by authorities to make Muslim cemeteries part of public spaces. In the economic sense, open space will invite and welcome people into the area, which will then help support the local businesses. Under this theme, softscape is the only element that is concerned with the grave, whereas the rest are concerned with cemeteries.

<table>
<thead>
<tr>
<th>C. Provide open space</th>
<th>Items</th>
<th>Characteristics of Sustainable Practices</th>
<th>Sector of Sustainable Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerning graves</td>
<td>11. Softscape</td>
<td>Promote accessible landscapes for visitors.</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>12. Area</td>
<td>Public spaces have to be included in the development of urban cemeteries.</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>13. People’s activities</td>
<td>Provide multiple activities for people’s enjoyment.</td>
<td>Social, Economic</td>
</tr>
<tr>
<td></td>
<td>14. Facilities provided</td>
<td>Provide multiple facilities inside the cemeteries.</td>
<td>Social, Economic</td>
</tr>
</tbody>
</table>

Table 4.21 Characteristics of sustainable practices for Muslim cemeteries under the theme provision of open space.

**Softscape** - Here, the softscape theme refers to the random planting that is commonly found inside Muslim cemeteries. It is crucial for grave softscape to be controlled and designed in a way that will not hinder the movement of visitors so that people can still perform rituals over graves without much interference. Even though this element is specifically applicable only to grave visitors rather than the wider public, this theme suggests that this ‘special space’ be accessible for people’s use. Visitors can make the connection of this theme to sustainable practices of the rituals performed at the graves. In other words, accessible landscape is an important element that needs to be designed sensibly to sustain the cultural and religious practices that take place over the graves. The softscape inside Muslim cemeteries should be able to complement these practices, to ensure that grave rituals are maintained. This could be done by manipulating the function of plants such as trees and shrubs to define the space at burial grounds.
**Area** - This element shows that open spaces can be incorporated into the development of urban cemeteries regardless of the scale of the area. The concept of hybrid function very much depends on the ability of a given area to provide open space inside the cemeteries. This element is also important in promoting social sustainability at the site, which can be done through public engagement.

**People's activities and facilities provided** - Public participation at the site can be promoted by providing multiple facilities as part of the amenities. In other words, the type of activities introduced at the site depends on the availability of facilities provided inside the cemeteries. This will also help sustain the local economy by having greater levels of patronage, such as for florist, dining and café facilities. For this reason, management should be able to accommodate the multiple needs of people between grave visits with light recreational and socialising potential.

**D. Compactness**

The theme of compactness is concerned with the construction and design layout of graves rather than the scale of the cemetery's area. Based on Scheer and Scheer's definition, compactness has been described as creating and preserving higher density forms (2002). This definition is found to be applicable in the making of grave hardscapes and grave arrangement. Both elements share the same role in determining density levels of graves inside cemeteries.

<table>
<thead>
<tr>
<th>D. Compactnes</th>
<th>Items</th>
<th>Characteristics of Sustainable Practices</th>
<th>Sector of Sustainable Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerning graves</td>
<td>15. Hardscape</td>
<td>Provide multiple alternatives for grave structures that emphasize moderation and simplicity, including structure-free graves. Promote the preservation of conventional graves through a new method of construction (e.g. prefabricated).</td>
<td>Social, Economic, Environmental</td>
</tr>
<tr>
<td>16. Grave arrangement</td>
<td>Grave arrangement has to give priority to the spatial efficiency.</td>
<td>Economic, Environmental</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.22 Characteristics of sustainable practices for Muslim cemeteries under the theme of compactness

**Hardscape** - Compactness can be applied at Muslim cemeteries in minimising the amount and scale of hardscape built over the graves to reduce carbon footprints and man-made structures on the environment. By doing so, grave structures will shrink in line with Islamic teaching, which pursues a moderate appearance. Nevertheless, for cultural preservation this should be done with great care, without completely eliminating funerary architecture and traditional styles of Malay-Muslim culture. In order to achieve this goal, grave builders along with the funeral industry and professional designers could uphold this task by investing funds, and sharing knowledge and expertise within their own field.

**Grave arrangement** - Compactness will also increase the productivity of the land storage for immense numbers of corpses, which has been demonstrated through the method of confined structures at the site. In a similar way to the hardscape element, the collaboration between grave builders, the funeral industry and professionals could result in a better design for grave arrangements. This particular method is essential in making the most of the area by delaying use of land in the city for burial purposes. The current practice has revealed that authorities are continuously allocating areas of land for public cemeteries around KL. This trend is potentially causing more precious land and pristine forests to be cleared for cemetery development and this land will eventually become exhausted.
Chapter 5: Discussion, Proposals, Applications and Contributions

5.1 Themes

This chapter is divided into four main themes: discussions, proposals, applications and contributions.

5.2 Discussions

This section comprises of discussions on the aspects involved in sustaining Muslim cemeteries and it can be described in five parts: culture, environment, society, economic and spatial. These sustainability aspects of Muslim cemeteries are interrelated, and each has been discussed with some cross-reference to one another. Due to this fact, the thesis will emphasise linkages between them and present them as a cohesive body of work.

5.2.1 Sustaining the cultural aspect of Muslim cemeteries

At a spiritual level, Muslims believe that cemeteries serve as a transitional space between this world and the hereafter. This correlation between ‘living’ bodies and cemeteries in Muslim tradition will continue to exist for a very long time, as there is a strong bond between these two in terms of religious sense. For this reason, Muslim societies are still dependent on the provision of land for burial in the city, in order to achieve the completion of this cultural means. It has been acknowledged that cemeteries are places that consist of highly physical artifacts; however, recent patterns of management in public cemeteries has kept this cultural practice to a minimum by controlling the number of artifacts being built or displayed over graves. The problem encountered with grave artifacts is that they were highly regarded as a cultural representation of Malay burial practices, which is still deeply rooted today.

In addressing this cultural representation, this thesis has been discussing issues that revolve around four core traits in Malay cemeteries, known as family plots, monumental structures, personal demarcation and random planting. These four characteristics are the main features of Malay cemeteries that have been identified during site observation, and they are closely associated with the Malay burial customs. In general, it has been discovered that these unique cultural traits, have severely limited public access among graves, along with strict regulations imposed at the cemeteries by The Federal Territory Islamic Affairs Department (JAWI). JAWI is more concerned to keep the space inside cemeteries in a systematic order and efficient for burial at the same time. Moreover, religious precepts have also become factors and JAWI’s motivation in taking such an approach. As a result, the management of Muslim cemeteries run by the local municipals in KLMA might have not resolved this conflict satisfactorily.
Family plots

In Chapter 2: Research Issues, the thesis highlighted the lack of provision for family plots to be incorporated inside public cemeteries in Kuala Lumpur (KL) due to the non-existence of grave reservations prior to Muslims’ demise. As a consequence, other than by chance, graves of the same family members are impossible to be placed next to each other, which has always been the case in most public cemeteries. The thesis suggested that family plots should be promoted in Muslim cemeteries mainly because it is encouraged by Islamic teaching. This practice is easily accommodated in a private burial ground such as a memorial park due to different goals and objectives in comparison to municipal cemeteries. Even though this practice could be reintroduced in public cemeteries, by permitting people to book the grave plots at an earlier stage before their death, however, the management has to be sensible in dealing with the organisation of space in order to accommodate this purpose.

Usually, the practice of family plots in Muslim cemeteries is done by arranging graves side by side. However, this traditional practice could be approached differently though customisation of a single plot to facilitate multiple bodies instead of one. This means is achievable with the incorporation of alternative methods for full body burial such as confined structures and stacked graves. In this way, every grave inside Muslim cemeteries will always be ready for use as a family plot by allowing at least two bodies or more within a single burial plot. A minimum of two bodies per plot is considered to be ideal, because it this is a common type of family plot found in Muslim cemeteries, comprising a deceased couple of husband and wife. Nevertheless, this figure can be increased accordingly to suit the current trend.

Monumental structures and personal demarcation

In this section monumental structures and personal demarcation will be discussed together. As what has been discussed in Chapter 2: Research Issues, personal demarcation is normally made of vertical and horizontal structures; thus it can be considered as a hardscape which belongs under the same category as monumental structures. For this reason, solutions for these two common traits of Muslim cemeteries share similar treatments. Examination of monumental structures and personal demarcation inside Muslim cemeteries can be divided between two contrary propositions – either by regulating or protecting them. The discussions that take place afterward are mainly focused on kepuks, and it is primarily based on the comparison between public and private cemeteries.

Grand kepuks are unnecessary in public cemeteries (that are properly planned and designed)

From site observation conducted in public cemeteries around KL such as Jalan Ampang Muslim Cemetery (JAMC), Jalan Kuari Muslim Cemetery (JKMC) and Jalan Damansara Muslim Cemetery (JDMC), it has been found that each grave plot is indicated by the stone markers right before the burial takes place. Even so, this conventional marker has its own weakness because they are normally competing against kepuks in two ways, spatially and visually. This situation happens at later phases of a cemetery’s life, especially when sites are fully occupied with numerous graves. Hence, at this stage stone markers are no longer able to serve their function in assisting visitors to locate graves.

In the case of Taman Selatan Muslim Cemetery (TSMC), every plot is properly indicated with a dedicated plaque number to assist visitors in tracing the graves. Instead of being placed vertically in a similar fashion to
conventional stone markers, the tiny plaque has been purposely used as a grave marker and designed in such a way that it can be laid over the ground. Nonetheless, the use of this plaque alone does not make the graves easy to find at TSMC. Other contributing factors to spatial issues that normally persist inside public cemeteries need to be monitored; this includes the traditional practice of permanent structures which include kepuk monuments, personal demarcation and random planting. Apart from that, information boards showing the location map of every burial section have also been provided for visitors’ convenience. This amenity has been a standard feature of cemeteries in major cities such as Melbourne, where a directory board covering the whole area of the cemetery is displayed in the established Melbourne General Cemetery, as well as in contemporary Springvale Botanical Cemetery (SBC).

Therefore, excessive kepuk designs built over the graves are considered to be redundant inside the cemeteries that have been meticulously designed and carefully planned in advance such as TSMC. It is expected that people will not experience much difficulty in finding the graves. Thus, Malaysian authorities should have prepared a more systematic arrangement of burial sections by refining the design layout of public cemeteries in order to avoid the issues of space from recurring. Further, this would also help to set up a concise protocol that would offer a better funerary experience to people.

**Grand kepuk designs should only be permitted in private cemeteries (such as memorial parks)**

There are three reasons why grand scale kepuk should be kept alive in Malay funerary practices. Firstly, the logic behind this step is to provide the Muslim population with more than one alternative to embellish graves. It is important for city dwellers in KL to have freedom in choosing kepuk styles and resting places that suit them. This is because the majority of Muslims still cling to this practice, erecting kepuk for numerous reasons which are motivated either by cultural or personal factors. As long as people have a desire for extravagant kepuk over the graves, then this practice should be facilitated but not encouraged. Urban cemeteries should be able to meet the diversity of burial practices associated with Malay funerals, and this could only happen inside independent and privatised burial grounds such as memorial parks. Different kinds of ownership and management of burial infrastructures for Muslims, other than public cemeteries, should be encouraged in KL and Malaysia in general. However, these new kinds of operations should not only be running for the sake of cultural freedom, but also focusing on other aspects of sustainability including environment, social and economic.

Secondly, the creation of memorial parks is not normally constrained by the limitation of space, allowing for grand-scale kepuk to be built within the area as has been exemplified at San Diego Hills Memorial Park (SDHMP). There will be no conflict when using the space as a burial ground, which is normally the case inside public cemeteries. As a matter of fact people are normally exposed to a much wider selection of graves in SDHMP that match their own personal preferences.

Finally, Muslim cemeteries require different kinds of ownership for ongoing preservation of kepuk as part of Malay funerary culture. This study has taken a lesson from the traditional Malay cemeteries such as Jalan Kubor Cemetery (JKC) and Johor Royal Mausoleum (JRM), where Malay funerary architecture was found to be deteriorated and isolated from its surroundings. Even though this can be done in public cemeteries, however, there will be a problem arising from management when it comes to allocating spaces exclusively for this purpose, as well as the maintenance side. Preservation of kepuk is not only important for future generations, but it will also continue to exist as long as Malay people show interest in having them as part of the graves.
Kepuk from the perspective of environment, social and economy

The discussion in this section is derived from the continuation of Chapter 3, under Section 3.4.1. In this section, the main discussion has been focusing on the existence of kepuk over graves by reflecting on the sectors of environment, society and economy.

**In terms of environment**

This study has pointed out the zero value of kepuk in contributing to environmental sustainability. Presence of kepuk inside the cemeteries is polluting nature by extending the widespread impact of footprints over the built environment. From an environmental perspective the absence of kepuk from the cemetery’s ground signifies the reduction of human impact over Earth that could lead toward a sustainable environment. By taking an example from SLG, the use of plaques to replace conventional gravestones and monuments over the graves has established a tractable landscape that is easy to manage and maintain.

A movement for a much greener urban environment might become a reason for Muslim cemeteries to minimise the existence of kepuk in KLMA, as has been witnessed in Karet Bivak General Cemetery (KBGC) and Pondok Kelapa General Cemetery (PKGC), or even completely wipe them. Apart from that, removal of traditional kepuk off graves inside the general cemeteries in Jakarta is driven by intention to increase green areas in the city. This is done by replacing hardscape elements, especially kepuk, in favour of grass as the ground cover inside the cemetery area. In Jakarta, the fact that urban cemeteries could help to mitigate the issues of urban flooding should be seriously scrutinised by Malaysian authorities. This would likely become a significant factor for urban cemeteries to be located within the central location of the city.

However, these facts are only valid in certain conditions; for example, the absence of kepuk from cemeteries has proven beneficial in allowing an immense amount of water runoff to be absorbed into the ground mainly during the wet season. On the other hand, the study has predicted that the next trend in developing urban cemeteries is expected to take place in the vicinity of residential neighbourhoods within the suburban area. Thus, if this pattern continues in KL, cemeteries would have less significance in lessening flash flooding in the city after all, except for existing cemeteries that have been established for a long time and located within the city area.

**In terms of society**

Other than to increase the amount of green area in the city, a decision to remove and eliminate kepuk from the graves will not guarantee cemeteries will be more welcoming as part of a public space in the city. In the Malaysian cultural context, this can be explained twofold; firstly, burial grounds are ordinarily meant for the dead not the living. Even though some case studies have shown that hybrid functions can be included inside cemeteries, as has been shown in SDHMP and Wilbury Hills Cemetery (WHC). However, careful segregation between the use of spaces within cemeteries is crucial to maintain the balance between cultural and social purposes. Hence, for this reason it is important for cemeteries to be planned in advance if management envisions developing them to perform dual functions. Secondly, due to its status as a sacred space, people have few tendencies to visit cemeteries, in a similar way to any other ordinary park in the city. Though the concept itself is appealing in addressing the issues of lack of public space in the city, however, the use of public cemeteries as public parks has never propagated among Malaysians. It is expected that Malaysians would accept this idea gradually over a long time. This point will be discussed further in the following section.
By referring to Chapter 3, under Section 3.4.1, this thesis has underlined that kepuk and material culture including permanent structures and personal demarcation do not have any magnitude in contributing to the social sustainability inside Muslim cemeteries. These two aspects conflict with each other, simply because the creation of cemeteries is to dispose of the dead, rather than to encourage interaction between the living. Here, sustaining the social aspect of Muslim cemeteries is referring to the potential of the site to be used as part of the recreational space by the public. This task derived from the interpretation of sustainable development where integration between the social sector and community landscape has been identified as one of the challenges in this study.

In the case of a new cemetery, the first burial will normally be done in an open space, and this continues from one plot to the next one until the whole section is filled. From the site observation conducted at Muslim cemeteries in KL such as KLKMC and S9MC, kepuk are usually erected after the completion of the burial. For this reason, kepuk do not have any influence as being socially sustainability at Muslim cemeteries, or even in accommodating the Muslim community, to partake in social gatherings during the funeral ceremony. Thus, kepuk and material culture including permanent structures and personal demarcation have no social connotation in promoting cemeteries for recreational purpose.

In terms of economy

The economic sense of kepuk inside Muslim cemeteries can be described in two ways.

Firstly, Muslim burials should be planned economically by spending a moderate sum of money to build kepuk. This is due to the fact that in recent years the price of kepuk in Malaysia has become very high, which can be seen as taking an advantage of the users. Even though there are no steps taken to monitor this niche industry, as most businesses are driven by profit, nevertheless, grave builders should be able to cater for different classes of society from rich to poor. In other words, the funeral industry should provide more choice for people to have kepuk built over graves. Grave builders should also be responsive to social welfare and not only focus on financial gain.

Secondly, kepuk making should be maintained as one of the businesses that contributes to generating local revenue. For this reason, it makes sense for KL to have various types of cemetery ownership because each will have different regulations relating to kepuk construction. It is understood that the survival of the kepuk-making business is absolutely dependent on the regulations set up by the JAWI. If JAWI chooses to strictly regulate the use of kepuk in all public cemeteries in the city, then this particular funeral industry will be put at risk.

As an Islamic institution, JAWI seems to have a pro-Islamic precept which encourages the modest look of kepuk. This will certainly have an effect on the industry despite the possibility that JAWI decides to pursue a greener environment by eliminating kepuk. However, with the addition of non-government-owned Muslim cemeteries in KLMA, this circumstance will create an opportunity for the funeral industry including the grave makers to adapt to the current market trend, especially in kepuk construction. In this way, the local industry is expected to grow and be more inventive in offering their services. Thus, the thesis has demonstrated multiple ownerships of cemeteries in the city are vital to create a conducive economical state in Muslim cemeteries.
Systematic planting

The treatment of random plantings at Muslim cemeteries can be regarded as having more of an advantage towards the environment in promoting biodiversity as well as regulating the local climate. The thesis suggests that this practice be carried on at cemeteries, however, within a controlled environment. The name ‘random plantings’ should be dropped and be known as ‘systematic plantings’. This is because it is important for Muslim cemeteries to be an organised environment to avoid issues of space and visibility. Yet, it is important for management to allow this practice to convey the spiritual meaning represented by the plants.

The use of planting trees and shrubs to mark the graves is considered unnecessary inside Muslim cemeteries if local authorities in KLMA are able to imitate the way burial sections are being planned and designed at TSMC and SLG. A substitute for the Silang Tikar method has to be found by referring to the many examples available. From site observations, most graves in TSMC and KLKMC are covered with green grass, which in a way is playing the same cultural role that is performed by various plants in any conventional Muslim cemetery. Apart from reducing the burden of maintenance, it would be wise for management to limit this practice to low lying ground covers. Even though people are given freedom to treat graves as their own personal garden within their own plot, however it should be limited to ground covers that resemble the horizontal aspect instead of the vertical in order to maintain a clear view within cemeteries.

A common use of vertical shrubs especially Cordyline terminalis over the graves is found to be distracting to visitors’ eyes due to its height and dark red foliage. This shrub is not suitable for use in an open area such as burial grounds, because the dark red colour tends to absorb light cast over the area and covers the space in shade and shadows, particularly in the absence of the sun. Furthermore, in most cases Cordyline terminalis is normally used as a buffering plant, to define the footpaths or soften the landscape against hard structures such as walls. By letting this species exist in Muslim cemeteries, where it is found to perform inappropriate functions, it will definitely give the kind of experience that visitors do not want to have during their visit.

In addition, the role of landscaping as an urban sanctuary at Muslim cemeteries should be shifted to provide a comfortable environment, as a means to console the bereaved family when they are going through their loss and grief experience. Due to this fact, the development of public cemeteries as a park concept should be looked into, in order to create a more sustainable burial ground that is concerned with human emotion. There have been many examples of cemeteries such as TSMC and SDHMP where the surrounding landscape has been planned and designed, to comfort people when they partake in a funeral ceremony or a grave visit.

Material culture and freedom of practice

By creating a version of a memorial park in Muslim cemeteries, this would permit a material culture to continue as well as highlighting the freedom of practice at the same time. Here, the materialisation of culture can be regarded as a sign of freedom in performing the rituals involved at the gravesite. There is no reason why the exhibition of material culture should be discontinued from Muslim cemeteries, as space is not an issue in a memorial park. Furthermore, memorial parks are an ideal place for people to celebrate their right willingly, in performing grave-related rituals and funerary practices regardless of their cultural influences or personal taste.
The reason why material culture is able to thrive and freedom of practice is possible in memorial parks while it is not so obvious in public parks is obviously due to different types of management, which have been described earlier. Generally memorial parks offer more choices than public cemeteries, providing people with various means of burial. In fact, memorial parks take one step further by offering customers many options of grave plot, where each has different kinds of treatment of design and space.

In the case of public cemeteries, in order to control the activities that happen with graves, such offerings are not made available due to strict regulations. Moreover, the uniformity of graves inside public cemeteries does not inspire people's interest when they come. Most of the graves in newer public cemeteries such as TSMC, KLKMC and S9MC are less attractive, in comparison to observations made of the old cemeteries such as JAMC, JDMC and JKMC, where graves are found to be more individualistic from one another.

However, by putting this scenario into a different perspective, this might not be the case after all because in recent years public cemeteries have shown a drastic expansion of area, as witnessed in TSMC, KLKMC and S9MC. Due to this fact, there is no reason why public cemeteries are not able to provide the same level of freedom that memorial parks have on offer. A decision to allow the materialisation of culture continues to exist and will definitely depend on the management of the cemeteries. It does not matter how the practice is controlled and how much freedom people get in performing over the graves, the important thing is to provide burial spaces that offer people some form of alternatives to choose from, regardless of the ownership of cemeteries.

The thesis suggests that urban cemeteries in KLMA be reformed by promoting a diversity of burial sections within a cemetery, with each burial section having a dedicated type of grave that will accommodate people's various needs. An obvious comparison can be made between SDHMP, which demonstrates various types of burial grounds with a different design approach, and SLG, which only approves one type of burial at the site (the use of precast concrete as a confined structure). A multiple choice of grave plots, along with the surroundings are found to be a much better practice in sustaining both culture and economic aspects, whereas the regularity of graves normally aims to sustain the spatial aspect only as has been exemplified at SLG.

Watering graves and spreading petals during grave visit – a new perspective

The grave visit is the last practice in Malay-Muslim burial rites and it normally involves two significant rituals – watering, and spreading petals or flowers over the grave. Even though the ritual of putting flowers at graves also exists in other cultures, however, in some cases fake plastic flowers are sometimes used. There is cultural significance with these two rituals in a Muslim burial; the water is used to cool down the grave so that the effect will also be felt by the dead, whereas flowers are used to give a fragrant smell to the graves. The roots of both these practices can be traced to Islamic tradition and have been part of Malay burial rites to the present.

This thesis suggests that the rituals involved during the grave should be carried on differently; currently, the management of public cemeteries are only providing tap points at the site to assist visitors with the ritual of watering graves. The landscape of Muslim cemeteries should also be able to provide the flowers so the petals can be used, which is normally accompanied by the watering of the graves. Despite bringing flowers from their own garden or buying them from the florist, visitors should change their perspectives on the ritual of spreading petals by turning to the surrounding environment.
However, in order to accommodate this purpose, management should cultivate the landscape of Muslim cemeteries with the type of plants (shrubs and trees) that produces aromatic flowers, especially the common species that are normally used for this ritual such as roses and frangipanis. The idea is to divert the concentration of people’s activities in performing grave rituals through a common means, by utilising something that has already been part of the cemetery landscape. Moreover, the function of landscape in Muslim cemeteries are also extended to become a utilitarian and integral component in facilitating the ritual practice of spreading petals and flowers over the graves.

5.2.2 Sustaining the environmental aspect of Muslim cemeteries

Cemeteries are regarded as a place to dispose of corpses; however, this thesis argues that the sustainability of Muslim cemeteries is not only concerned with the cultural aspect, but it also deals with the function of the place, especially after reaching full capacity. Apart from cultural practices, sustainability of urban cemeteries can also be described in terms of the role.

Generally in KL, cemeteries have always been built with a singular use rather than for multiple purposes. However, this would no longer be the case in Malaysia, especially in KL. This is because the concept of hybrid functions has now been adopted in some public cemeteries in KLMA. Moreover, hybrid functions are considered to be sustainable in terms of reducing ecological footprints over the environment by integrating communal facilities into cemetery areas.

Dual function not only concentrates on the varieties of human activities inside the cemeteries, but also the integration of burial spaces as part of the larger urban park network. The role of cemeteries as extensions to the green network in the city should be highlighted and continued in order to strengthen the sustainability of the urban environment.

Reimagining urban sanctuaries

Ambience inside Muslim cemeteries is synonymous to sanctuaries and this quality should be maintained in the future. Urban sanctuaries can be defined as a place where living organisms seek protection from the bustling world outside; however, at the moment Muslim cemeteries only provide a refuge to insects and small wildlife, especially fauna such as birds and squirrels. With the introduction of graves inside the garden’ as a concept by Jawi, the role of cemeteries as a sanctuary should be encapsulated by humans as well.

The creation of parks is meant to be for use by people, and this is what seems to be missing from Jawi’s version of cemetery parks. Conventional sanctuaries that are commonly found inside Muslim cemeteries have to be remodelled within a controlled environment to ensure they will be suitable for use by the public at the same time, and not just limited to plants and animals. In doing so, some alterations on how Muslim cemeteries are being planned and designed are required to increase a higher chance for human intervention. For example, TSMC and KLKMC exhibit the creation of urban sanctuaries within systematic arrangements and controlled environments. However, due to limitations on various types of trees and shrubs planted over the site, the richness of these places as a sanctuary has become less in comparison to established cemeteries.
Changing the culture towards cemeteries

The incorporation of a secondary function at urban cemeteries is a necessary step in turning the concept of sustainable development into a reality. This plan will not only be applied to public cemeteries but also to memorial parks within KLMA. This will also help local authorities improve urban planning and be more inventive in allocating public facilities in the city.

The concept of ‘graves inside the garden’ introduced at Muslim cemeteries is a good step forward in changing people’s perceptions towards cemeteries from negative to positive. Nevertheless, JAWI has a great task ahead in making the most of this opportunity by taking one step further. This thesis suggests that urban cemeteries adopt the concept of hybrid functions that provides for a place of burial as well as recreation. It is assumed that there will be rejection from social and cultural sides to this idea; however, the involvement of government in changing people’s stereotype perceptions could educate Malaysians about the significance of cemeteries in their daily life.

It is understood that public cemeteries in KLMA are getting larger in terms of area, and this circumstance will permit cemeteries to be open to promote leisure activities to the surrounding communities. The increment of space for burial could be primarily used to integrate recreation as part of the facilities provided at public cemeteries. Even though the idea of a hybrid function is very appealing to large-scale cemeteries rather than small due to constraint of space, nevertheless, a recent trend in developing Muslim cemeteries around KL has shown a shift of cemeteries into a tremendous area as has been exemplified at TSMC, SDHMP and S9MC.

It has also been found that the recreational use of urban cemeteries for leisure activities would normally take place at the end of their life as a burial space, which has been demonstrated at Kwan Tung Cemetery (KTC), or it could happen at the same time in newly opened cemeteries such as TSMC. The focal point here is for local authorities to decide the best way to incorporate recreational activities into cemetery development. With a growing population and lack of public spaces in the metropolitan area, it seems advisable for KL authorities to commence this secondary function of Muslim cemeteries simultaneously with their main purpose as a place of burial. This should be done with some modification to regulations for using the space inside Muslim cemeteries, to accommodate this secondary function.

The latter choice will also have a higher chance for urban cemeteries to attract more users into the space, rather than use retrofitting as an approach. This is because there is room for planning and design if cemeteries are built with a hybrid function in the first place. Moreover, this will also prove to the public that the recreational purpose of cemeteries is not an ad hoc work, but in fact part of an essential feature in the creation of new genre urban cemeteries in KLMA.

Rethinking planning regulations at the cemeteries

The pattern of development in KL has shown that people’s dwellings are located outside the city due to the high cost of living in the city centre. The process of decentralisation has suggested that many urban dwellers would probably prefer to be buried close to their home and families. In addition, there is still plenty of available land beyond KLMA, and for this reason new public cemeteries are expected to be located within the city’s suburbia.
Another main agenda of this thesis is to change the socioculture of Malaysians to be more receptive to the idea of opening cemeteries as part of their recreational space, as this expected space becomes socially sustainable. At the same time, it is understood that JAWI's intention is to diminish people's negative views on Muslim cemeteries by upgrading the surrounding area in order to promote a garden-like landscape. However, the beautification of cemetery landscapes should not only be made exclusive to visitors.

The thesis suggests that cemeteries be open so that they can be used and shared at people's will. Due to this reason, it is important for local authorities to re-examine the regulations inside Muslim cemeteries which prohibit people from entering the area other than for the purpose of visiting, as this is found to be incompatible with the concept of sustainable development. A set of design rules will have to be followed, to maintain proper segregation between the use of these two, in order to avoid conflict between the main and secondary functions of cemeteries. Therefore, the sustainability of cemeteries in terms of environment is not only concerned with adding green areas, but also with creating shared spaces to encourage human interaction with their surroundings.

Relay system – an idea for a long-term solution

The logical reason behind this method is to leave inactive cemeteries in a dormant state for a longer duration before they can be reused for burial. During this period, the cemeteries must be free from any activities of burial. It is hard to predict a suitable time for the same site to be reused again, as the decomposition rates vary from one place to another depending on the soil profile at particular areas. With this long-term solution for burial, a decision to reuse old graves depends on conditions of the actual site in adjusting to the methods being introduced for burials, whether that would be confined structures, stacked burials or a combination.

Under this method, it is presumed the corpses have completely disintegrated and there will be no work involved in managing the remains of the bodies as has been practiced in Pusara Aman (PAm) and Pusara Abadi (PAb). The management should allow for a certain time, not less than 50 years or more, in order to let the decomposition process take place. Nonetheless, in order to avoid inactive cemeteries from becoming invasive with plants as well as idle from human activities, management will have to maintain the secondary function as a public open space. In this way, the site will not be completely abandoned from human contact as is commonly experienced at public cemeteries in KL.

A relay system would probably share a common feature with a tiered cemetery, where inactive cemeteries are being altered in order to be reused. In fact, this technique is more flexible and less complicated than tiered cemeteries in terms of handling a large-scale area. Unlike tiered cemeteries, the relay system will not be restrained by the size of the area; it also doesn't depend on the ability of the land to provide even terrain, as well as a new layer of soil. In the case of tiered cemeteries at AJBMC, the method can only be done on the small-scale area, preferably with flat ground and the ability of the cemetery to facilitate soil fill-up work, which is completed by raising the perimeter walls. The main advantage of using this technique will be in terms of reducing the need to open up new land for the purpose of burial within KLMA. This method can be considered as a precautionary step, that can be practiced by the KL regime in order to sustain the existing burial facilities. At the moment the current practice in KL has shown Kuala Lumpur City Hall (DBKL) is continuously allocating new land to be reserved as burial ground for the Muslim population. It is expected that this repetitive process will one day come to an end because land is a finite resource, especially in the city.
5.2.3 Sustaining the social aspect of Muslim cemeteries

In this section, the thesis suggests that the social sector that happens inside Muslim cemeteries needs to be widened beyond religious obligation and social task. The social aspect inside Muslim cemeteries only exists on two main occasions; the first event happens during the funeral ceremony, where Muslims gather to participate in this religious rite, and the second event takes place when *kariah* members work with local authorities to collaborate on maintenance work, which mainly involves cleaning the cemetery area. In order to extend the social aspect of Muslim cemeteries, this thesis has come up with two proposals.

Public amenities as the magnet to attract people to cemeteries

This thesis has emphasised that a pavilion could become a starting point to attract people into the space, due to its reputation as one of the landscape elements that has long existed inside Muslim cemeteries since Patani days. Today, other than pavilions, Muslim cemeteries are normally furnished with other amenities to facilitate Muslims with their ritual needs at the gravesite pre and post funeral. In other cemeteries such as SDHMP, SBC and WHC, facilities provided within the area are meant to complement more than just a funeral function, including dining, active outdoor activities, social gatherings such as weddings, as well as educational purposes. Thus, it is important to have various amenities to attract people into cemeteries.

Urban cemeteries as an alternative to the lack of public space in the city

Shared space is one of the characteristics associated with sustainable development; by opening up burial space to the public it would promote social ties between surrounding communities. Even though social use of cemeteries is found to be greater in Jakarta than in KL, nevertheless, the hybrid function has begun to get attention at some public cemeteries in KLMA such as at TSMC, KLKMC and S9MC. However, the thesis suggests that local authorities change the way public cemeteries in KL are being developed. It is important for urban cemeteries to be planned and designed together as both space for burial and recreation. At the moment, Muslim cemeteries have primarily been built to accommodate burials, whereas public amenities for recreational use are normally brought in at a later stage as has been observed at KLKMC and S9MC. Therefore, seamless integration between burial grounds and public space needs to be considered to ensure the efficient use of space with a hybrid function within a given cemetery area. This has also shown that the development project of cemeteries in KLMA should be treated parallel to other urban infrastructures. Development of cemeteries can no longer merely look like a repository site for the dead and for ritual practices.

5.2.4 Sustaining the economic aspect of Muslim cemeteries

The economic sector can be described in a similar way to the social aspect of Muslim cemeteries in terms of its cultural significance. *Kepuk* making is the only business that derives from funeral activities that happen in Muslim cemeteries, and it has now grown to be an industry in its own right, generating revenues among local entrepreneurs. Nevertheless, this economic gain can also be widened to create more opportunities for other trade such as florists, restaurants, tourism and education. It is also important to notice that these kinds of businesses are entirely dependent on the presence of customers to sustain them, and the only way to encourage this is by opening up cemeteries for public access.
The use of advanced technology in the making of graves will open up opportunities for private parties to get involved in offering their services and expertise, as well as expanding their business further at the same time. However, it should be noted that the inclusion of the economic sector into public cemeteries is not necessarily going to turn Muslim cemeteries into typical memorial parks that focus on profit, but rather will enhance the values of such places, in a way that they could offer different experiences to a wider group of people, and this could be achieved by integrating other forms of trade into the site. Furthermore, the participation from other parties such as architects, landscape designers and contractors will be monitored by local authorities, because after all public cemeteries are being managed and controlled by them. Nevertheless, user perspective should be incorporated in order to meet people’s expectations and interests.

Different kinds of ownerships for Muslim cemeteries such as memorial parks could bring the funeral industry to a new level. The reason is that these places will give grave makers a chance to escape from the strict regulations set by JAWI as well as local municipals at public cemeteries. This will also allow grave makers to exhibit various types of kepuk from minimal to grand scale, as there is no restriction on space.

Sustainable aspect of cemeteries in terms of economy can also be defined in terms of the materials used in the process of making the graves, whether they are built by the management, grave makers or even grave owners. From site observations, the construction of Muslim graves normally involves materials that will then turn into hardscape. A self-sustainable cemetery would perhaps incorporate low-cost materials in the construction phase, that focus on affordability, durability and less maintenance work. Muslim cemeteries could use environmentally friendly materials manufactured by the industry to reduce the amount of carbon dioxide released into the atmosphere.

5.2.5 Sustaining the spatial aspect of Muslim cemeteries

The application of new methods in Muslim cemeteries will offer a greater capacity for burial in comparison to the conventional way of designing the grave plots. Yet, the incorporation of technology alone into cemeteries has shown that, even though the provision for burial can be multiplied within a single plot, however, the achievement of this does not change the actual purpose of cemeteries in the beginning, for instance like SLG. In a similar fashion to typical public cemeteries in KL, SLG does not demonstrate the incorporation of social functions into the development, providing leisure opportunity as part of the public open space. Pressure that comes from maximising a small parcel of land for burial, and lack of assistance from the government, explains why the management of SLG has taken such a step.

Other than for economic gain, focus on the efficiency of using space for burials alone will not contribute to the other components of sustainable development, especially in the social sector. It can be seen as a solitary driven objective rather than integral, and unparalleled to the concept of sustainable development that has been elaborately discussed. For an example, the methods of a tiered cemetery, stacked graves, and reinterment will definitely improve the spatial efficiency for burial in Muslim cemeteries, but without consideration to incorporate the emotional, community and commercial as part of the landscape, the sites are not going to be any different from what their counterparts were. Hence, Muslim cemeteries are not necessarily going to promote a sustainable development other than to provide an ultimate solution to a spatial problem. This also suggests that the spatial issue that happens inside cemeteries be looked at in a different way.
Observations made in SLG have also shown that the effective use of space for burials can only be achieved in the preliminary stage through well-planned design and not the other way around. Even though SLG is not a Muslim cemetery, the use of precast concrete as a confined structure to contain the coffins might as well be adapted for Muslim burials as long as it still follows the Islamic code of conduct in performing the interment. For example, the bottom of the grave should be exposed to the earth and not concealed by concrete, as there is no use of a coffin. More importantly, this will enable the positioning of the corpse towards the direction of Mecca. The use of confined structures require grave plots to be pre-dug, which also explains the execution of the burial plots at the preliminary stage.

In the case of alternative methods to full body burial that not only rely on the requirement of land, sea burials will inflict negative impacts to marine life and the ecosystem, whereas cremation is found to be extreme for the Malay society to accept. As has been witnessed in Muslim cemeteries, Malay people still prefer to mark their final resting place by building the graves. So far, Muslim burial practice has not shown any incline towards these two methods. As for natural burials, even though this method is focused on the ecological concern by minimising human impacts over the environment, however, it is found to neglect the aspects of social and economic, which are part of the main components to be achieved in the state of sustainability in Muslim cemeteries.

As a matter of fact, all three methods share a common attribute by showing resistance to fully comply with the concept of sustainable development, which emphasises an integrative rather than singular approach in addressing the issues that persist inside Muslim cemeteries. Therefore, the development of urban cemeteries should be done in a holistic way by considering other issues that surround all three sectors of sustainable development.

5.2.6 Conclusion

This thesis has outlined some crucial aspects of sustainability that can serve as an additional template to the JPBD’s guideline. The list should be used as part of a strategy in designing sustainable cemeteries. Sustainable practices for urban cemeteries should be incorporated extensively in Muslim cemeteries by including them into the authority guideline, which is referred at a national level.

The discussion in this section has shown the three main sectors of sustainable development – environment, social and economic – are interrelated. The thesis has also demonstrated how the rituals involved during grave visits can possibly be conducted differently through various types of cemetery ownership. Moreover, the ideal concept of sustainable development for urban cemeteries is to have every party carry out their tasks and expertise in order to keep the right balance.

Therefore, it is up to the management in determining the type of sustainability that they wish to create inside cemeteries. Cemeteries can be built to respond to one single sector of sustainability, or they can be built to address all of them. The latter version seems to be a wise choice and should be adopted in KLMA. This thesis opts for the latter because it is what sustainable development should be about, though it can be a challenging task to meet the needs of each party involved.
5.3 Proposals

This thesis is highlighting the future place of urban cemeteries within KLMA. Based on the data acquired from DBKL, the placement of urban cemeteries in the city has indicated that burial spaces are normally secluded and separated from their surrounding environment. The reservation of areas for Muslim cemeteries seems to be allocated randomly based on the availability of land, without much thought given to the planning criteria.

This condition has then become part of the nature of public cemeteries in the city as well as in the extended region of KL. There have been some positive and negative ramifications for the cemeteries, which are being physically separated from their surroundings. There have been many examples where burial sites are completely isolated from the surrounding context, especially in the old cemeteries. Furthermore, the existence of JKMC as the earliest Muslim burial ground in KL is hardly acknowledged by anyone and this is reflected in the way the main entrance has been treated by the city municipal authorities. Based on the policy and guidelines prepared by Department of Town and Country Planning, Peninsular Malaysia (JPBD) and local authorities, KL chooses to hide its cemeteries from public view because there is a lack of appreciation from the local communities due to their nature as a place to house the dead. Is this going to be the typical way of building cemeteries in KL over the next decades? Clearly this practice has to change and if this is the case, what is the direction that it is going to take? In this section, the thesis presents some propositions that can be used as a starting point in regenerating Muslim cemeteries in KLMA. The discussion is divided into five categories, which have been listed according to their priority:

5.3.1 Technical applications for Muslim burial

It has been noticed that KL has not adopted any technical solution in the making of burial plots. This is because the use of technical methods as a solution to the burial problem is something that is unfamiliar to the local Muslim culture. Even though there has been some modification made over the grave’s surface over the past years, there are not many changes happening beneath the ground.

In order to address the spatial issue of Muslim cemeteries, it is important for cemeteries to be fully maximised regardless of the size of the area. Despite the advantages that it can offer, there has been no effort shown by the local authorities in adapting technical methods in Muslim cemeteries other than for terraced cemeteries. At present, a tiered cemetery has been the only technique recognised by JPBD and included in the standard guidelines for cemeteries in Malaysia.

The downside of a tiered cemetery is that this technique has only taken effect after the cemetery is full, and it is more suitable for a small-scale cemetery, as has been exhibited in reusing the old graves at Al-Jamiul Badawi Muslim Cemetery (AJBMC), Kepala Batas. There are certain conditions that have to be observed before tiered cemeteries can be adopted: for example, the extra space needed to elevate earth from ground level or the construction of solid walls along the perimeter to contain the extra soil that makes up room for the new graves. Due to this daunting process involved in implementing this technique, the terraced cemetery has been found to be less technical and impractical. For example, the gravestones of each grave have to be temporarily replaced and retained during the process of topping up the soil. Furthermore, this thesis suggests that authorities adopt technical methods of burial in the preliminary stage of building the cemetery rather than at the end cycle of the cemetery’s life, as has been demonstrated in AJBMC.
Unlike KL, Muslim cemeteries in Singapore and Jakarta have been adopting technical solutions. In Singapore, concrete vaults have been used for a new burial as well as to contain old corpses in a single grave. These corpses were reinterred from the old burial sections to the new ones to make room for new bodies. In this way, it will provide a chance for old burial sections to be restructured systematically in a similar way to the new burial sections. More importantly, it also makes room for new burials to take place in Choa Chu Kang Cemetery (CCKC) without having to develop new land around the island.

In the case of Jakarta, the use of confined structures is so far present in SDHMP and not in the general cemeteries around Jakarta. It is still considered as alien in general cemeteries around Jakarta as well. The difference between Singapore and Jakarta in using the confined structures is that CKCC use it for both new burials as well as reburials. Therefore, by looking at burial scenes for Muslims in Singapore and Jakarta, it is predicted KL will employ the use of confined structures for Muslim funerals in the near future.

At present, Malaysian authorities do not see the need to allocate an excessive budget for the development of urban cemeteries. This is because the KL authorities are only looking for an easy solution to keep funding to a minimum. Moreover, the incorporation of confined structures will definitely require extra money and time to be built, which seems to be not an ideal decision to make. Perhaps, a low-cost material could be used as an alternative when building confined structures.

Even though the numbers of graves can be doubled or even tripled with the use of precast concrete or concrete vaults in a small cemetery, KL authorities seem to be moving away from this rather than addressing this spatial issue. A recent trend of developing public cemeteries in KL with a garden and park concept has shown that authorities have chosen to expand the area of the cemeteries hoping to open up the place for public recreation. If this is the decision that is made for the future of burial spaces in KL, then clearly small-scale cemeteries are no longer appealing to authorities. However, this situation still permits local authorities to propagate the use of confined structures due to the advantages that it offers.

The principal cause of limited burial space in Muslim cemeteries is the failure to utilise technical solutions around KLMA such as the use of confined structures in burial plots. Logically, cemeteries with a large area are expected to last longer than the small cemeteries in terms of their burial capacity. However, the incorporation of spatial efficiency methods such as confined structures would provide the same capacity without having to sacrifice the vast area of land for the purpose of burial. However, there are certain things to be observed prior to the installation of confined structures for Muslim burials, which will be further discussed in Section 5.4.

5.3.2 The collaborative enterprise

The issue of funding is caused by the absence of diversity in the type of ownership of Muslim cemeteries in Malaysia. Different types of ownership of cemeteries will have their own influence in the way burial space is being managed, and will also reflect the way graves are being planned and looked after. The distinct qualities between cemeteries can be explained in the way they are being run and managed by different types of ownership (Walter, 2005).
For example, private memorial parks are making the most of every inch of available land for the purpose of burials by promoting more than one way of burial while offering various alternatives to users when conducting the funeral practices. The elements of landscape in private memorial parks are normally found to be more than providing footpaths and growing trees as found in the general cemeteries. On the other hand, cemeteries that are controlled by the religious bodies are more likely to be put under constant pressure due to insufficient space for burial. Moreover, the technical implementation as an initiative in finding solutions to spatial problems has not been adopted as part of the funeral practice. There is a lack of innovation in incorporating new solutions to the existing burial practices and funerary rites in Muslim cemeteries around KL.

In the case of public cemeteries, it has been noticed that local authorities in KL have become more conscious of the importance of landscaped cemeteries in the urban area. The completion of TSMP in Putrajaya has inspired the next wave of Muslim cemeteries in KL. However, this new direction is difficult to follow on a wider scale in the city due to limited resources that require sufficient and systematic operation from the local munipals. In the case of KLKM and S9MC, local authorities are unable to replicate the park concept within public cemeteries due to the lack of funds, which is commonly applied to private burial grounds such as memorial parks. As a consequence, the hybrid function of these public cemeteries has not reached their full potential.

This phenomenon can be explained due to the motives behind the establishment of each burial space. Obviously, the construction of landscape as well as the burial plots inside the memorial parks are given priority from the beginning of the project, as these will eventually become the selling points to the public. However, in the case of public cemeteries, they are usually moderately built, to ensure the burial facilities for the community are being served according to the minimum budget. In other words, there is no commitment from management to conduct sales, because public cemeteries are simply not a money making business. The fact is memorial parks will keep on generating resources, to cover the cost in maintaining the surrounding landscape, by making sales through the promotion of multiple burial packages to the customers. This has also explained the cause of the poor state of the landscape and maintenance, inside public cemeteries in KL, due to inadequate funding for maintenance of the surrounding landscape.

Therefore, the management of Muslim cemeteries in KL might have to take a new direction under different ownership, such as cooperation between munipals with the non-profit organisations or by embracing privatisation. Moreover, the completion of landscaped cemeteries should be treated in the same way as developing other infrastructure projects such as community centres, sport facilities and recreational parks. In doing so, the existing operation of Muslim cemeteries has to take a new approach under these new regimes. As discussed earlier, there is a possibility for burial services to be turned into a funerary industry as found in other cultures; however, the commercialisation of graves for Muslim burials is expected to be in line with Islamic precepts. It is important to acknowledge that the allocation of graves for Muslims should not be turned into a profitable business. Perhaps a middle ground has to be found in order to balance privatisation and charity. The management of burial plots for Muslim burials in SDHMP could become a parallel guideline in this situation.

5.3.3 Preparation for post-use plans after cemeteries become full

JPBD’s Cemeteries and Crematorium Planning Guidelines (CCPG) show how burial space is supposed to be built in towns and cities. The guideline has outlined almost every aspect of planning and designs of the cem-
eteries, and with the recent draft that was released in 2011, there is an introduction to a terraced cemetery as a way to overcome the scarcity of land for burial, which is yet to be proven as an effective measure. Apart from that, the centralisation of public amenities such as a gazebo and parking space has been pointed out as the concept used for Muslim cemeteries.

This step has shown an attempt by JPBD to draw people into the cemetery, though the main intention is probably none other than to accommodate for their convenience and needs, by providing an extensive facilities building. However, the city should take advantage of cemeteries for the purpose of the common benefit by allowing people to gain greater access. This is because most of them would likely become abandoned after they become inactive. And if there is an attempt to regenerate cemeteries in the future, then, it is supposed to be planned before the cemeteries are built, instead of after cemeteries have reached their capacity. Many cities in the world have turned their old and historical cemeteries into tourist attractions. Even though the cemeteries are no longer active, and there are not many surviving family member visiting the graves, burial sites still manage to attract people. For example, the underground catacombs in Paris exhibit the collections of human skeletons and bones that are kept in ossuaries. Ossuaries were used as a way to handle the scarcity of space for burial before cremation was popularised.

There are no reasons why Muslim cemeteries cannot promote the same attractions that other cemeteries have offered. As shown in the previous sections, Muslim cemeteries have their uniqueness, which is a reflection of the Malay burial rites that are performed over the site. Due to this fact, cemeteries do offer the same experience of local culture that tourists expect from any commercial packages, but in the passive way. In fact, JAMC in KL should be turned into one of the attractions in the city, due to its status of being the first burial space for Muslims in KL. Moreover, JAMC has become a resting place for some of Malaysia's famous celebrities and well-known political figures. Another good example is the largest Chinese cemetery in KL, KTC, which holds a vast collection of traditional tombs and it is now open to the public. KTC is continuing to welcome visitors both local and international since it was turned into a Heritage Park (Loo, 2011). In addition, tourism is still one of the sectors that contribute to Malaysian economic growth. Hence, regenerating cemeteries for the purpose of tourism will serve as another attraction to the city. In other words, the city will create a new source of revenue out of this activity, though this kind of operation should be conducted with great care in order to avoid upsetting grave owners. This would also become one of the main reasons why authorities need advance notice of this preparation, to start changing their developmental plans for cemeteries in the future.

5.3.4 Freedom of practice in Muslim cemeteries

In response to the issue of overcrowding, authorities have handled this matter by keeping grave arrangement and appearance uniform. This may be hard to accept for some, as it is found to be contradictory to the way traditional graves have usually been treated. To a certain extent, graves inside Muslim cemeteries should not be treated uniformly, because it does not reflect the real situation of Malay burial practices. However, a sense of orientation and control should be imposed within the cemeteries to address the problem of overcrowding and land shortage for burial. A clear outline has to be drawn between permissible practices and forbidden ones. People should be allowed to have some sense of freedom over the graves which does not interfere with the objective of being sufficient in terms of the spatial quality.
5.3.5 Integrated cemeteries

This concept has been put into practice since the creation of public cemeteries in Cheras, but has not been highlighted until the creation of TSMP in Putrajaya. Integrated cemeteries can be described as a large area dedicated to public burials that are comprised of different ethnic backgrounds. Even though the existing memorial parks around KLMA can be regarded mainly as integrated cemeteries, however, they do not include all cultures in KL especially the majority of the Islamic tradition. It is important that this concept be adopted in public cemeteries and memorial parks around KLMA without exclusion of any religious group. Moreover, national unity can be promoted through the creation of integrated cemeteries that encompass multiple faiths.

5.4 Applications

This section contains a set of proposals presented along with the visual support for reference purposes. The design proposals are presented through schematic diagrams which show the grey area that can be tackled in order to resolve the research issues. There are two parts of the proposal involved; the first one is specifically focused on the proposed design of grave plots for full body burial. The alternate dimensions of the grave plot have been experimented with through visual synchronisation of methods for the purpose of Muslim burials. The other part is a series of planning guidelines for public cemeteries that focus on the rituals involved in Malay-Muslim funerary rites, as well as consideration for the urban context. Apart from exploring possibilities in designing burial plots, these proposals also promote better practices to integrate Muslim cemeteries within their surrounding area, while improving the design layout at the same time.

5.4.1 Alternative methods to full body burial

This study analyses available alternatives to full body burial by considering two involved components: the burial customs of Malay-Muslim and the requirements of Islamic burial. This thesis has formulated a design proposal that works around these limitations. There are a few alternative techniques to conventional full body burial that have been discovered through the case studies. These methods are found to be adaptable with the Islamic burial practice for interment. The uses of these methods have been demonstrated in the actual burial sites within and outside KLMA, and they are particularly focused on the shortage of burial space. These four methods have been gathered during the site visits to several burial sites in Malaysia, Singapore and Jakarta:

- Tiered cemetery – AJBMC, Kepala Batas, Seberang Perai, Penang.
- Stacked graves – general cemeteries in Jakarta.
- Confined structures – for example, precast concrete walls at SLG in Shah Alam, Malaysia; concrete chambers at SDHMP in Karawang Barat, Indonesia; crypt burial system at CCKC in Singapore.
- Recycled graves (comparable with other terms; e.g. reused graves, reinterment, second burial) – PAm and PAb at CCKC, Singapore.

Generally, these four techniques share the same objective, which is to sustain and prolong the space for burial within cemeteries by maximising the numbers of grave plots. However, some of these are being executed at the different phases of the grave’s lifetime. For example, the method of tiered cemetery will only take place
after the whole burial ground is filled, whereas the confined structures are normally built before the grave plots can be used. In the case of stacked graves, this method can incorporated either at the beginning or the end of the grave’s life.

This thesis is only suggesting alternative methods to full body burial for the purpose of building new burial plots, and not for existing graves. For this reason, a tiered cemetery is not suitable to be included into the proposed diagram as it is only applied after. In the case of recycled graves, this method will normally create problems in dealing with the remaining bodies. Moreover, for the time being, Malay-Muslim communities would unlikely prefer this practice, as it is considered to be disrespectful to the dead, though this cultural preference might change in the future depending on the current circumstances. Due to these facts, this study is suggesting stacked graves and confined structures merge as one unit, whereas tiered cemetery and recycled graves are excluded. The combination of these two methods will be explained further in the next section.

There is a similarity that can be drawn between tiered cemeteries and stacked graves in terms of the multiple numbers of bodies that each can contain within a single burial plot. Yet, these two techniques are being executed differently. ‘Tiered cemetery’ is a term used to represent the method that was done collectively to cover the whole extent of burial area, whereas ‘stacked graves’ is the term used to represent the method that only covers a single plot. The difference between these two is that stacked graves can be done at any time when there is an urge to do so; however, in the case of a terraced cemetery the whole area is normally treated at the same time. Apart from that, both methods can also be regarded as the last resolution chosen by the management of cemeteries to deal with the shortage of space for burial inside the existing cemeteries.

Even though stacked graves and tiered cemeteries are usually practiced after the first batch of burials has taken place, however, with the incorporation of concrete crypts for Muslim burials, the application of these two methods is no longer necessary. There are three reasons to support this statement; firstly, the use of confined structures has eliminated the need to have both methods, by having the same function that stacked graves and tiered cemeteries perform; and secondly, the installation of precast concrete has shown to be more systematic in performing for multiple burials within a single grave, as well as worthy of a long time investment in accommodating full body burial as well as Malay funerary rites in comparison to the other two, especially in the event where grave recycling is desperately needed.

In the case of SDHMP, the use of concrete chambers has enabled the grave plots to be built over undulating terrain that helps to retain the scenic views of the landscape. This can be considered advantageous to the environment by minimising the impacts over natural topography as well as reducing the cost in developing burial grounds, as this will reduce the amount of earthworks involved. Contrary to the conventional way of developing new land for Muslim cemeteries, the burial ground does not necessarily have to be located over flat ground.

5.4.2 Confined structures and stacked graves as alternative methods to conventional full body burials

The use of confined structures for burials has already been demonstrated in the Christian burial ground at SLG that is located in the capital state of Shah Alam, as well as in the Muslim burial sections at SDHMP in Karawang Barat, Jakarta. In Singapore, crypt burial systems are being used in Muslim sections at CCKC, which is the same method used in SLG and SDHMP.
Case studies in these places have suggested that the use of confined structures for grave plots can be altered to suit Islamic burials, as has already been practiced in Jakarta and Singapore. In the case of SLG, a slight change will be required if the same technique is going to be practiced at Muslim cemeteries. This is because the dimension of crypts used in SLG is meant for Christian burial where there isn’t extra gap allocated between the coffin and the concrete walls. For this reason, the dimension of the walls has to be widened and lengthened in order to allow the placement of Muslim corpses by the gravediggers. In the case of Muslim interment in Singapore, the crypt measures 9 feet (2.74 m) in length, 4.5 feet (1.37 m) in width, and 6 feet (1.82 m) deep, and claims to be the same dimension that has been used in the traditional burial plots. Even though these measurements are not comparable to the one stated in CCPG, however, they can be possibly adjusted.

The use of confined structures in burial plots should be promoted in the Muslim cemeteries in KLMA for four reasons. Firstly, it is proven to increase the level of spatial efficiency within a burial ground. Secondly, it enables the grave plots to be built on sloping ground. Thirdly, the fact that these burial chambers have been installed in advance will help to minimise digging work, as well as the amount of soil that comes into contact with the gravediggers during the interment process. In other words, the use of confined structures for burials has made the interment process less problematic. Last but not least, the use of confined structures could help to promote the continuation of family plots in Muslim cemeteries. In this case, stacked graves can be technically integrated with the use of concrete walls during the construction of the crypt burial. As one of the common traits in Malay burial tradition, the implementation of confined structures with the combination of stacked graves inside burial plots will increase the ongoing preservation of family plots.

However, with the merging of stacked graves as part of the confined structure unit in Muslim cemeteries, there is a need to re-examine how deep a grave plot can be built in the ground. It is important to notice the depth of the grave plots as one of the crucial things to be considered. In answering this question, the number of bodies that can be buried within a single plot which is made of confined structures will be determined by the accessibility of gravediggers to accomplished the interment. This is because the position of the corpse has to be manually adjusted in order to be at the right angle, which helps gravediggers as has been prescribed in performing Islamic burials. The depth of the grave plot should allow gravediggers to perform their task without having to put themselves at risk. For this reason, the numbers for three bodies buried within a single plot are deemed to be a safe environment for gravedigger to perform this task. Even though the use of concrete walls will enable gravediggers to execute the positioning of the body more easily, the feasibility aspect and safety factor should be a priority in making the most of this new burial technique.

As shown in Figure 5.1, the design proposal for Muslim graves can only be used with the trench grave method (shiq) and not the niche grave (lahd). The diagram demonstrates the use of confined structures to accommodate three bodies within a single grave. The dimension of crypts for Muslim burials in Singapore with the dimension of 9 feet x 4.5 feet x 6 feet (2.74 m x 1.37 m x 1.82 m) has been used as a reference in this proposal. The study is suggesting the dimension of 9 feet x 4.5 feet x 7 feet (2.74 m x 1.37 m x 2.1 m) to be implemented in the new design proposal for Muslim graves. The gap between the first, second and third body will be placed at five-feet intervals, as has been suggested in CCPG for the tiered cemetery. This means the ground level for the first burial will end where the second body will be and so on. The use of a marker line around the internal grave wall can be used as a guide. However, the top corpse has to be maintained at the original depth of seven feet from the ground level in a similar fashion to a conventional grave.
It is expected for graves to be pre-dug prior to burials and the use of a lid as a cover is necessary to prevent hazards from happening. The lid has to be used all the time over the graves until the second burial has happened to ensure people’s safety, as well as to allow for the rituals of watering graves and spreading petals.

Fig. 5.1  A design proposal for Muslim graves that demonstrates the combination of stacked graves and confined structures into one
A proposed grave for a single Muslim burial plot will consist of three bodies underneath the ground.

Fig. 5.2  A design proposal of the layout arrangement which demonstrates the integration of family plots as part of the dual methods
On this plan, every grave will mostly be covered with grass to maintain the resemblance of ‘green factors’ that is commonly associated with traditional Muslim graves. The plan also shows the merging of footpaths and ritual spaces as one row rather than being separated.
Footpath-cum-ritual space will be introduced into Muslim cemeteries as one of the important features in reviving the layout plan as shown in Figure 5.2. This layout organisation is inspired from SLG, with a focus on linear entry to every grave along the walkway. Moreover, this design proposal will maintain the same feature that is found in conventional Muslim cemeteries by having two points of access for each grave.

The new design proposal for the layout plan of Muslim cemeteries suggests for burial plots to be arranged in one row with each side of the grave accessible to footpaths as shown in Figure 5.2. These footpaths will serve another function by providing the space for Muslims to occupy when performing the ritual activities that relate to the funerary practices. The reason for burial plots to be arranged in one row is primarily to ensure the ‘living bodies’ that dwell inside the graves will be respected at all times. This will also enable the Imam to safely place himself close to the head side of the grave while sitting against the direction of qiblah during talqin recitation.

Hence, this ritual will not be able to be performed appropriately if graves are built close side by side, as the Imam will find himself sitting disrespectfully on other graves especially in the circumstance where there is a body underneath. This situation is also applied to visitors due to the narrow space that is unintentionally left between graves, leaving insufficient room for visitors to carry on with their cultural practices by the grave side. Even though caution can be taken with the design of two rows of graves or more to accommodate for talqin recitation by systematically doing the burial starting from the grave plot number one and following, however, in the case of this proposed method which suggests for three bodies inside one grave, the one-row approach is found to be more practical. This is because there are certainly new burials taking place in the future where graves will be allocated at specific spots throughout the cemetery area, as has been suggested by the use of family plots.

In terms of softscape, trees and shrubs could be used to form outdoor rooms as a means to provide emotional support towards bereaved families. Apart from that, the landscape of Muslim cemeteries could also serve as utilitarian in accommodating the rituals that happen at the gravesite. Thus, it is important for Muslim cemeteries to be furnished with these kinds of functions through its landscape before any burials can take place.

To sum up, integration between stacked graves and confined structures is so far the perfect solution that can be adopted in Muslim cemeteries in order to maximise the use of space. Unlike the Silang Tikar method (Weaving Mat), this solution at the terrain level is found to be impractical in handling the issue of overcrowding inside Muslim cemeteries, whereas confined structures are found to be more efficient by taking space further beneath the ground. It is also important to point out the use of burial crypts that happen to take place underground are more suitable for the preservation of family plots, and not so much for other Malay burial practices which happen on the surface. The design solutions for permanent structures, built-up personal demarcation and random plantings are found to be appropriately executed by re-examining the layout arrangement of the cemetery that is shown in the next section.

### 5.4.3 Cemetery designs and planning guidelines

The section presents the design and planning guidelines in the form of diagrams that can be implemented in Muslim cemeteries as well as public cemeteries in general. These diagrams serve as a guideline to strengthen the concept of sustainable development inside Muslim cemeteries that has been identified throughout this thesis.
Improve accessibility and pedestrian connections between cemetery and the surrounding areas.

Promote hybrid function of the cemetery through integrated community facilities and shared use of spaces.

A burial space has to be treated as an outdoor room by using plants to create secluded areas in order to provide consolation to bereaved families and visitors.

Enforce segregation between cultural and social space to avoid conflicts of use (primary and secondary function).

Encourage zero structures over the graves except for the plaque.

Use grasses over the graves to perform the spiritual roles, otherwise low lying shrubs with horizontal forms and light colour foliage should be used as a substitute.
5.5 Contributions

5.5.1 Setting up the platform on the direction of public cemeteries in KLMA

This study builds on and contributes to developing public cemeteries for the growing Muslim population in KLMA. This is specifically done by focusing on the issues that relate to burials and graves within the Muslim cemeteries. This thesis is speculating about the path and directions that urban cemeteries in KLMA will take in addressing the issues that specifically relate to Muslim graves. In order to achieve this objective, the thesis is evaluating the sustainability of burial spaces by taking into consideration sociocultural, environmental and economic factors. There are three central resolutions related to Muslim cemeteries in KLMA, which are listed below.

Documenting alternative methods for Islamic burials within the local context of KL

This thesis is documenting alternative methods for Islamic burials within the context of KLMA. Overcrowding, lack of space and land shortage for burial have been identified as the main problems that relate to Muslim cemeteries in KLMA. The phenomenon of overcrowding within old cemeteries such as JAMC, JKMC and JDMC has resulted from the combination of four main traits of Malay burial rites over the graves that have been described in detail.
The lack of space for burial, especially within the urban context, has normally become one of the factors that change the funerary practices in one's particular culture. As public cemeteries in the city have very little room left, solutions have to be formulated in order to address this issue. Although numerous studies on recycling the graves in other cultures has identified options for disposing of corpses, little analytical attention has been paid to the effort in sustaining the graves for Islamic burial. Moreover, the thesis has also addressed the flaws in reusing graves through the practice of exhumation. It has been found that Malay funerary practices are not compatible with such a practice, and this will create far more problems than solutions.

Therefore, this study has been exploring the flexibility of Malay burial practice and Muslim cemeteries in addressing this emerging issue in KLMA. In doing so, the thesis has examined various design treatments for the grave plots throughout selected case studies, as well as suggesting the incorporation of these unconventional methods in the making of new Muslim cemeteries by the means of adaptation to the local context.

Proposing ways of incorporating urban cemeteries within public spaces in KL by mitigating the sociocultural boundaries in Malay-Muslim funerary rites

Although studies in Southeast Asia have examined the historical significance and the archaeological aspects of Islamic graves, as well as the funerary practices of local Muslim cemeteries, there have not been many studies conducted in the context of the modern city. The last study about Muslim cemeteries, undertaken by Bougas in the region of Patani in Southern Thailand, can be enriched by further scholarship which endeavours to understand the nexus that exists between the people, the city and cemeteries.

The transitional process of funerary practices in Malaysian public cemeteries is not only focused on the spatial solution, but also the integration of urban cemeteries as part of the urban space. This thesis predicts a pattern that urban cemeteries in KLMA may take in the next few decades. In order to achieve this, the research has been analysing the impacts that may derive from the sectors of sociocultural, environmental and economic factors towards public cemeteries in Malaysia.

Cemeteries are the perfect example of missed opportunities over green space within the city. Urban cemeteries could become an extension of the city’s green network; however, this fact is often easily dismissed because of the nature of cemeteries as sacred spaces. As urban sanctuaries in the city, cemeteries can be perceived as a potential green open space that can be used for the benefit of the public. There have been many examples of cemeteries with a garden and park theme concept in KLMA, along with the inclusion of memorial parks which are run by private companies. However, there are too few of these places that are open for the public and this practice has to change. The Malaysian public should be given opportunities to enter public cemeteries for the purpose of recreation or communal interest, as has been demonstrated at WHC in the UK.

This thesis has also examined the implications that derive from having a large area for burials. Burial ground in public cemeteries has been observed to change drastically in order to accommodate a much larger population in the city. This scenario has not only happened in KLMA, but also in the metropolitan areas of Jakarta and Singapore. Due to this fact, it is important for KL administration to fully comprehend the potential that vast public cemeteries such as TSMC, KLKMC and S9MC possess, in order to turn the concept of sustainable development into a reality. Thus, this research has discussed the possibilities of Muslim cemeteries being integrated as part of public recreational areas (not to be transformed into). In doing so, the research suggests ways of incorporating urban cemeteries within public spaces in KL, by recognising the sociocultural bounda-
ries in Malay-Muslim funerary rites.

Promoting the privatisation of funeral services and burial facilities to be parallel with the other social infrastructures in KLMA

This thesis has suggested that the privatisation of cemeteries can help burial facilities be parallel with other forms of social infrastructure in KLMA. The management of Muslim cemeteries in Malaysia can also be done through collaboration between local municipalities, Islamic authorities and wider Islamic traditions by taking advantage of *waqf* land. Even though there are complications in dealing with land ownership, collaboration between different agencies will ensure the betterment of burial space rather than single-handed ownership.

5.5.2 Modelling future practices for urban cemeteries in KLMA towards sustainable development

The research objective is to provide solutions to the problems which currently beset cemeteries due to rapid urbanisation. This study provides insights into the current practices in Muslim cemeteries located within the extended region of KL. It is argued that any workable solution must take into account the important place of Malay-Muslim customary practices at the cemeteries.

The thesis has outlined necessary steps and actions that can be adapted for the local context in regenerating the administration of burial spaces in KLMA and improving the landscape of Muslim cemeteries at the same time. This can be done by providing strategies which address the issues of urban cemeteries at various scales, and in promoting sustainable development that considers cultural, environmental and economic factors. Urban cemeteries are capable of mitigating the urban issues in KLMA, and local authorities should take advantage of this opportunity.

The research also discusses some evidence which shows that landscaped cemeteries are not necessarily the best approach in regenerating urban cemeteries in KLMA. A few case studies have revealed that such efforts are not going to attract the public towards using cemeteries as an alternative to the recreational parks. There are certain conditions that have to be met in order to increase the chance of making this concept successful.

There have been some efforts in transforming aspects of burial practices in a few places around KL, as well as in Singapore and Jakarta. This signifies that changes of practice in urban cemeteries have begun to take place, even though they are not yet apparent in the region of KL. Yet, this thesis identifies ideal prototypes for grave plots and urban cemeteries that can be adapted into Muslim cemeteries in KLMA based on the analysis gathered from the case studies.

5.5.3 Improving the planning guideline for public cemeteries in Malaysian cities and towns

Another contribution of this research is the promotion of a flexible policy toward legislative and other regulations for the development of urban cemeteries in KLMA and other Islamic cities in general. The aspiration for urban cemeteries in KLMA in the future can be exercised through the planning guideline. The thesis has presented some of the schematic diagrams that can be implemented into the design and planning of Muslim cemeteries.
Chapter 6: Conclusion

6.1 Research outcomes

This thesis has demonstrated how the concept of sustainable development can be exercised into Malay burial practices and Muslim cemeteries in the extended region of Kuala Lumpur (KL). The research suggested that the regeneration process involved transformation of the current state of urban cemeteries in Kuala Lumpur Metropolitan Area (KLMA), as well as Malay burial practices, by clarifying the relationship of sustainable development in the local context of Malaysia. In doing so, the implementation of sustainable development should be executed in every aspect of Malay burial practices. The implementation of sustainable development should be extended further to reach every corner encompassing the three main sectors of environment, social and economy as has been propagated by the United Nations (UN).

In order to achieve sustainability in terms of design and planning, the thesis has pointed out the new directions that urban cemeteries could take in the future by taking into consideration the impacts and repercussions that have resulted from the existing scenarios, encountered from various methods of conducting the study such as comparative literature, case studies and interviews. Proposed changes on the internal and external aspects of Muslim cemeteries have been exhibited over the existing practices covering the traditional customs in performing burials along with the rituals involved, the current policy, as well as the planning for burial sites in the city.

The thesis has revealed that both practices – the one associated with Malay burial culture and the one that is exercised by the authorities – are found to have some weaknesses and flaws, yet there is room for improvement. The thesis proposed for Muslim cemeteries in KLMA to be renewed through alteration of procedure in burial practice. This could be done by redesigning the grave's attributes on the surface as well as underground. This thesis presented some of the alternatives that can be applied inside public cemeteries through the means of adaptation that would be beneficial to the agencies directly involved in providing funeral services and burial facilities in Malaysia, including design practitioners and academic personnel. Moreover, the thesis has paved the way for a discourse to sustain the cemeteries for the Muslim population and their burials.

The research also recommends the manipulation of a confined structure in designing grave plots in order to improve the efficiency of space for burial inside cemeteries. The issue of land shortage for burial could be solved through the use of confined structures due to their quality of flexibility; however, it is not the only way to create a sustainable development. Even though the application of concrete crypts will help to sustain the practice of family plots and promote the protection of natural landform at the same time, nevertheless, it is essential to address the urban issues as a preferable way of developing public cemeteries. This is the main challenge for local landscape architects who respond to the situation so that the city will improve.
In addition, the management of cemeteries should strengthen the extra role that could exist through the realisation of sustainable development as the concept for establishing the links between cemeteries and the city. The research has shown that there is a connection drawn between cemeteries and the public space where the function of the two can be possibly negotiated. The conventional use of public cemeteries should be changed so that the idea of sustainable living can materialise.

This thesis has assisted authorities in Malaysia by setting up the foundation for the next generation of burial space. Local authorities have originally planned public cemeteries with a single purpose only; however, this practice has been challenged with the recent attempt to incorporate a secondary function within the site. In other words, the cemetery will be exposed to public use in order to allow for recreational purposes. This premature decision made by the authorities has another side effect, where cemeteries will become an extension to the public parks by offering different kinds of leisure activities. The site will also become a sharing ground between visitors and the public because public cemeteries are now open to a much wider community.

Apart from that, the post use of cemeteries is another important matter in this thesis. Deserted cemeteries are a great concern not only to authorities but also to the general public. KL has witnessed old cemeteries slowly turning into a dead space, which has led to the degradation of nearby land and properties. In some cases, many cemeteries have been converted as a part of the public space in the city. KL should learn from these examples by promoting the active use of burial space into the development of cemeteries, as it will eventually lead to a more dynamic approach in solving the problem. The main challenge here is to find ways where these two aspects could coexist within one place.

Malaysian authorities need to realise that sustainable development has to be implemented as a whole. The thesis has shown some of the applications for solutions that can be used by the authorities. The thesis has shown the ‘operative diagram’ that demonstrates how the sustainable aspect of Muslim cemeteries can be put into practice by suggesting integrative approaches between various parties and fields involved. The operative diagram becomes the tool that helps to assess the level of sustainability in every case study that has been visited. The right balance can be achieved between the triad sectors of environment, culture and economy by negotiating the significant role of each actor involved within the three types of landscapes inside Muslim cemeteries. By referring to the operative diagram appropriate changes can be accomplished on the extrinsic and intrinsic elements that make up the landscape of Muslim cemeteries. Adaptation of the grave design and planning layout of the cemeteries could also be done in the same way. The vision to have sustainable cemeteries as part of a liveable city can be attained in its truest sense by adopting this operative diagram into the city’s planning.

What has been observed is gathered and analysed from the case studies in this thesis. The thesis has learned a lot from various places about how to deal with the transformation of burial practices in other cultures. Other than taking some great lessons and initiatives to the local problems, the case studies in Singapore and Jakarta have become a touchstone to how far the similar scenarios in KL could go. Changes in burial practice have happened due to certain factors that can be divided in two. The first reason originates from people’s understanding towards the need to change their approach in conducting their burial practice and, secondly, due to desperate measures that have been enforced over their cemeteries, people have no option to choose from other than to abide by such regulations.
Furthermore, the government is playing a significant role as the decision maker that would mould the nation’s burial landscape. Depending on the severity of the situation in each city, changes towards burial protocol were made primarily based on the current policy. The new practice has to be implemented as a result of development pressure, and the common understanding towards this is that there aren’t any choices left.

The case studies also show the significant role of privately owned companies in helping to ease the burial issue. Apart from providing alternatives to municipal burial, the bereavement business has helped to restore the balance towards the demand for burial plots from the public. However, these private companies should not only be responsible for providing better alternatives for burial, they should also be able to participate in addressing a whole range of urban issues as well as sharing their expertise and knowledge.

In the case of Singapore, certain methods have been used to sustain Choa Chu Kang Cemetery (CCKC) as an ongoing place for burial for many more years to come. Even though the site of CCKC has been located remotely from the city, the idea of isolating burial space away from the city does not make the place sustainable, as there will be less interaction with the circle of the public. In the case of Jakarta, the issue of burial has reached its peak and the government seems to be losing the battle. The emergence of San Diego Hills Memorial Park (SDHMP) has provided people with a decent place within a new environment to perform their burial. Yet again, due to its location and the expanse of the area, it seems to be inaccessible for people to come and make full use of the place. SDHMP has found it hard to sustain a social aspect because of these factors. Due to this fact, there is no reason why cemeteries that come with extra functions cannot be situated close to the city centre.

6.2 Concluding remarks

The concluding remarks for this research have been prepared by referring to the report results from Chapter 4, and are based on the central theme of this research suggesting that public cemeteries in KLMA are not only a site for the repose of the dead, but also a place of public involvement for leisure and recreation. These concluding remarks will be discussed in relation to graves and cemeteries (introduced in Chapter 4), encompassing five and 11 items respectively, as explained below.

Graves

Grave practices and grave spatiality

When thinking of public enjoyment of the cemetery landscape, funerary practices and spatiality of graves may not immediately come to mind. However, a good display of these traditions and a proper allocation of space at the grave is partly what make a cemetery interesting to visitors. Thus, it is necessary for these two elements to be used in such a way as to help conserve and accentuate Malay-Muslim funerary customs.

Softscape

Appropriate trees and shrubs should be chosen carefully so as not to obstruct public views throughout the cemetery. Trees with a slender profile and shrubs with a horizontal aspect are preferable for planting amongst the graves. This is important in order to offer people a pleasant experience of landscape.
Hardscape

The building of kepuk over the graves should be simple and small to ensure the burial sites are not dominated by these rigid structures. Similarly, it is recommended that gravestones should be horizontal, and as close to the ground as possible to guarantee unimpeded visual access throughout the cemetery.

Grave arrangement

The design for burial plots should not hinder or interfere with public movement around the cemetery. Therefore, graves should be systematically planned within the burial sections alongside the footpaths. More importantly, there should be a clear demarcation of paths separating those giving visitors access to the graves, and those used simply for public access of the cemetery landscape.

Cemeteries

Degrees of openness

Planting specific types of trees with vertical forms and low density foliage will create a light and airy atmosphere within the cemetery. These pleasant conditions will entice people into the space.

Vegetation

Vegetation should be used to define space within a cemetery. It can be used as a way to demarcate burial sections from general, public space. It is worth considering the use of vegetation when setting up a clear division between the private and public domain in a cemetery.

Topography

The development of a cemetery landscape should aim to preserve the natural landform as far as possible. This will ensure that the aesthetic value of the environment within the cemetery will be preserved once open to the public.

Drainage system

Further advantage could be taken of the natural topography to enhance the drainage system within the cemetery. By creating a series of waterways and bodies of water, runoff could be discharged or retained naturally as needed. Ponds, lakes and rain gardens could be not only be used to control and accommodate the water outflow, they would become part of the attraction of the landscape.

Site location

Site location is another critical factor to consider in the quest to attract visitors to the cemetery. If we take it as a given that cemeteries are specifically developed to have a hybrid function, then logically, they must not be built away from residential areas. A cemetery—within the inner city—is the perfect place to provide a recreational space for the greatest number of people.
Perimeter boundary

Perimeter boundaries have played a significant role in defining the actual function of cemeteries as places for the dead. However, this conventional function of perimeter as fence and wall should be re-examined. The perimeter should not be seen as a barricade, segregating the cemetery from its neighbourhood, but rather, a construct capable of seamlessly blending the two through proper landscape design.

Spatial relationship and vehicle accessibility

At the city level, the connection of the cemetery to its surrounding area is largely determined by decisions made by urban planners. Thus, urban planners have a solemn responsibility to ensure that the cemetery is a space that can be utilised and enjoyed by city dwellers. Links to city transportation networks are therefore crucial and must be taken into consideration by urban planners. This safeguards public access and amenity, and ensures that the cemetery is an integral part of city life.

Area

Social engagement is very much influenced by integration of public spaces in the city. The integration of cemeteries within the metropolitan area is a critical factor in determining the success of cemeteries as places of public attraction. Thus, it is vital for cemeteries to be incorporated into urban development as a whole, rather than treated as a single, independent project.

People's activities and facilities provided

The final, key factor in the pursuit of promoting the cemetery as a public space is the provision of amenities within the site. Logically, the greater the services provided, the greater the number of visitors. However, careful consideration must be given to this to avoid potential conflict in the use of a space intended primarily for memorial and quiet relaxation.

6.3 Future research

The thesis has introduced the steps that can be used to transform the Muslim burial practices in Malaysia. Yet, there are other aspects of funeral practices and cemeteries that can be carried on. Future researches that can be conducted from this thesis are listed as follows.

Architectural field

A research on integrated cemeteries in Malaysia should be initiated so that funeral infrastructures and burial facilities can be centralised and easily managed under one management. Other than to provide a proper resting place for burials, especially for the minority groups, the vision of integrated cemeteries should be able to promote the spirit of unity and harmony among different ethnic groups in Malaysia. Differences between funeral practices and religious customs have to be addressed in order to allocate them in one area. Apart from that, it is important for the communal building and amenities within cemeteries to be designed in a way that is more responsive towards surrounding context as a way to promote a better interaction for the users.
Engineering field

Technical solutions through an engineering approach can be further explored for the spatial issues to suit different types of soil profile. Two ways of doing burials for Muslims are trench graves and niche graves. These should be experimented with to achieve the optimum results when using the space to build grave plots inside cemeteries. Moreover, future research should focus on the adaptability of other burial methods to be implemented in Malaysian soil. A more scientific approach, such as eco-friendly one which focuses on the acceleration rate of decomposition will definitely give some advantages to the way Muslim burials can be tolerated with biological changes that happen underground.

Sociocultural field

A research survey pertaining to the current state of burial practice and cemeteries management could be conducted at a national level especially in the metropolitan area. This is an important step to understand Malay-Muslim perceptions over religious rites and cultural customs involved especially in the way corpses are buried and how Muslim cemeteries should be operated according to their needs. The survey should focus on Muslim community views in changing Islamic funerals into a more systematic practice that enhances the link between them with family plots and pre-booked graves as the integral part of modern burial. Moreover, finding the right balance between money making in the funeral industry and providing the necessity of charity for the needs of burial among the ummah is another form of research that can be conducted to transform the current funeral practices in Malaysia. More importantly, a suitable framework should be formulated so that the operation of cemeteries will not be dominated by management or the funeral industry, as has already been happening.
References and further reading


Ansari, H 2007, ‘Burying the dead’: making Muslim space in Britain, Historical Research 80: 545–566.


Chifos, C and Yabes, R 2000, Southeast asian urban environments: structured and spontaneous, Tempe: Arizona State University Program for Southeast Asian Studies.


Dow, S and Wyche S 2005, Designing for Place in Urban Cemeteries, Georgia Institute of Technology, Atlanta USA


Hashim, S 2007, [Death and Funeral Management], Johor: Universiti Teknologi Malaysia. (in Bahasa Malaysia).


Moriset, S 2011, Kasubi Tombs, CRAterre-ENSAG, Kampala, Uganda.


Park, CW 2010, Funerary transformations in contemporary South Korea, Mortality: Promoting the interdisciplinary study of death and dying 15: 18–37.

Powell, M Hockey, J Green, T Clayden, A 2011, I bury boxes, not bodies: identity, emotionality and natural burial, ASA online 1: 1–18.


Rogers, J 2010, Beyond the Rhetoric of Sprawl: Storylines and the Discursive Construction of the Sustainable City, in CA Brebbia SH, E Tiezzi (eds) Sixth International Conference on Urban Regeneration and Sustainability, Southampton, UK: WIT Press.

Rogers, J 2011 Victims, Villains and Heroes: Storylines and the Discursive Construction of the Sustainable City, School of Architecture and Design, RMIT University.


Sheppard-Simms, EA 2012 'Designing the integral cemetery: a landscape response to Sydney’s burial crisis', MLAarch University of New South Wales.


Thompson, SK 2007, From Sacred Space to Commercial Place: A Landscape Interpretation of Mount Pleasant Cemetery. Department of Geography, Kingston, Ontario: Queen’s University Kingston, 144.


Tobey, GB 1975, Adolph Strauch, father of the lawn plan, Landscape Planning 2: 283-294


UN System Task Team 2012, Realizing the Future We Want for All: Report to the Secretary-General, United Nations, New York.


Walsall Council 2009, Muslim Burials Walsall Feedback to our Members: Progress on Muslim Burial without Coffin. Walsall Council, Walsall, UK.


Wright, N 2014, Death and the Internet: the implications of the digital afterlife, First Monday, 19(6).


Yin, RK 2009, Case study research: design and methods, Los Angeles: Sage.

Appendices

Appendix 1 – Interview transcription

There are six interviews that have been conducted throughout this research.

15/1/11 – Dato Haji Arshad. Chairman of Al-Jamiul Badawi Mosque, Kepala Batas, Seberang Perai, Penang.

My first site visit was to Al-Jamiul Badawi Muslim Cemetery (AJBMC) in Kepala Batas which is over 100 years old. The reason for my visit here was to investigate how the method of a tiered cemetery is carried out. It is also something common here for a cemetery to be built close to the mosque except with the new mosques.

According to Dato Haji Arshad, the project for a tiered cemetery was initiated because of two main reasons:

1. Overcrowding in the cemetery

The main issue is that there is no available space left for burial to take place. This situation was recognised much earlier by a gravedigger. By sticking a long metal iron deep into the ground as an apparatus, a gravedigger can check for available space left for burial. In the case of this cemetery, there is no available space left.

In trying to find answers to this issue, a Muslim community here thought that by sharing the existing grave with a new corpse will create complications. The existing remaining bones have to be taken out and then put back again to allow a new corpse to be buried in the same grave.

2. Flooding during the rainy season

Other than high-level grave density within the cemetery, flooding is also a major concern for tiered cemeteries. During flooding season, the water level can reach up to a half meter (or between 2 to 3 feet). It is impossible to do burials at this time as the ground is fully covered with water. If a death happens around this time, the body has to be buried in a neighbouring cemetery.

Due to this, the local Muslim community is determined to solve these two major problems and provide two alternatives:

1. Locate new ground for a new cemetery

The first choice is not favoured by the community because of three reasons. Firstly, a new piece of land demands a huge price. Secondly, distance to the new cemetery might hinder people from going there. Thirdly, people still feel attached to their great grandparents graves in the old cemetery. Some people choose to be buried close to their family graves.
(Later in the interview with Malek from The Federal Territory Islamic Affairs Department (JAWI), I discovered that one of the reasons for the overcrowding in the Muslim Cemetery in KL was because people like to practice this kind of burial. Some people prefer to have all their family members in the same space. When there seems no more available room to maintain this practice, people start to claim the cemetery is full. The truth is that there is still space available for burial in the cemetery if these people are willing to bury their family members in a separate spot away from one another.)

2. Finding a way to maintain use of the existing cemetery. The interesting question will be, what way can the cemetery be reused?

The second alternative was chosen by introducing the idea of a tiered cemetery as a method that can help solve the problems.

Dato Haji Arshad explained that the tiered cemetery is created by topping the soil on the existing cemetery up to 3.5 feet (about 1 m deep). In this way the original ground for the cemetery was leveled to create space for new graves. In other words the new graves will be built over the old ones. The depth for a new grave is around 1.5 to 2 feet (0.5–0.6 m). This means the new corpse will not clash with the existing one as they are buried at different ground levels.

The project of building a tiered cemetery was conducted in several phases. Each phase covers the area of 30 feet by 30 feet (9.1 m x 9.1 m) to 50 feet by 50 feet (15 m x 15 m). Before introducing the new soil, a site worker has to number and mark the location of every single gravestone by using a long metal stick known as pancang. Each pancang and gravestone was given the same number for easy reference later on. This is to ensure that the original gravestones from the old graves will be put back in their original location.

All members of the Muslim community in Kepala Batas have given a positive response and agreed to employ this method. They were given a detailed explanation by the mosque committee about the project before it was launched. Once people understand the process involved, they then had no trouble accepting it.

The idea of a tiered cemetery originated from one event that took place in Alor Malai Muslim Cemetery in Kedah. Kedah is a neighbour state of Penang. The story begins with a famous billionaire named Syed Bukhari. Both of his parents were buried in Alor Malai Muslim Cemetery and he was not happy with the condition of his parents’ graves. As the site was originally a paddy field, every time the monsoon season came the cemetery got flooded. To overcome this problem, Syed Bukhari requested his parents’ graves to be raised higher than ground level so that they would not submerge during the flooding. He succeeded in doing so, and because of that people asked him a favour to do the same thing for the whole cemetery. He was then willing to contribute financially to what has become known as the tiered cemetery project.

The same method has been implemented in AJBMC. After a visit to Alor Malai Muslim Cemetery, a mosque committee of Al-Jamiul Badawi and people of Kepala Batas are keen to replicate this.

By right, AJBMC is prioritised for Muslims who lives in Kepala Batas. To be more specific, only people who belong to this kariah (equivalent to deanery) in this mosque are allowed to be buried here. However Muslims from outside the kariah can also be buried here with some valid reasons. The kariah members of AJBMC is estimated at around 7,000 people.
The project was started in 2000 and it was funded at that time with help from the Deputy of the Prime Minister Dato Abdullah Ahmad Badawi. They first have to seek permission before embarking on the project. They have to seek approval from local authorities such as Seberang Perai City Council, Islamic Religious Department and the Fire Brigade. Preliminary inspections were conducted on the site and the project will be carried out according to certain guidelines and specifications that has been set. For example, the perimeter walls have to be built in such a way and so on.

Normally interment in AJBMC is reserved for the members of kariah of this mosque. This burial site has been used by family members of this kariah for generations. With the introduction of a tiered cemetery here, a new grave will be using the same gravestone as the old one. The old gravestone can be used for both graves, as they belong under the same lineage. If surviving members wish to add their deceased’s name on the gravestone, they can simply do so or they can put a new gravestone next to the old one.

Since the introduction of the tiered cemetery, there are no longer problems arising regarding the new burials. It has also attracted peoples attention from other kariahs who are facing the same issues. In terms of managing the cemetery, it is the same as it was before, for instance a member of kariah is expected to contribute MYR 50 towards the funeral.

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My visit to Subang Lutheran Garden (SLG) was concerned with the way people maximise the small land space for burial. This cemetery is located in a remote area of Subang, like the Tiered Cemetery at Kepala Batas, and my visit here was to investigate the methods they used. I approached Mr. Lee Wei Min to get more information regarding precast concrete for Christian burials.

**Historical background**

From the conversation I had with Mr. Lee, the Lutheran community is a minority in Malaysia and it is having a problem finding a new burial ground. Before SLG was born, the Lutheran community had to bury their beloved ones at Cheras Cemetery which is now out of operation. Cheras Cemetery is known as a burial ground for the Christian community who live in Kuala Lumpur (KL). The cemetery was originally opened by the English during British occupation of Malaysia. However, Cheras Cemetery has been closed because it had reached its capacity. Apart from having their own cemetery, the initiation of SLG was also motivated by the Lutheran Church to cater for funerals for any Catholic group in Klang Valley at an affordable price.

**Challenges**

1. The quest to look for a new burial ground has become complicated for the Lutheran Church because there is a lack of concern from Selangor State Government in providing land to facilitate the burial needs for a minority group.

2. The Luther Centre has taken their own initiative in looking for a piece of land. They have somehow managed to find available land that is gazetted as a cemetery. The land is owned by a developer called Guthrie which is also known as Sime Darby.

3. In 2006 the Luther Centre had been granted 20 acres of land with the approval from Selangor State Government. This also meant that the State Government gave them permission to convert agricultural land into a cemetery.

4. The actual 20 acres is however reduced to five acres, as the remaining 15 acres had to be given to the Chinese community who was also in need of their own burial ground.

5. The Luther Centre was again faced with another challenge. They were determined to make the most of the small land by doing some research.

**The planning of SLG**

1. The Luther Centre had to find a way to maximise the five acres to accommodate their communal funerary. The only way was to concentrate on the burial plots in this small piece of land through a well-planned design.
2. The Luther Centre had conducted some visits to other cemeteries within Malaysia and oversea including Labuan, Burma, Hong Kong and Australia to get some ideas and answers to their issues.

3. In the end the idea for SLG is basically derived from a War Memorial for the Australian soldiers in Labuan.

The design of SLG

1. The Luther Centre approached the design for SLG in the same way as a housing estate in Malaysia. All necessary utilities were provided to this site including septic tank, interceptor and a drainage system.

2. The project really gives the main focus to having a good storm water system because of two main concerns. They want to avoid water ponding from spoiling the coffins under the ground and making sure that the underground water is properly treated before it was discharged into a main water sewerage.

3. A storm water drainage has been installed at 15 feet (4.5 m) beneath the ground and before the cast-concrete work begin, a layer of crusher run along with subsoil pack was installed at the depth of 7 feet (2.1 m). This is done to allow for a higher rate of porosity so that the underground water will be discharged more effectively.

4. PVC conduit has been installed under walking paths to collect water from the burial ground. The water is then channeled into a monsoon drain which is placed along the cemetery’s perimeter.

5. The dimensions for a single precast concrete is 8 feet (2.4 m) long, 4 feet (1.2 m) width and 6 feet (1.8 m) deep. This standard dimension was repeated to form 61 graves in a single row that stretch from one end to the other. For every two rows of graves, they are divided by a small walking path (5 feet wide) to enable people to walk through this cemetery.

6. The arrangements of graves are very uniform. A grid system was employed to maximise the land use. A simple plaque is used as a gravestone for the purpose of remembrance and it is made affordable. Each plaque is marked with a plot number to assist people in identifying their graves.

7. Plaques are located along the walking path at 30 degree angles facing the passers-by. In this way it is much easier for people to look for their graves as they are walking along.

8. Currently about 3,000 burial plots were made available in Phase 1, and the first burial took place in 2006. With the completion of Phase 2 the future five acres will be able to accommodate about 6,000 graves along with 2,000 units of columbarium niche.

9. SLG posses a peaceful atmosphere and it is surrounded with lots of greenery. SLG has been well designed as a cemetery ground and it appears to be very simple and presentable at the same time. It is important to plan a cemetery ahead of time so that it can be used and is sustainable for a long period of time.
From this interview, conducted by me, Omer stated that there are not so many monumental graves in Malaysia. However, edifice structures like mausoleums is common for royalty. Nevertheless, there is a case in Ipoh where the mausoleum is also meant for non-royalty members. According to Omer, the mausoleum could belong to a scholar or saint. In Omer’s book, building mausoleums for the dead is normally associated with righteous type people like saints or scholars. This fact has also been supported by Bougas in his book entitled *Islamic Cemeteries in Patani*.

It is clear to see that funerary architecture in Malaysia (I'm referring to public cemeteries) is not so ostentatious compared to other Islamic countries which has been extensively discussed in Omer’s book. Funerary architecture is happening almost everywhere within the Muslim world, mainly the Middle East, as well as Pakistan, India, Iran, Turkey and Bosnia.

Islamic doctrine has become a platform for conducting his research, in the first chapter of his book, Omer talks about the concept of death, grave and graveyard through Islamic perspectives. I have also considered this aspect for my research with a strong affiliation to the city growth. In finding resolutions to the research questions, a radical approach should be employed.

Omer has acknowledge that throughout the history of Islamic funerary, Muslim does not necessarily comply with religious teachings. This is considered a normal phenomenon in many Muslim continents including Southeast Asia (Malaysia). According to Omer, In Malaysia, Muslim graves have some interference with the physical appearance shape but it is within a permissible level. From his own experience, Malay graveyards are found to be very minimal in design, uniformity in arrangement as well as looking beautiful.

Omer stresses that this phenomenon is endemic and considered to be a social disease that has its own ramification. One of the consequences is that is has polluted people’s spirits and minds. Omer also mentioned that some Muslims deviate more and some less. In the case of the Malay-Muslim, their deviation is minimal.

In the case of Malay funerary practice, it's more a case of adaptation from one belief system to another; e.g. Animistic, Hinduism, Buddhist and finally Islam.

In the Middle East, funerary architecture has been widely practiced due to the decline in Islamic culture and civilisation. While in Southeast Asia, with the arrival of Islam to the region, Malay people have begun to incorporate their existing burial practices and funerary craft in line with the Islamic tenet.

Obviously, the practice of erecting structures over the grave has become less throughout the decades even in Malaysia. One of the reasons is a strict control on human activities over the graves by local authorities.

According to Omer, the only thing that matters in Islamic funerary practice is the marking of the graves for the purpose of identification and recognition. In the Prophet times this has been achieved by laying a stone on top of the grave.
In general, Muslims are testing the scope of prohibition by trying new things over their graves; e.g. using coloured marble, built-up seating or benches next to their graves.

In Omer’s opinion, funerary architecture is inappropriate because of two reasons:

1. Taking more space than it should.

2. Wasting the precious resource of land in the city.

The focus of my research is not to change peoples beliefs and practice. Furthermore, Omer mentions that it’s better to change people mentality rather then their practice and behaviour.
During my site visit to Section 9 Muslim Cemetery (S9MC), I came across Ali with his worker and I used this chance to interview him. I begin the interview by asking him about the method of construction of the grave that he was working on. Ali explained to me that he chose to build the grave permanently. This technique has been around for quite some time and is widely used in Muslim cemeteries. According to Ali, there are a few steps involved in making the grave:

1. Firstly, he has to make sure that the ground is flat.
2. Secondly, he has to check each corner of the kacapuri/kepuk to make sure it is at the right angle.
3. Thirdly, a strong glue is poured into every corner angle.
4. Finally, concrete will be used to bind marble onto the structure.

This technique of construction is very durable because it prevents the marble from cracking easily. The only way to disassemble the structure (kepuk/kacapuri) is by demolishing it. There is no doubt that the method used by Ali is built to last.

I also asked his opinion regarding a ready made technique which is known as pre-fab. According to him, there is such a technique; however, it is not as popular due to some weakness with the strength. Pre-fab is not as tough as the conventional technique because there is only a small quantity of solid concrete being applied. The structural material used is very light and thin, hence there is a high possibility for the end product to break and become slanted. Ali estimates that the pre-fab method has only 40 per cent strength compared to the conventional technique (using concrete). The only advantage with pre-fab is that it takes less time for construction. Kepuk/kacapuri are normally manufactured in a factory and are ready to be assembled on site within a day, whilst conventional methods will take a few days to complete. This technique requires a high level of skill and workmanship from an experienced worker in order to produce a high standard kepuk/kacapuri.

Grave makers will normally charge for their services according to the material chosen by customers. The material offered by the funeral industry ranges from terrazzo, tiles and marble to granite. Customers are expected to pay between MYR 1,000 to MYR 7,000. However, in a high class area, customers would have to spend more and that can reach up to MYR 14,000. The distance and location of the cemetery will also determine the price that customers pay.

Ali believes that authorities (Religious Councils) should give freedom to people in choosing colours for their graves. He is concerned about people’s good intentions to build a beautiful grave for their loved ones and this should be prioritised. (Omer has explained that according to Islam, this practice is considered to be a waste for both the living and the dead.) Ali support his argument by mentioning park cemetery which has been introduced by the authorities. In his opinion, variation of colours in cemeteries will help to reinforce the concept. On the other hand, if the colour of the graves is standardised to white, the cemeteries will look pale. According to Ali, the motivation for people to visit has also been influenced by the way the graves were built and designed. Beautiful graves will always bring people back to visit them.
During my interview with Mr. Abdul Malek from Federal Territory Islamic Affairs Department (JAWI) he touched on the many important aspects in accommodating burial facilities for the Muslim population in KL.

**Kariah system in Muslim cemeteries**

Conventionally in KL, each Muslim cemetery is meant to cater for its own district zone. A single Muslim cemetery can hold more than one mosque that consists of their own *kariah* members. Literally, *kariah* is a similar term as a deanery, in the context of Malay cemeteries, *kariah* means an area in which Muslim communities live. In the case of Kuala Lumpur-Karak Muslim Cemetery (KLKMC) it is open to all Muslims regardless from which side of KL suburbs they come. Nevertheless people still prefer to bury their love ones a close distance to their residence.

*Kariah* members are normally attached to a mosque in a particular neighbourhood and several mosques existing within the same district sometimes share the same graveyard. The mosque which is situated closest to this cemetery is normally a place where the Funeral Prayer is held. In Islam, a Funeral Ceremony is a joint event among *kariah* members to demonstrate their last respects to the deceased. It is important culturally for the Malay-Muslim community to participate in this traditional rite.

Funeral prayer normally takes place after the body has been given a complete ritual cleansing in accordance with the religious requirements. Usually, mosque committees together with *kariah* members will be involved in handling the body from the beginning until its interment. The corpse will be transported from the home to the mosque, and from the mosque to the cemetery after the Funeral Prayer has been performed.

**Cemetery ownership and type**

An important factor regarding Muslim Cemeteries in KL is that all the land used for the purpose of Muslim burials belongs to the Religious Council. According to Section 81 (2A), Act 505, *kariah* members (Muslim communities) together with the Mosque Committee are responsible for looking after their cemetery within their own neighbourhood.

In KL, Muslim cemeteries are either put under the management of Federal Territory Islamic Religious Council (JAWI) or Kuala Lumpur City Hall (DBKL). There are two cemeteries put under JAWI and the largest compared to other cemeteries in KL was put under DBKL. The reasons behind this is that the distribution of this big piece of land can be divided equally among *kariah* members by JAWI. DBKL is in charge of the Muslim cemeteries that were historically opened by themselves.

Overall there are 21 Muslim Cemeteries existing in the KL along with six other reserve cemeteries. The reserve cemeteries are expected to slowly replace the existing cemeteries in the future. In general, there are four classifications of Muslim cemeteries in KL:
1. Kariah & DBKL Operation

Number of cemeteries – 17

Total area – 28.06 ha

The funeral ceremony is handled between kariah members and the mosque committee while maintenance of the cemetery is cared for by the City Hall (DBKL).

2. JAWI Operation

Number of cemeteries – 2

Total area – 38.75 ha

For this category, funeral and maintenance are both run by JAWI. JAWI is also responsible for assisting people who cannot afford the cost of a funeral. The two cemeteries are Kuala Lumpur-Karak Muslim Cemeteries (32.75 ha) and Jalan Damansara Muslim Cemeteries (6 ha). Apart from that, unclaimed bodies from hospitals will also be sent to KLKMC for interment.

3. DBKL Operation

Number of cemeteries – 2

Total area – 7.42 ha

DBKL is in charge of maintaining both cemeteries. Jalan Ampang Muslim Cemetery (JAMC) is almost running out of space while Jalan Kuari Muslim Cemetery (JKMC) has already reached full capacity.

4. Reserve cemeteries

Number of cemeteries – 6

Total area – 22.19 ha

These are the committed land used as a back up for the existing cemeteries but the operation has still not been decided yet.

**Muslim cemeteries in Federal Territory of Kuala Lumpur**

These four groups of cemeteries are spread over six zone districts around KL. Each district has their own Muslim community (kariah). Some of these cemeteries, especially one with a large area such as KLKMC, can be made up of several kariahs. A kariah member is usually attached to a mosque within a particular area and sometimes they can share the same cemetery with kariahs from other areas.

Site plan for allocating Muslim cemeteries among kariah groups is determine by DBKL. These Muslim cemeteries can be divided into two types, which are existing (red) and committed (green).
**Kariah Zone 1**

Consists of the district areas of Segambut, Kepong and Batu.

Number of active cemeteries – 4
Number of cemeteries closed – 1
Number of committed cemeteries – 1

**Kariah Zone 2**

Consists of the districts of Batu, Wangsa Maju and Setiawangsa.

Number of active cemeteries – 1
Number of cemeteries closed – 2
Number of committed cemeteries – 2

**Kariah Zone 3**

Consists of the districts of Titiwangsa, Bukit Bintang and Cheras.

Number of active cemeteries – 1
Number of cemeteries closed – 1
Number of committed cemeteries – 0

**Kariah Zone 4**

Consists of the districts of Wangsa Maju, Setiawangsa, Titiwangsa.

Number of active cemeteries – 2
Number of cemeteries closed – 0
Number of committed cemeteries – 0

**Kariah Zone 5**

Consists of the districts of Lembah Pantai, Seputih, Bukit Bintang, Bandar Tun Razak and Cheras.

Number of active cemeteries – 3
Number of cemeteries closed – 0
Number of committed cemeteries – 3
Kariah Zone 6

Consists of the districts of Segambut and Lembah Pantai.

Number of active cemeteries – 4

Number of cemeteries closed – 1

Number of committed cemeteries – 2

Kuala Lumpur-Karak Muslim Cemetery

On 3 April 1987, the Land Exco reserved 98 acres of land in Gombak District to be a graveyard for the Muslim population of the city. Later the land was gazetted on 4 January 1990. In the following years the site began to be developed actively, under the Eighth and Ninth Malaysia Plan with a total budget of 4.5 million. KLKMC is divided into nine phases of development and today there are about 7,500 interments which have taken place.

Initially the site was categorised as a brownfield area which is considered to be unsuitable land to be developed. With the area of 32.75 hectares, KLKMC is historically a mining area. Due to this condition, the Land Exco has decided to gazette this land as a cemetery, and since then JAWI has been entrusted to manage the land accordingly. As urban population is on the rise, so is the death rate, JAWI was determined to provide the city with adequate funeral facilities by turning this ex-mining area into the largest Muslim cemetery in Klang Valley. JAWI initiates the project by seeking help from the government to carry out the ground work to alter the land to be used as a burial ground.

JAWI has predicted that KLKMC would last until 2061 and 50 years is quite a long time. This estimation was made based on the annual average death rate in KL. According to the records, there are about 70 to 80 deaths every month in KL.

Bukit Kiara Muslim Cemetery / Jalan Damansara Muslim Cemetery (JDMC)

Bukit Kiara Muslim Cemetery is situated in Segambut District but it can be divided into two separate areas. The old cemetery is located along Jalan Damansara while the later is located along Sprint Highway. Since both cemeteries are using the same name and located quite close to each other, people sometimes get confused. Conventionally cemeteries in KL are named after the place or road where they are built. The old cemetery has been named after the road which is Jalan Damansara. I believe this is the only way people can distinguish between these two cemeteries in terms of their names and locations.

Bukit Kiara Muslim cemeteries are only meant to be used by kariah members who live in the suburbs of Damansara, Taman Tun Dr. Ismail and Bangsar.
My visit to San Diego Hills Memorial Park (SDHMP) was motivated by the attention and coverage that it gets from the local and international media that focused on the concept of the memorial park set up with many attractive recreational facilities. The interview session that I had with Ms. Dian Wulandri covered the historical background, the planning and design aspect of SDHMP as well as the challenges. Ms. Dian has revealed that SDHMP is not just a copy of the American memorial park of the same name. The vision of SDHMP is primarily to set up new burial infrastructures with the extensive use of centralising facilities. SDHMP is fully equipped with recreational activities and has been developed into an environment with beautiful surrounds, with the objective of addressing the severity of burial facilities in Jakarta at the same time.

Historical background

The site for SDHMP was situated in West Karawang, which was allocated as industrial reserved area. Eventually the site has been transformed into a burial ground which is run by the giant company. The idea of making this vast area of land into a memorial park began about ten years ago by the founder of the SDHMP; Mochtar Riady. Mochtar was a successful entrepreneur and the concept to build SDHMP was inspired by his visit to Forest Lawn in America. This idea came to him after he moved his families’ graves from China to this industrial site of Karawang. His family tombs now rest in SDHMP.

Apart from Mochtars personal motivation, the inception of SDHMP has also been driven by three factors. Firstly, the critical issue of lack of space for burials in public cemeteries around the metropolitan area of Jakarta, has become a good opportunity for SDHMP to open up a new alternative to provide a solution to this serious issue. SDHMP is keen to help the government solve the problem of lack of space for burials. Representatives from the General Cemeteries have given their consent and cooperation to the management of SDHMP to deal with the scarcity of land for burials in the city. It is common knowledge in Jakarta that finding available burial plots has become increasingly hard. Grave tenure has been practiced in Jakarta with a three-year period of tenancy. If the tenure is not renewed than it will be open to other people outside of family members. This has resulted in people transferring the corpse from family plots in general cemeteries to new burial plots in SDHMP.

Secondly, the SDHMP is addressing the feasibility of the funeral ceremony to be conducted especially on the side of the bereaved family, even before the passing of that person. Advanced preparation is important to avoid the emotional stress and financial burden after the passing of family members. In other words, people are given ample time to think about the resources, and invest in their resting place. This is possibly achieved in SDHMP because the payment can be settled either through installments or a lump sum depending on the individuals affordability.

The last and most important factor is that burial grounds in SDHMP are open to different classes of people, from rich to middle class. It has been one of the objectives of SDHMP to cater for low and middle class people because the social structure in Indonesia is majorly made of these two main groups. Therefore, SDHMP has provided many options for people to select the package that meets their budget and also the cultural practices and religious expectations. Even though grave plot reservation is a common practice in the funeral
industry in most countries, it is something that has not been widely practiced among Muslim communities in Jakarta, Singapore or KL.

The planning of SDHMP

1. SDHMP is strategically located within the metropolitan region of Jabodetabek and nearby districts such as Bandung and Jawa Barat. This has allowed SDHMP to provide accessible routes from every corner of the extended metropolitan region.

2. SDHMP is made up of 500 hectares of land with the burial area making the total of 300 hectares. This whole burial area is expected to last for more than 20 years since the opening of SDHMP in 2006, whereas the rest of the 200 hectares is meant for residential and industrial areas. In other words, this funeral industry has become the backbone generating other developmental projects around the industrial area of Karawang. This includes residential housing, commercial business and public amenities.

3. Muslim sections are divided into five main gardens; however, at the moment there are only three gardens open and the area for each garden is between three to six hectares. Each garden has many clusters in which there are designed separate packages to offer various choices to the buyer. The first three gardens have been developed at the same time with the consideration of distance from the centralised infrastructures that have been developed at a much earlier stage.

The design of SDHMP

1. Muslim sections have been completely undertaken by the English designer, Janet Benton. According to Ms. Dian, Benton has consulted Mona Siddiqui, a professor in the UK with a Muslim background, to gain a deeper understanding and advice on the topic of Muslim burial practices. The initiation of this project has also considered opinions from the local Imams.

2. The design process has resulted in Benton adopting the principals of the five Islamic pillars, which have been reflected in the planning layout and concept use of the Muslim burial section. Five Pillars Garden is the design concept used in Muslim sections at SDHMP. This is an interesting approach as far as the concept of design goes, because the concept of a cemetery garden or park that begins to emerge in public cemeteries in KLMA has somehow not reflected or resembled the Islamic philosophy of the design and planning aspect of Muslim cemeteries. The absence of participation from the design profession also explains this situation.

3. Muslim principals' belief in five Islamic pillars has been developed into several types of garden that compliment such a theme. The name for each Muslim section is named after the five Islamic pillars. For example, the Garden of Unity was inspired from the Syahadah, which is the first attribute of Islamic pillars that demand for a proclamation on being a Muslim. In other words, this self-confession became the main factor that unites Muslim believers under one community as well as one place of burial. Whereas Garden of Prayer reflects the second attribute of Islamic pillars that orders Muslims to perform prayer five times a day. The application of these Islamic themes carries with the other attributes of Islamic pillars, which are Garden of Benefaction, Garden of Fasting and Garden of Pilgrimage.
4. In a way, Muslim burial sections were designed with certain Islamic ideas that revolves around the common practices of a person as a Muslim. Muslim sections have not only been designed as a place to bury the dead but also incorporates the Muslim life practices that serves as a core foundation of their faith. Each of the five main gardens have been visually interpreted to give unique physical characteristics.

5. Concrete vaults have been used as a retaining structure because of the loose structure of limestone ground at SDHMP. This helps to stabilise the earth structure to accommodate the coffin. In the case of Muslim graves, the concrete vault has been designed slightly differently than the coffin burial. The bottom of the concrete is left open to meet with the religious requirements for the body to touch the earth. The depth of this concrete wall is measured at 1.6 metres (5.2 feet).

6. Unlike the conventional burial practice, headstones in SDHMP have been laid horizontally over the graves instead of vertically. The intention behind this is to create an ambience that blends in with the surrounding nature, especially with the grass which is the most distinct element that covers the whole area.

7. The type of trees that have been planted in SDHMP have given a priority to shade features that can provide shelter to visitors. The management of SDHMP is also making sure that the landscape features such as gazebos and pergolas built inside the garden not only serve as aesthetic elements but also add value to the burial packages.

**Challenge**

The main challenge faced by SDHMP is to provide burial space that caters for multiple faiths. In order to achieve this, the management of SDHMP has looked into details of the cultural aspects of planning and design.
Appendix 2 – Photographs of checklist items in the first and second category of case studies
1. Graves’ practices: 5. KLKMC

1. Graves’ practices: 9. PAm

1. Graves’ practices: 9. PAb

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1. Graves' practices: 12. SDHMP

1. Graves' practices: 13. SBC

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2. Graves’ spatiality: 1. JAMC
2. Graves’ spatiality: 2. JDMC
2. Graves’ spatiality: 3. JKMC
2. Graves’ spatiality: 4. TSMC
2. Graves’ spatiality: 12. SDHMP

2. Graves’ spatiality: 13. SBC
3. Degree of openness: 1. JAMC

3. Degree of openness: 2. JDMC
3. Degree of openness: 3. JKMC
3. Degree of openness: 4. TSMC
3. Degree of openness: 5. KLKMC

3. Degree of openness: 6. S9MC
3. Degree of openness: 7. AJBMC

3. Degree of openness: 8. SLG

3. Degree of openness: 9. PAm

3. Degree of openness: 9. PAb
3. Degree of openness: 10. KBGC

3. Degree of openness: 11. PKGC
3. Degree of openness: 12. SDHM

3. Degree of openness: 13. SBC

4. Vegetation: 1. JAMC

4. Vegetation: 2. JDMC
4. Vegetation: 3. JKMC

4. Vegetation: 4. TSMC

4. Vegetation: 5. KLKMC

4. Vegetation: 7. AJBMC

4. Vegetation: 8. SLG

4. Vegetation: 9. PAm

4. Vegetation: 9. PAb
4. Vegetation: 10. KBGC

4. Vegetation: 11. PKGC
5. Topography: 1. JAMC

5. Topography: 2. JDMC
5. Topography: 3. JKMC

5. Topography: 4. TSMC
5. Topography: 12. SDHMP

5. Topography: 13. SBC
6. Drainage system: 1. JAMC

6. Drainage system: 2. JDMC
6. Drainage system: 3. JKMC

6. Drainage system: 4. TSMC
6. Drainage system: 5. KLKMC

6. Drainage system: 9. PAm

6. Drainage system: 9. PAb
6. Drainage system: 10. KBGC

6. Drainage system: 11. PKGC
7. Site location: 3. JKMC

7. Site location: 4. TSMC
7. Site location: PAm

7. Site location: PAb
7. Site location: 10. KBGC
7. Site location: 11. PKGC
7. Site location: 12. SDHMP

7. Site location: 13. SBC
8. Perimeter boundary: 1. JAMC

8. Perimeter boundary: 2. JDMC
8. Perimeter boundary: 3. JKMC

8. Perimeter boundary: 4. TSMC
8. Perimeter boundary: 5. KLKMC

8. Perimeter boundary: 12. SDHMP

8. Perimeter boundary: 13. SBC
9. Spatial relationship: 1. JAMC  
9. Spatial relationship: 2. JDMC
9. Spatial relationship: 3. JKMC

9. Spatial relationship: 5. KLKMC

9. Spatial relationship: 7. AJBMC
9. Spatial relationship: 8. SLG
9. Spatial relationship: 9. PAm
9. Spatial relationship: 9. PAb

9. Spatial relationship: 10. KBGC
9. Spatial relationship: 11. PKGC
9. Spatial relationship: 12. SDHMP

10. Vehicle accessibility: 1. JAMC

10. Vehicle accessibility: 2. JDMC
9. Vehicle accessibility: 3. JKMC

10. Vehicle accessibility: 5. KLKMC
13. People activities: 1. JAMC

13. People activities: 2. JDMC
13. People activities: 3. JKMC

13. People activities: 4. TSMC
13. People activities: 5. KLKMC

13. People activities: 7. AJBMC

13. People activities: 8. SLG

13. People activities: 9. PAm

13. People activities: 9. PAb
14. Facilities provided: 1. JAMC

14. Facilities provided: 2. JDMC
14. Facilities provided: 3. JKMC

14. Facilities provided: 4. TSMC
14. Facilities provided: 5. KLKMC

14. Facilities provided: 7. AJBMC

14. Facilities provided: 8. SLG

14. Facilities provided: 9. PAm

14. Facilities provided: 9. PAb
14. Facilities provided: 10. KBGC

14. Facilities provided: 11. PKGC
14. Facilities provided: 12. SDHMP

14. Facilities provided: 13. SBC
15. Hardscape: 1. JAMC

15. Hardscape: 2. JDMC

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15. Hardscape: 7. AJBMC
15. Hardscape: 8. SLG
15. Hardscape: 9. PAm
15. Hardscape: 9. PAb
15. Hardscape: 12. SDHMP

15. Hardscape: 13. SBC
16. Graves arrangement: 3. JKMC

16. Graves arrangement: 4. TSMC
16. Graves arrangement: 5. KLKC


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16. Graves arrangement: 10. KBGC
16. Graves arrangement: 11. PKGC
16. Graves arrangement: 12. SDHMP