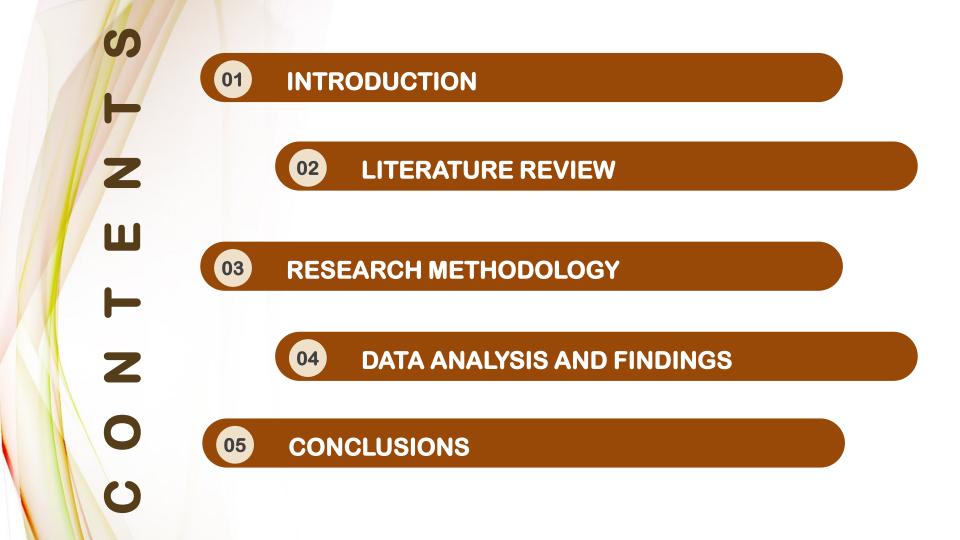
## MANAGEMENT AND VALUATION OF COMMERCIAL BURIAL SITES (CASE STUDY: JOHOR, MALAYSIA)

**Presented by : Sr Norlinda binti Daim** 





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- It predominantly involves non-Islamic commercial burial land managed by the private sector. The development of land for non-Islamic cemeteries by the private sector began in the late 1980's in this country
- The need for burial land is a fundamental facility as crucial as other basic facilities. The existence of burial/ cemetery sites today depends on the demand, location, and suitability of the proposed area.
- In urban areas, burial sites are limited and existing cemeteries face congestion due to the focus on high-rise development dominating land use. Burial/ cemetery land tends to prioritize profitability, whereas land values in urban areas are exceedingly high.
- □ Guidelines for Planning Islamic and Non-Islamic Burial Lands to assist regarding the planning requirements for Islamic and non-Islamic burial lands as a guideline in planning development
- Faziah (2011) notes an increasing trend in the construction and development of commercial non-Islamic burial lands. Overall, every state in Peninsular Malaysia has such commercial burial lands, except for Kelantan State. In Johor State, the development of commercial burial sites has expanded due to high demand.

## INTRODUCTION PROBLEM STATEMENT

- Commercial cemeteries fall under the category of special real estate and are rarely valuated either based on existing burial land or on vacant land with potential for private burial purposes. However, there are requests for valuations in cases such as alienation and conversion of land. Additionally, valuations are conducted in cases for Sales and Investments, although these are very rare in this country (Choo Lai Kuan, 2000).
  - Existing commercial burial/ cemetery lands are sometimes involved in Land Acquisition by the government for specific purposes such as road widening, railway construction, and others.
  - Faziah (2011) states that since these activities generate revenue for the State Government through conversion and alienation land premium, the Valuation and Property Services Department Malaysia (JPPH) is responsible for determining the valuation of these real estate. JPPH indeed plays a crucial role in assisting in revenue collection for the government through valuations for conversion and alienation land, as well as determining compensation that needs to be paid to affected parties due to government Land Acquisition.
- A continuous study is necessary to further examine the approach and methods for valuating commercial cemeteries. Before conducting valuations on commercial cemeteries, a valuer needs to understand the management aspects carried out by commercial burial operators.
- This serves as a guideline for conducting valuations of commercial burial lands.

## **RESEARCH BACKGROUND**



#### **RESEARCH OBJECTIVES**

- To examine the management aspects of commercial cemeteries in the state of Johor
- ii. To study the valuation methods of commercial cemeteries in the state of Johor.

#### **RESEARCH QUESTIONS**

- i. What are the management aspects of commercial cemeteries in the state of Johor?
- ii. What are the suitable valuation methods for valuing commercial cemeteries in the state of Johor?

#### SIGNIFICANCE OF THE STUDY

- □ Enhance the knowledge of valuers and assist them in conducting valuation work for these real estate for specific valuation purposes
- By understanding the management and valuation methods of commercial cemeteries, valuers can effectively valuate these properties, considering their unique characteristics and legal implications.

## SCOPE AND LIMITATIONS

- Focuses on commercial cemeteries operated by commercial burial operators located around the state of Johor
- Involving 2 religious communities, namely Buddhism/ Taoism/ Confucianism and Christianity

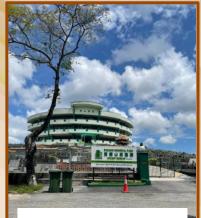


No	Commercial	Year of	Total	Total	Ownership
	Burial/	Establishment	Area	Developed	
	cemetery		(hectare)	Area	
				(hectare)	
1	Nirvana Memorial, Segamat	2003	41.28	31.28	Company
2	Empyrean Park Columbarium, Tangkak	2020	6.00	3.00	
3	Banang Memorial Park, Batu Pahat	1983	4.86	3.24	
4	Perpetual Columbarium Ulu Choh, Pontian	2012	4.18	0.23	
5	Perpetual Memorial Park, Kulai	1993	40.68	22.60	
6	Nirvana Memorial, Kulai	2001	56.67	37.78	
7	Reliable Memorial Park, Kluang	2006	2.52	2.52	Government Gazette for the use of the Chinese community
8	Hong Yuan Cemetery, Kluang	-	-	-	Company
9	Nova Memorial Park, Kluang	-	-	-	
10	Sanctuary Memorial Park, Ulu Tiram	2006	4.02	2.00	
11	Nirvana Memorial, Ulu Tiram	2001	4.05	3.70	





Empyrean Park Columbarium, Tangkak



Banang Memorial Park, Batu Pahat









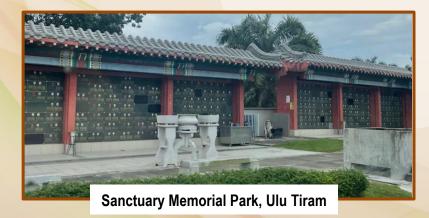
#### Reliable Memorial Park, Kluang

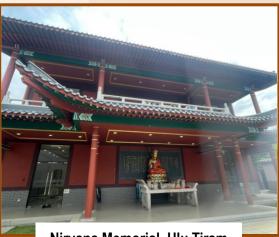


Hong Yuan Cemetery, Kluang



Nova Memorial Park, Kluang





Nirvana Memorial, Ulu Tiram



## LITERATURE REVIEW

#### **Concept of Commercial Burial Development in Malaysia**

- Federal Land and Mines Director General's Circular Number 1/1999 titled "Guidelines for the Development of Non-Islamic Burial Land Commercially by the Private Sector" was issued with the approval of all State Directors of Land and Mines and the Attorney General's Department in Malaysia.
- □ To provide guidance to State Directors of Land and Mines and Land Administrators ensuring that land development for commercial cemeteries is given due consideration by State Authorities through standardized approval conditions.

#### **State Government Control and Authority**

- □ If, at the time of approval, the land is located outside the Local Authority area, the State Authority shall decide that the land be gazetted as part of the Local Authority area to facilitate control over the burial land by the Local Authority. The State Authority shall also impose conditions regarding the appointment of a Trust Company to ensure the ongoing management of commercial cemeteries, including crematoriums and the storage of ashes.
- State Directors of Lands and Mines and Land Administrators are responsible for taking action to ensure that the development and management concepts are adhered to, and uniform conditions are imposed when obtaining consideration and approval from the State Authority.

#### Benefits of Commercial Burial Development to the Government

- Generates revenue in the form of land taxes and premiums, and it alleviates the burden on the State Government and Local Authorities in terms of providing and managing social facilities.
- The development of land for commercial cemeteries requires the approval of the State Authority through the granting of ownership or change of land conditions.
- □ To standardize the implementation of the commercial burial concept by the operators, the State Authority, when approving ownership or changing conditions, should consider the following such as Premium, Quit Rent, Category of Use, Restriction of Interest, Plot Size and Construction

#### **Types of Burial Sites**

- Chinese Burial Sites (Buddhism/ Taoism/ Confucianism)
- ii. Christian Burial Sites
- iii. Hindu Burial Sites

i.

iv. Islamic/ Muslim Burial Sites

## **TYPES OF BURIAL SITES**

#### Buddhism/ Taoism/ Confucianism

- The primary physical requirement for burial grounds is that the land should be on a flat level. This allows the deceased to be buried according to the saying "chay suah kua hai" (literally meaning "sit on the hill facing the sea"), considered good "feng shui" (geomancy)
- Burial sites should not be too close to towns, ideally in rural areas that are easily accessible but far from living spaces, as it is considered inauspicious to have the dead too close to the living. The burial ground should also have good drainage to preserve the items buried with the deceased for as long as possible.
- Buildings on Chinese burial grounds are permitted, with open shelters often constructed to facilitate prayer offerings and to provide a resting place for mourners and the deceased's family during the Qing Ming or Ching Ming Festival each year.
- Considering feng shui customs, most burial grounds are located on hills. The Chinese believe that deities reside in the sky, so the higher the burial site, the closer it is to their gods or deities.
- □ The main key of Mausoleum Feng Shui (Yin Feng Shui) is to determine the direction and location of the grave, which can influence the fortune of the descendants or the next generation of the deceased.

Some important points to cons	sider when establishing a grave include:
Choosing a Good Location	The site should have a beautiful mountain backdrop and the correct water flow direction according to the Qinglong Baihu criteria on the left and right sides.
Selecting a Good Day for Ground breaking	The first stone-laying ceremony should be on an auspicious day.
Accurate Calculations for Position and Depth	The position and depth of the grave must be accurately calculated
Ensuring Proper Coffin Dimensions	The coffin must have proper alignment and dimensions
Correct Orientation of the Tombstone (Bongpai)	The direction or angle of the tombstone is crucial, as incorrect orientation is believed to bring misfortune.
Proper Water Flow	The exit point of water at the location must be correctly positioned, as it determines the wealth and health of the descendants

## **TYPES OF BURIAL SITES**

#### Christianity

- The distribution of burial sites for Christians does not emphasize any special criteria other than flat land, which is suitable for easy management of the deceased
- A separation of areas between Protestant and Catholic adherents. In Pulau Pinang, Malaysia, for example, the need for burial grounds for the Christian community, which mostly consists of Catholics and Protestants is neither specific nor extensive.
- The primary requirement is that burial grounds should be located away from residential areas.
- Graves are usually arranged systematically without any particular orientation, and the area is landscaped.
- Exhumation and reburial of remains in family plots are allowed after a minimum burial period of 7 years. Cremation is not prohibited.

#### Hinduism

- 2 practices for managing the deceased; cremation and burial. For males, cremation is practiced, and the ashes are typically dispersed into rivers. Females and children are buried in burial grounds. Hindu burial sites are chosen to be flat and level, but the arrangement of graves is often scattered and not structured.
- Hindu burial grounds are considered impure and should therefore be located far from human residences or temples, which serve as congregational centre. This is to prevent the spread of bacteria or disease.
- No buildings are allowed to be constructed on Hindu burial grounds except for open shelters at the front of the burial ground. Exhumation and reburial are not allowed, and each grave is limited to one burial.
- Cremation is permitted. The soil of Hindu burial grounds should be compact enough to facilitate air circulation for faster decomposition and should not be too loose to avoid soil collapse due to poor drainage.
- Burial grounds should be located at least 2 meters above flood levels and should not be placed in areas with high water levels. They should also be at least 2 meters above the groundwater table to prevent groundwater seepage into residential areas.
- Situated far from rivers or drains to prevent erosion. Drainage water from the burial ground should not be discharged into rivers used for domestic purposes
- □ The minimum distance between a burial ground and residential areas should be at least 200 meters

## **TYPES OF BURIAL SITES**

#### Islamic

- Ideally located adjacent to or near mosques to facilitate prayer and burial ceremonies.
- In contemporary settings, Islamic burial grounds are often situated far from mosques and residential areas due to urban planning requirements placing mosques/ surau within residential areas or under local authority jurisdiction
- □ The terrain of Islamic burial grounds should be flat or gently sloped so that all deceased can be buried facing one direction, which is towards Mecca (Qibla)
- □ Burial grounds should not be prone to waterlogging or flooding.
- No buildings are permitted in burial grounds except for site offices for management purposes. Excavation is allowed, and exhumed bodies can be reburied adjacent to a new burial based on family plots.
- However, cremation of bodies is prohibited

#### Average Dimensions of Pit, Cover, and Grave Size for Four Types of Graves

Belief System	Pit Size (metre)	Cover Size (metre)	Grave Size (metre)	Total Area
Buddhism/ Taoism/ Confucianism	1.0 m x 2.5 m	1.5 m x 3.0 m	2.0 m x 3.5 m	7.0 metre square
Christianity	1.0 m x 2.0 m	1.5 m x 2.5 m	2.0 m x 3.0 m	6.0 metre square
Hinduism	1.0 m x 2.5 m	1.5 m x 3.0 m	2.0 m x 3.5 m	7.0 metre square
Islamic	1.0 m x 2.0 m	1.5 m x 2.5 m	2.5 m x 3.0 m	7.5 metre square

# 03

# **RESEARCH OF METHODOLOGY**

#### **Research Approach**

- Qualitative Approach: The qualitative method will involve content analysis of relevant reports and transcripts of interviews with respondents.
- Quantitative Approach: The quantitative approach will involve descriptive analysis through the analysis of survey questionnaires, presenting frequencies, percentages, and tables.

#### Data Collection

Primary Data

Obtained through interviews questionnaires with and operators of commercial cemeteries involved in answering the research questions and achieving the predefined research objectives.

Secondary Data

Secondary data are sourced from the publications such as previous studies/ research, relevant reference books, journals and bulletins and Guidelines, policies, and acts related to burial land planning

#### **Research Instruments**

❑ The instruments used in this study are a set of interview questions and questionnaires designed to achieve the research objectives.

#### **Data Analysis Methodology**

- Content analysis will be used as the method of data analysis for this study.
- A mean range will be employed to explain the factors influencing valuation.
- This approach will help in systematically analysing the data collected and interpreting the findings according to the defined ranges.

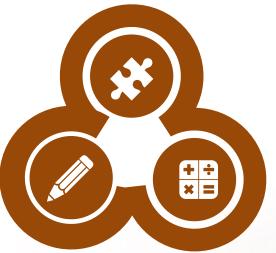
Explanation	Mean Range
Strongly Disagree	1.00 - 1.80
Disagree	1.81 - 2.60
Uncertain	2.61 - 3.40
Agree	3.41 - 4.20
Strongly Agree	4.21 - 5.00



### **Management of Commercial Burial Sites**

### Agencies Involved in Commercial Burial Site Development

- 1. Town and Country Planning Department (PLANMalaysia)
- 2. Valuation and Property Services Department (JPPH)
- 3. Land and Mines Office
- 4. Local Authorities



### **Valuation Methods**

- 1. Comparison/ Market Approach
- 2. Cost Approach
- 3. Income Approach :
- Profits Method
- Residual Method



## **1. Management of Commercial Burial Sites**

#### **Management by Developer**

- The management of the burial, including its maintenance, is handled by the original developer.
- □ The developer must develop the burial land according to the terms and conditions set by the State Authority.

Management by Trust Company Registered Under the Trustees Act 1949 (Act 100)

### **1. Management of Commercial Burial Sites**

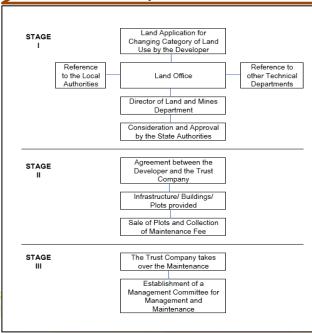
#### Stage I : Management by Developer

- □ The management of the burial, including its maintenance, is handled by the original developer.
- □ The developer must develop the burial land according to the terms and conditions set by the State Authority.

#### Stage III : Sale of Burial Plots (Selling Price)

- ❑ All transactions involving the burial plots are conducted using a Sale and Purchase (SNP) Agreement, and a certificate is issued to the buyer as proof of purchase.
- Ownership remains under the developer's name as the registered owner, but the burial plot is allocated to the buyer through a certificate with a registration number issued by the developer. Plots that have been sold but not yet used cannot be transferred via SNP Agreement without the approval of the State Authority.
- Ownership of these plots is similar to strata ownership but do not involve maintenance costs or service fees that buyers must pay periodically.
- Payments are made only for the purchase of the chosen grave, either in a lump sum or through instalment plans introduced by the commercial burial sales company, typically over up to five (5) years.

Summary of the Development and Management Process of Commercial Burial Land by the Private Sector



Stage II : Management by Trust Company Registered Under the Trustees Act 1949 (Act 100)

- ❑ After the sale of all burial plots, the management is taken over by a trust company appointed by the developer and must be registered under the Trustees Act 1949.
- □ The management through the trust company is established to reassure prospective buyers that the burial land will continue to be maintained and managed properly.
- □ The maintenance schedule is subject to agreements between the developer and the trust company.
- To ensure the trust company has sufficient financial resources for future maintenance or upkeep of the burial land, a portion of the sale of plots will be allocated for maintenance purposes. The maintenance funds will be deposited into a trust fund and used by the trust company for future burial maintenance work.
- All activities of private cemeteries should be managed by a specific management company for burial purposes.

### **1. Management of Commercial Burial Sites**

Aspects of Commercial Burial

#### Management in Johor

•	-										
Commercial Cerneteries	Nirvana Memorial, <u>Segamat</u>	Empyrean Park Columbarium, Tangkak	Banang Memorial Park, Batu Pabat	Perpetual Columbarium Ulu <u>Choh.</u> Pontian	Perpetual Memorial Park, Kulai	Nirvana Memorial, Kulai	Reliable Memorial Park, Kluang	Hong Yuan Cemetery, Kluang	Nova Memorial Park, Kluang	Sanctuary Memorial Park, Ulu Tiram	Nirvana Memorial, Ulu <u>Tiram</u>
Management of burial package bookings and sales records	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Customer service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Health and safety during machinery operation and grave digging	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Environmental conservation, horticultural care, and landscaping	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Building and facility maintenance	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Compliance with the laws, customs, and burial practices of each minority's beliefs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

6 aspects of managing commercial cemeteries as follows:

- Management of burial/ cemetery package reservations and sales records.
- ✓ Customer service.
- Health and safety during the operation of machinery and grave digging.
- Environmental preservation, horticulture, and landscape maintenance.
- ✓ Maintenance of buildings and facilities.
- ✓ Compliance with laws, customs, and burial practices of each minority belief.

### 2. Agencies Involved in Commercial Burial Site Development

#### Town and Country Planning Department

- Responsible for land use planning, including the use and development of land as stipulated in the Town and Country Planning Act 1976 (Act 172).
- This includes determining land use and zoning in general. Any land use or development plans require approval from the State Town Planning Department under Section 19 (d) of the Town and Country Planning Act 1976.
- □ The purpose of this approval is to ensure compliance with existing planning on the land by the State Government.



#### Valuation and Property Services Department (JPPH)

- The Land and Mines Administrator will engage the services of the Department of Valuation and Property Services Malaysia (JPPH) to prepare a valuation report for the relevant site. The valuation determination is based on:
  - ✓ If it is an application for government land, the land is valued based on its current Market Value;
  - If it is an application for a change of conditions, then the land valuation is based on the original conditions of land use or changes in specific conditions.
- □ The role of JPPH is to determine the land value based on the principles applied by the respective states as stipulated in their State Land Rules

## **DATA ANALYSIS AND FINDINGS** 2. Agencies Involved in Commercial Burial Site Development

#### Land and Mines Office

- Any application involving land development or activities must go through the Land and Mines Office, as control over landrelated activities falls under state government jurisdiction.
- □ In the case of developing burial land, if the land is state land, an application to acquire the land must be made. The Land Administrator will determine the premium payment that must be paid by the applicant or commercial burial operator to acquire the land. The premium percentage is based on the Market Value determined by the Department of Valuation and Property Services (JPPH) according to the State Government's regulations.
- □ If the land is subject to other conditions, the Land and Mines Office will determine the premium payment required for changing the land use conditions. Changing land use conditions means changing the category of land ownership from its current category to another or changing specific conditions.
- Additional premiums are imposed for changing the land use category. The basis for calculating these additional premiums is outlined in the State Land Rules and varies by state.



#### **Local Authorities**

- ❑ The views of the local authorities are required by the State Authorities in making decisions to approve any burial site development applications. These considerations include the location, community needs, and cultural suitability to ensure harmony in the lives of the multicultural population.
- □ Land that has been approved by the State Authorities, whether through ownership or change of conditions, will be stipulated with the following requirements:
  - i. Providing burial plots, permissible area for each plot, construction of buildings for storing cremated remains, temple buildings, and others;
  - ii. Commercial burial development must consider the cultural characteristics of Malaysian society in the area and the position of the surrounding community. Approval from the local authority must be obtained before any building structures and layouts are established by the developer; and

iii. Development takes into ac	count the following matters :
Module System	<ul> <li>The module system consists of two (2) rows of graves, with each row containing 20 grave lots.</li> <li>Each burial land must contain at least 15 modules, accommodating a total of 600 grave lots.</li> <li>The required space is 1 hectare.</li> </ul>
Public Facilities	<ul> <li>Providing 8 - 10 parking lots. Each lot is approximately 20 - 25 metre square, including landscape areas.</li> <li>Providing 2 bus parking lots.</li> <li>A 400 square meter area for a public building. This building will accommodate administrative offices, rest areas, and restroom facilities.</li> <li>Providing adequate utility facilities.</li> </ul>
Landscape and Fencing	<ul> <li>A 1.5 metres landscape reserve is required along the pedestrian walkway.</li> <li>Landscaping and trees can enhance the attractiveness of the burial area.</li> </ul>
Circulation System	Providing a circulation system of 2 metres (6.5 feet) wide surrounding each module, including access to each grave lot, coffin transportation, and gravedigger movement.
Crematorium Layout	<ul> <li>A traditional crematorium requires an area of 0.6 hectares and is suitable for rural and semi-urban areas. Placement in urban areas should be away from existing and future developments.</li> <li>Modern gas crematoriums require an area of 0.6 hectares (1.5 acres), including landscaping.</li> </ul>
Memorial Garden Layout and Design	<ul> <li>All memorial garden sites must first obtain approval from the State Authorities.</li> <li>It requires a spacious area located on the outskirts of the development area.</li> <li>The layout and design of the burial land are divided into several small gardens. If a crematorium is required, part of the area should be allocated for its provision.</li> <li>The internal layout of these gardens emphasizes a comprehensive network of paths and pedestrian systems.</li> <li>Proposed public facilities include a public building or place of worship. The height and design of grave markers need to be controlled to harmonize with the overall landscape</li> </ul>

- The valuation of commercial cemeteries involves both land and buildings which includes the valuation of burial plots (both sold and unsold), the value of columbarium sites, and developed versus undeveloped sites.
- Additionally, it covers the valuation of buildings such as mausoleums, columbarium, offices, crematoriums, shops, storage facilities, and other structures.



### **Comparison/ Market Approach**



The Comparison Approach is based on comparing similar uses, meaning comparing graves with similar grave transactions and must conduct a more comprehensive analysis, not solely focusing on nearby burial land transactions. The best method to value the undeveloped land is by using the Comparison Method which is currently unused solely for future burial and burial purposes but intended for other uses.



In determining the valuation, many factors or considerations need to be taken into account. Based on the review from the JPPH valuation reports, the factors influencing the valuation of commercial burial land are:

- i. Location
- ii. Size / Land Area
- iii. Land Shape
- iv. Terrain Characteristics
- v. Concept (Traditional vs. Modern)
- vi. Restrictions of Interest
- vii. Tenure (Freehold or Leasehold)



Research findings indicate that on average, commercial burial operators agree with the factors influencing the valuation of commercial burial land. There are 2 factors that influence the valuation of commercial burial land: Location (M=4.91, SD=0.302) and Tenure (M=4.91, SD=0.302)

Factors Affecting the Valuation of Commercial Burial Land	Mean Score	Standard Deviation	Mean Explanation
Location	4.91	0.302	Strongly agreed
Size/ Land Area	4.82	0.603	Strongly agreed
Land Shape	4.82	0.603	Strongly agreed
Terrain Characteristics	4.82	0.603	Strongly agreed
Concept (Traditional vs Modern)	4.82	0.603	Strongly agreed
Restriction of Interest	4.64	0.674	Strongly agreed
Tenure (Freehold or Leasehold)	4.91	0.302	Strongly agreed
AVERAGE	4.82	0.530	Strongly agreed

### Cost Approach

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□ The Cost Approach is based on the concept that an investor would not pay more for a piece of real estate than the cost to acquire a comparable site and construct a similar building

The Cost Method is the only method suitable for estimating the value of buildings located in burial areas that generate income. It encompasses estimating the land value and the cost of replacing the depreciated value of structures and developments on the land

Burial construction expenses are outgoing expenditures including labour costs for gravestones, land scaping, and land development. Obsolescence factors when valuating old structures, elements of no replacement, or factors no longer exist must also be considered. Most developments such as caretaker's houses, office buildings, churches, greenhouses, flower shops, and multipurpose buildings can be valued by estimating costs based on building costs. Morgues, coffin shops, offices, prayer rooms, and flower shops are income generators and can be used to analyse costs and revenues.

### **3. Valuation Methods**

### **Cost Approach**

#### 1. Initial Works Cost

Initial Works refers to the cost of site preparation and earthworks, including site clearance, rock blasting, cutting, filling, levelling, retaining walls, soil treatment, and others.

No	Commercial Burial Site	Estimated Cost	Cost Rates (RM per hectare)
1	Columbarium Empyrean Park, Tangkak, Johor	RM2,000,000.00	RM333,000.00
2	Banang Memorial Park, Batu Pahat, Johor	RM840,000.00	RM98,800.00
3	Sanctuary Memorial Park, Ulu Tiram, Johor	RM653,100	RM162,400.00

#### 2. Burial Construction Costs

- A portion of the estimated costs for burial plots, urn burial plots, columbarium, and mausoleums at commercial burial sites in Johor is not provided by commercial burial operators due to the lack of historical cost records.
- ➡ However, according to interviews with the operators, the estimated construction costs of the cemetery is between 4% to 10% of the transaction value, depending on the type of cemetery

### 3. Valuation Methods

### **Cost Approach**

#### 3. Building Construction Costs

- Buildings found on commercial burial sites typically consist of facilities used for managing deceased individuals.
- These include administrative offices, temples/ churches, toilets, prayer halls, funeral merchandise workshop, and funeral equipment storage.

No	Туре	Commercial Burial Site	Estimated Cost	Cost Rate (RM/pm3)
1	Administrative	Columbarium Empyrean Park, Tangkak, Johor	RM650,000.00	RM1,530.00
	Office	Sanctuary Memorial Park, Ulu Tiram, Johor	RM40,000.00	RM1,100.00
2	Temple/Church	Columbarium Empyrean Park, Tangkak, Johor	RM20,000.00	RM1,530.00
3	Toilets	Columbarium Empyrean Park, Tangkak, Johor	RM18,000.00	RM1,550.00
4	Prayer Hall	Columbarium Empyrean Park, Tangkak, Johor	RM68,000.00	RM1,820.00

#### 4. Infrastructure Costs

The infrastructure found on commercial burial sites typically consists of basic facilities necessary to support operations and management, such as roads, drainage systems, perimeter fences, bridges, parking, and walkways

No.	Туре	Commercial Burial/ Site	Estimated Cost	Cost Rate (RM/pm3)
		Columbarium Empyrean Park, Tangkak, Johor	RM1,500,000.00	RM75.00
1	Road	Sanctuary Memorial Park, Ulu Tiram, Johor	RM1,280,000.00	RM80.00
		Sanctuary Memorial Park, Ulu Tiram, Johor	RM235,993.00	RM70.00
2	Drainage System	Banang Memorial Park, Batu Pahat, Johor	RM400,000.00	RM250.00
3	Perimeter Fence	Banang Memorial Park, Batu Pahat, Johor	RM193,500.00	RM200.00

### **3. Valuation Methods**

### **Cost Approach**

#### 5. Landscape Costs

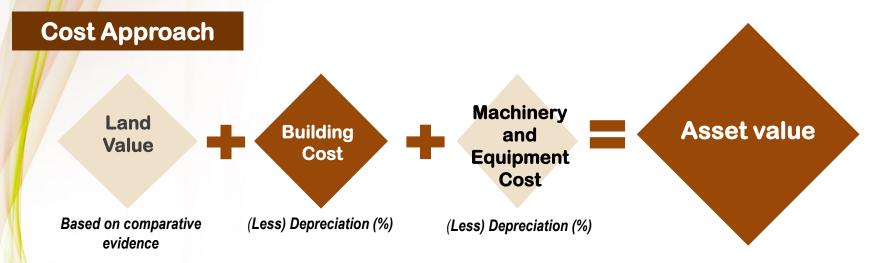
Interior decorations of commercial cemeteries are typically emphasized and often adorned with soft and hard landscaping, grass, and trees

No.	Туре	Commercial Burial Site	Estimated Cost	Cost Rate (RM/hectare)
1	Soft & hard landscaping	Banang Memorial Park, Batu Pahat, Johor	RM300,000.00	RM270,000.00

#### 6. Machinery and Equipment Costs

- Machinery and equipment on commercial burial sites are specialized constructions with specific specifications and structures. They are valued using the Depreciated Replacement Cost (DRC) Method and have a certain Economic Life Span (ELS), even after repairs and maintenance.
- □ Such replacement costs are typically predetermined throughout the operational life of the commercial burial and depend on the valuation basis.
- Depreciation must be reflected over the Economic Life Span (ELS), e.g. according to Bailiwick Express -Guernsey News, crematoriums can be used for up to 16 years.

### **3. Valuation Methods**



### Income Approach - Profit Method



Profit Method used for value developed land and unsold plots land and reserve parts are likely to be used for future burial. The value of land for burial plots, urn burial plots, columbarium, and mausoleums can be estimated. The Profit Method also suitable for assessing certain parts of burial land that generate income or profits.

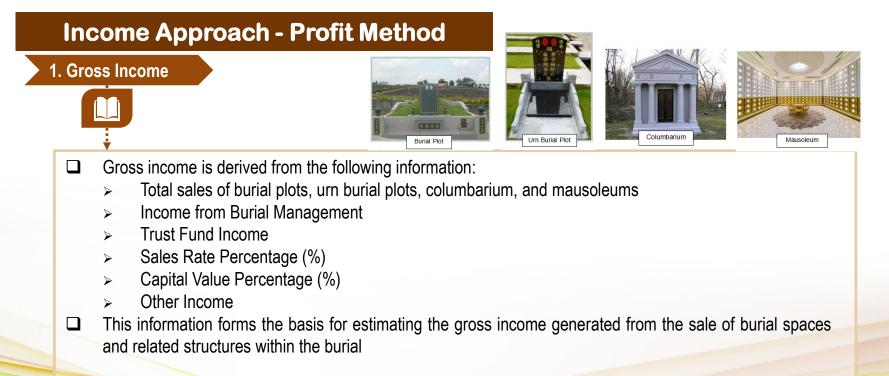


□ This method estimates the Net Annual income from any burial space sales activity. the economic life for income should be estimated over the time needed to liquidate all the space. The Present Value factor is multiplied by the estimated Net Annual income of land and construction.



□ Parts that bring profit that can be valued for Profit Method purposes are:

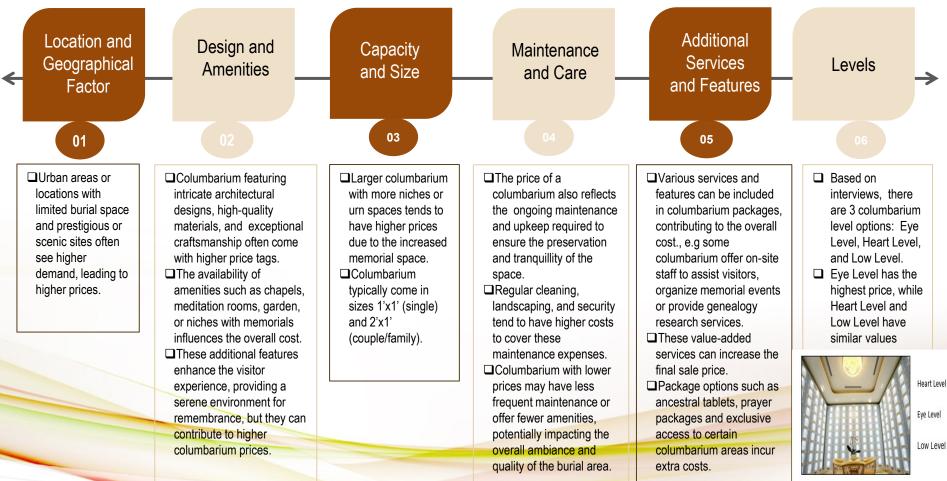
- > Unsold and developed land as burial plots
- > Burial plots, urn burial plots, columbarium, and mausoleums.



٢.							
	Item		1	Commercial Bu	rial/ Cemetery	Plot Price	
	Commercial Bur	rial Sites	Burial Plot		Urn Buri	ial Plot	Columbarium
	Memorial Park Kulai (SiQin Yuan)	Zone 12D (7 Zone 10E (5 Zone 2C (7 Standard Do (13' x 19')	: 2 (14' x 15'): From RM 54 ' x 15'): From RM 29,888. ' x 15'): From RM 23,888.0 x 15'): From RM 23,888.0	00 00 0	None		Buddha Columbarium Bok 8A, Blok 8D, Blok PUC, Blok 8B dan Blok QCG Single Urn : 1 x 1 + Design : RM 16,000 Double urn : 1 x 2 + Design : RM 10,000-RM 32,000 The Temple of Qian Long Single Urn (1 'x 1') : From RM 27,000.00 Huai Si Yuan
		59,888.00 Zone 3AE : I Zone 3LA,11 (10'x 17') Zone 3AD,5; Zone 3BB : I (10'x 16') Zone 11F,11 Zone 115 : I Zone 9B : F Zone 2B : Fi (10'x 18')	From RM 68,888.00 IA, 11E and 7A : From RM A and5C: From RM 40,888 From RM 55,888.00 IM, 11J,10H and 8D: From From RM 51,888.00 from RM 46,888.00 from RM 47,888.00	59,888.00 .00			Single Urn : From RM 5,088.00 Si Qin Yuan Single Urn : From RM 12,000.00
2	Nirvana Memorial Kulai	Royal Famil (24'x 36'): I Super Famil 24'x 36': R Family Buri 24'x 36': R Double and	ly Burial Plot M 888,888.00 al Plot M 195,000.00	1 42,800.00	None		Buddha Columbarium Single Urn : 1'x 1': from RM 12,000.00 Double Urn : 1'x 2': from RM 20,888.00 Christian Colum barium Single Urn : 1'x 1': from RM 10,000.00 Double Urn : 1'x 2': from RM 21,888.00
	Sanctuary Memorial Park, Ulu Tiram	Single Plot (6' x 15') Zone C dan Double Plot (10' x 15') Zone A dan Zone D1 10' x 18' : R Family Plot Zone F	Zone G1 : RM 15,000.00		None		Single Urn (1`x 1`) : RM 4,880.00
	Nirvana Memorial Tiram	Single Plot	(10' x 15') : From RM 60,0(	90.00		15,700.00	Zone Q3 -W Single Urn (1'x 1') : From RM 9,800.00 Double Urn (1'x 2') : From RM 14,800.00 Zone Q3-H1-G Double Urn (1'x 2') : From RM 19,800.00 Zone Q3-H1-IF Single Urn (1'x 1') : From RM 12,800.00 Double Urn (1'x 2') : From RM 27,800.00 + Yellow Urn : From RM 19,000

Item		Commercial Burial/ Cemetery Pl	lot
Commercial Burial/Cemetery Sites	Burial Plot	Plot Columbarium	
Nivana Memorial Segamat	Zone Eden and Zone H Single Plot (5 x 16): From RM 30,800.00 Double Plot (10 x 16): From RM 41,800.00 Family Plot (20' x 32): From RM 80,400.00 Zone A, Zone B, Zone C, Zone D, Zone E, Zor Double Plot (12' x 18): From RM 53,800.00 Family Plot (24' x 36'): From RM 160,000.00		Buddha Columbarium Segamat Tang Villa 2 Single Urn (1' x 1') : From RM 12,300.00 Double Urn (1' x 2') : From RM 18,800.00 Block B (With Aircond) Single Urn (1' x 1') : From RM 11,800.00 Double Urn (1' x 2') : From RM 21,300.00 Block C (Luar) Single Urn (1' x 1') : From RM 6,800.00
Kolumbarium Empyrean Park Tangkak	Corner Plot (Executive) (15' x 16') : From RM	66,664.00 None	Buddha Columbarium 4 Block without Aircond (Executive) (200 unit : 1
	Intermediate Superior (Type A) (12' x 16'): From RM50,20 Executive (Type A, Type B and Type C) (12' RM44,800.00 Standard (Type B and Type C) (12' x 16'): Fr Type 1 Executive (Upgraded) (12' x 16'): RM 64,800 Zone A, Standard (12' x 16'): RM 44,800.00 Executive Single and Standard Single (6' x 1	x 16') : From om RM34,800.00 .00	x 2) (10 unit 1' x 1'). 2 Block With Aircond (VIP) (200 unit : 1' x 2') (80 unit : 1' x 1') Christian Columbarium 1 Block (80 unit : 1' x 2') (35 unit : 1' x 1') Range price 1' x 1' : RM 2,900 - RM 7,800 (eye-level) 1' x 2' : RM 3,800 - RM 9,800 (eye-level)
Kolumbarium Perpetual Ulu Choh, Pontian	Tiada	None	Buddha Columbarium (A1,A2,AA1,AA2,AA3,EE1,EE2,E1 and E2-Without Aircond) Double Urn (1' x 2') : RM 7,853.00 - RM 13,370.00 (instalment Pay) (Wan Fu Dian - With Aircond) Double Urn (1' x 2') : RM 25,770.00 (instalment pay) Christian Columbarium (B81,B82,81,B2 and B8A) Double Urn (1' x 2') : RM 4,888.00 - RM 10,941.00 (instalment Pay) Single Urn : 1' x 1': RM 3,888.00 - RM 6,888.00

#### **Factors Affecting Columbarium Prices**



### **Income Approach - Profit Method**

#### 2. Operating Expenses

The operating expenses for a commercial burial site include:

□ Valuers can estimate operating costs by considering if plot sales contribute 30% of gross income (Faziah, 2011).

- a. Licensing costs
- b. Operating costs
- c. Utility payments
- d. Employee salaries
  - Security guards
  - Building cleaners
  - > Renewal of movable property (if any)
- e. Advertising
- f. Professional Fees
- g. Insurance
- h. Other expenses

### **Income Approach - Profit Method**

3. Operator's Share

- □ The operator's share is to provide an allowance for the return on capital invested.
- □ This is because the operator has used financial capital, skills, and energy to manage the commercial burial site operations

### Income Approach - Profit Method

#### 4. Return on Capital



To estimate the rate of return on capital, should consider the illiquidity of private burial estate, the risk compared to other types of investments, and the long time it will take to resell the asset. Investigation into the income of burial land in a particular area and other long-term real estate investments can help estimate the rate of return on capital.
 In estimating the total plot sales per year, careful consideration is needed to obtain an accurate valuation estimate with detailed studies of sales activities, including forecasting the time to sell burial spaces.

The study should include the following items:

- Population demographics in the area
- Mortality rate in the area
- Competition from other burial sites
- Annual sales records from competing burial sites
- Annual sales records of the subject property.

#### Income Approach - Profit Method

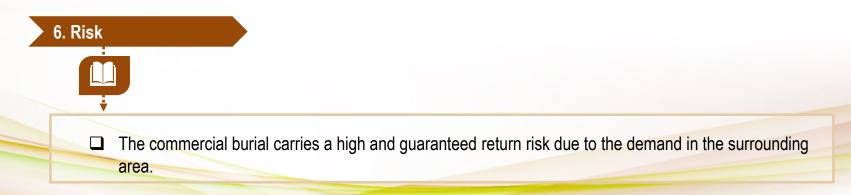
- 4. Return on Capital

  - □ The sales records of the evaluated burial ground can serve as a guide for future sales rates. Previous transactions indicate whether the sales trend is steady, increasing, or decreasing. This trend should be analysed considering economic factors such as competition, depreciation, mortality rate, population demographics, and sales promotions.
  - For commercial or profit-oriented burial grounds, the income earned is uneven and unstable throughout the business's economic lifespan. This is due to competition, economic conditions, and promotional policies. The net income for burial development can be plotted as a bell curve. However, generally, burial/ cemetery site income differs from other commercial real estate.
  - The drawback of this method is the difficulty in estimating an appropriate capitalization rate. Due to the lack of market transactions, the band-of-investment method can be used to determine the capital value percentage.

### Income Approach - Profit Method

5. Operator's Share

Annual expenditure includes repairs and maintenance, quit rent, assessment rate, and insurance. The annual expenditure is allocated not for the operation of the specified commercial cemetery.



## Income Approach - Profit Method

No	ltem	Gross Income / Revenue			Operating Expenditures						Operator Share			Annual Outgoings				
	Commercial	a)	b)	c)	a)	b)	c)	d)	e)	f)	g)	h)	a)	b)	a)	b)	c)	d)
	Cerneteries	Total sales	Columbarium	Other Income	License	Operating	Utility	Employee	Advertising	Professional	Insurance	Other	Return	Operator's	Quit	Assessment	Maintenance	Insurance
	Sites	of burial	sales	(per year)	(%)	Cost	Payment	Salaries	(%)	Fees (%)	(%)	expenses	on	Return	Rent	Tax	Costs	(%)
		plots & urn	(per year)			(%)	(%)	(%)				(if any)	Capital	(%)	(%)	(%)	including	
		burial plots										(%)	(%)				Machinery	
		(per year)															and	
																	Equipment	
4	Emailmen			i Annoteel													(%)	
1	Empyrean Park			i. Ancestral Tablet:														
	Columbarium,			RM40.000														
	Tangkak,	RM2,000,000	RM500.000	per year	0.01%	20.00%	0.57%	5.00%	0.16%	22.00%	0.00%	0.18%	0.00%	25.00%	1.34%	0.07%	1.65%	0.15%
	Johor			ii. Qing Ming								••						
				Prayer:														
				RM2,500														
2	Sanctuary																	
	Memorial	RM1,294,474	RM5.613.742	RM169,160	0.00%	0.00%	11.47%	1.50%	2.20%	1.09%	4.01%	0.00%	0.00%	0.00%	0.82%	0.30%	0.39%	0.33%
	Park, Ulu	rtwi1,234,4/4	ruw0,013,/42	1/11/109,100	0.00%	0.00%	11.4/70	1.00%	2.20%	1.03%	4.0170	0.00%	0.00%	0.00%	0.02%	0.30%	0.39%	0.53%
	Tiram, Johor																	

The format for valuating commercial burial sites using the Profit Method based on information obtained from literature studies can be shown as follows :

5			
	Gross Income/Revenue: Total sales of burial plots, urn burial plots, columbarium, and mausoleum Burial management income Trust Fund income Sales rate percentage (%) Capital value percentage (%) Other income		RMXXXX
	Less: Purchases Gross Operating Profit		RMxxxx RMxxxx
	Less: Operating Expenses a) Licensing costs b) Operating costs c) Utilities d) Employee salaries		RMXXXX
	- Security guards - Building cleaners e) Renewal of movable property (if any) Net Profit - Divisible Balance		RMxxxx
	Less: Operator's Share Return on capital	RMxxxx	
	Operator's return Gross Rent	RMXXXX	RMXXXX
	Less: Annual Outgoings a) Quit Rent b) Assessment Rate c) Maintenance costs includii machinery and equipment d) Insurance	ng	RMXXXX
	Net Rent ATB @ į %		RMXXXXX XXX
	Capital Value		<u>RMxxxx</u>

#### **Income Approach - Residual Method**



This method represents the valuation of the highest profit that can be obtained from the property at a material date. The benefits referred to vary depending on the use of the property. Therefore, current benefits need to consider future benefits for the most probable use of the property. The current use is usually the highest and best use for the property, and burial grounds are no exception



There are 3 objectives for using this method:

- a. To calculate the profit for the developer for a real estate project to be undertaken.
- b. To calculate the development cost for the project to be executed
- c. To calculate the current land site value that was previously transferred to the market.



Land use density is an important factor in the highest and best use analysis and is related to demand. For example, if there are many burial grounds in a particular area, the return for each burial plot will be less compared to an area with fewer burial grounds. Commercial burial sites can provide high returns for a piece of land if the demand and supply of land in the area are very high, resulting in higher returns compared to surrounding lands.

### **3. Valuation Methods**

#### **Income Approach - Residual Method** Gross **Developer's Potential Value Development** Development Profit Costs Value usually around (DC) (GDV) 35% **Development Costs Pre-Development Costs** a) Site Cost a) Survey Cost Building Cost b) Layout and Building Plan b) c) Infrastructure Cost c) Site Preparation Cost d) Premium Land for Change of Land d) Professional Fees e) Planning permission application e) Legal, Advertising, and Management Fees Statutory Contribution and Charges f) Finance Cost Contingencies

## An Example of Calculation based on Residual Method

	Subject Lot Details: No. Lot : Land Size (Gross) Land Size (Net) Project Duration Interest Rate Developer's Profit and Risk	33.75	hectares hectares years		District/ State Contigency Cost Management and A Land Value Gross Analysis Net Analysis	Administration	XXX/XXX	5% RM50,000.00 226,600,920.71 RM302.13 RM671.41	per month per metre square per metre square
GROSS DEVE	LOPMENT VALUE (GDV)			1	1		1		
Burial Plot	_								
	Emperor		lots	@	RM1,288,888.00		RM15,466,656.00		
	Imperial Royal		lots lots	0	RM568,888.00 RM368,888.00		RM20,479,968.00 RM26,559,936.00		
	Single Plot	9600		@	RM68,888.00		RM661,324,800.00		
	Double Plot	12680	lots	@	RM4,851.00	per lot	RM61,510,680.00		
	Single Standard Plot	4480		@	RM12,888.00	per lot	RM57,738,240.00		
	Double Standard Plot	5120		@	RM22,888.00		RM117,186,560.00		
		32000		-				RM960,266,840.00	
Columbarium									
1	Golden Dragon								
	Single		units*	@	RM16,888.00		RM50,664,000.00		
	Double		units*	@	RM22,888.00		RM54,931,200.00		
	Delux Double		units*	@	RM32,888.00	per unit	RM19,732,800.00		
		6000						RM125,328,000.00	
2	Chinese Dynasty			-					
	Single		units*	@	RM16,888.00		RM42,220,000.00		
	Double		units*	@	RM20,888.00		RM41,776,000.00		
	Premium Double		units*	@	RM28,888.00	per unit	RM14,444,000.00	D100 440 000 00	
		5000						RM98,440,000.00	
3	Pavilion Type Urn			0	D1 10 000		D1400 000 007		
	Single		units* units*	@	RM3,888.00	per unit	RM23,328,000.00		
	Double	10000	urii(S"	@	RM6,888.00	per unit	RM27,552,000.00	RM27,552,000.00	
		10000						ruli21,552,000.00	
Ancestral Tabl		30000		0	RM4,988.00			RM149,640,000.00	
Ancestral Tabl	et	30000	units	@	RIVI4,966.00	per unit		RM149,640,000.00	
Pet Memorial		5600	lata	0	RM4,588.00	nor lot		RM25.692.800.00	
Pet wemonal		3000	IUIS	w	RIVI4,300.00	perior		RIVI25,092,000.00	
	TOTAL GDV								1,386,919,640.00
	TOTAL GDV								1,386,919,640.00
CROSS DEVE	LOPMENT COST								
GR033 DEVE	LOPMENT COST								
1	Site Clearing	75.00	hectares	@	RM25,000.00	nor hostoro		RM1,875,000.00	
2	Earthwork		hectares	@	RM150,000.00			RM11,250,000.00	
3	Retaining Wall		metre square	@	RIVI 150,000.00	per metre square		RM11,250,000.00 RM13,720,000.00	
4	Infrastructure Cost	28,000.00	metre square	w	RIVI490.00	per metre square		Rivi13,720,000.00	
4	(a) Road	105 000 00	metre square	@	DM75.00	per metre square	RM7.875.000.00		
	(b) Drain		metre square	@		per metre square	RM2,310,000.00		
	(c) Walkway	10,500.00	metre square	Q.	RIVI220.00	per metre square	RM5.250.000.00		
	(d) Water & Electricity	75.00	hectares	@	RM5,000.00	per hectare	RM375,000.00		
	(d) Water & Elocations	70.00	nootaroo	œ	14110,000.00	por nootaro	141070,000.00	RM15,810,000.00	
5	Building Cost							140113,010,000.00	
0	i. Temple	3.00	units		RM2,500,000.00	ner unit	RM7,500,000.00		
	ii. Entrance Arch		units		RM1.300.000.00		RM1.300.000.00		
	iii. Dystnasy Columbarium		units		RM1,000,000.00		RM10,000,000.00		
	iv Paivilion Columbarium		units		RM500,000.00		RM2,500,000.00		
	v Dragon Columbarium		units		RM5,500,000.00		RM5,500,000.00		
	vi. Ancestral Tablet		units		RM1,000,000.00		RM6.000.000.00		
	vii.Gazebo		units		RM25,000.00		RM350,000.00		
					144120,000.00		1411000,000.00	RM33.150.000.00	
6	Landscaping	75.00	hectares		RM60,000.00	hectare		RM4,500,000.00	
7	Marketing (Advertisement and Pron		from GDV					RM13,869,196.40	
8	Contribution to the involved agencie		from GDV					RM6,934,598.20	
9	Profesional Fees		from (1 - 6)					RM4,015,250.00	
10	Bridging Finance	30%	% frm. (1 - 8) f	or		7	vears	RM220,760,493.66	
11	Contingency		from (1-8)				,	RM162,942.27	
12	Developer Profit		from GDV					RM485.421.874.00	
13	Legal Fees & Marketing Fees	1%	from GDV					RM13,869,196.40	
14	Maintenance Cost by Trust		month	@	RM100,000.00	per month		RM120,000,000.00	
	Company	,		<u> </u>				.,	
	(appointed by the Developer via								
		(say, 100 year	s and continuity						
	TOTAL GDC								RM945,338,550.93
	NET PRESENT VALUE							RM441,581,089.07	
		7.00	year	@	10%			0.51	
	PRESENT VALUE RM1							RM226,600,920.71	
								10000,020.11	
	Value			-					
	Value Land Size (Gross)		hectares			RM3,021,345.61	per hectare	RM302.13	per metre square
	Value		hectares hectares			RM3,021,345.61 RM6,714,101.35	per hectare	RM302.13	per metre square per metre square

Subject Lot Details:



# CONCLUSION

- □ The development of commercial burial sites is a crucial aspect of planned localities.
- Local Authorities and the Land and Mines Office should ensure that such land is designated as part of the Local Authority's jurisdiction to facilitate control over the burial land by the Local Authority.
- The Town and Country Planning Department plays a key role as the implementing agency in determining planning aspects, while the Valuation and Property Management Department is responsible for determining the property's valuation.
- This study has identified the factors to consider when valuing commercial burial sites, as well as the approaches and methods.
- The proposed approach is based on different valuation principles

Valuation Approach	Valuation Principle	Land or Building Condition (for Land Acquisition Purposes)
Comparison	There are comparable comparisons. Used for unde veloped land.	Land that is either developed or undeveloped.
Cost	Valuation based on the cost of development on the site.	Estimating the value of buildings located on burial/ cemetery land that generates income.
Income: Profit Method	Includes commercial elements, referring to annual financial records.	Land that has been developed and plots that are unsold.
Income: Residual Method	Land with potential for development for commercial burial purposes.	Undeveloped land with potential for development as a commercial burial



## CONCLUSION

## FURTHER STUDY

- This study can be detailed in terms of the costs involved in developing commercial burial sites and the considerations taken by Local Authorities in determining the location selection for commercial burial sites and appropriate methods to avoid pollution
- □ The specifications of machinery and equipment, such as crematoria on commercial burial sites, which are specially designed for cremations. This research can assist valuers in estimating the costs of such machinery and equipment according to their specific purposes, should valuation requests be made by the relevant agencies.
- Additionally, this study can elaborate on the Cost Method, particularly the construction costs of tombstones or burial structures with different specifications, which will assist in conducting valuations.

# **THANK YOU**