

Land Acquisition for Klang Valley Mass Rapid Transit Line 1 Project

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Abstract. Land acquisition has been one of the tedious processes during the initial process for the construction of the Mass Rapid Transit project. The land process involves many parties such as land owner, land administrator, authorities, private valuer, public valuer and the difficulty arise when dealing with the land owners. For the Klang Valley Mass Rapid Transit (KVMRT) Line 1 (Sungai Buloh – Kajang) which covers a total of 51 km alignment, many lots of land need to be acquired. Land Acquisition is one of the most challenging processes which often become the major reasons for the delay of projects and project cost escalation. The aim of this study is to evaluate the land acquisition process for Klang Valley Mass Rapid Transit (KVMRT) Line 1 Project. The objectives of the study are to study the land acquisition process, to identify the factors that cause delay in land acquisition during project implementation, to study the criteria taken into consideration in the evaluation of compensation amount and to evaluate the compensation amount paid to the landowner. The study focus on the land acquisition of Klang Valley Mass Rapid Transit (KVMRT) Line 1 project limiting the elevated section of the alignment. The study and data collection is carried out through interviews, questionnaires and on site assessment. The data are analyzed using Average Index and other statistical calculation. From the study, it was found that a total number of 17 parties are involved in the land acquisition process and there are 16 stages in the land acquisition process. The factors that cause delay in land acquisition are changes of the alignment scheme; poor handling of land records, land have sentimental value to the landowner, inaccurate information of lot measurement by land surveyor, lack of numbers of the land officer and untraced and un-numbered lot. From the study, there are six criteria than need to be taken into consideration in determining the compensation amount based from the First Schedule in Land Acquisition Act 1960. The rate for compensation payment is RM490 per square meter. A total of RM2 428 440.00 have been paid to Lot 425 land owners.

Introduction

Large-scale railway projects usually require land acquisition and displacement of homes and businesses. Land acquisition is one of the key elements in the land development process. It involves the compulsory taking of land. The process of land acquisition provides a legal procedure for the public sector in acquiring any land for development projects that benefits the country. However, the land acquisition must be for the public purpose and thus in lined with the provision of Section 3 (1) (a), (b) and (c) of the Land Acquisition Act 1960 [1]. LAA 1960 provide that The State Authority may acquire any land which is needed: “(a) for any public purpose; (b) by any person or corporation for any purpose which in the opinion of the State Authority is beneficial to the economic development of Malaysia or any part thereof or to the public generally or any class of the public; or (c) for the purpose of mining or for residential, agricultural, commercial, industrial or recreational purposes or any combination of such purposes.”

In Malaysia, land acquisition can be a complex and time-sensitive process. While governments may have the power to acquire land when needed for development purposes, land acquisition often draws conflicts as the associated human costs may be much more than the monetary compensation available. In order to protect the landowner’s rights and ensure adequate compensation, it is important to have an in-depth knowledge of the proceedings and the latest developments in law.

Transparent and tested land acquisition laws and agreement between stakeholders over fair compensation play an important role in the timely and successful completion of railway projects. This is an even more crucial issue if private land owners disagree to compensate their land as it can escalate risks and create uncertainty around the project timeline. Slow land acquisition and land clearance issues are often major reasons for the delay or cancellation of railway projects [11].

Land is acquired by the government against the desire of the landowner, but this can be done in the public interest and not in private interest. Eminent domain does not allow taking land of A and giving it to B to give benefit on him [2]. It also does not allow taking away land without compensation. It is not eminent domain but expropriation, and this is illegal [3]. The dispossessed landowner shall receive compensation for the loss of the resumed land as provided in the land acquisition statutes.

Problem Statement. There are different modes of railway projects which can be built to serve a country's public transportation needs. One of the modes is Mass Rapid Transit (MRT). One of the most critical items in project implementation is land acquisition which is arguably the most binding constraint on public and private infrastructure.

Klang Valley Mass Rapid Transit (KVMRT) Line 1 (Sungai Buloh – Kajang) covers 51 km alignment. A lot of land needs to be acquired to ensure that this mega project becomes a success. The land acquisition consists of numerous series of processes which involve many parties such as landowner, land administrator, authorities, private valuer, public valuer and etc. It is also bounded by the law and federal constitution to ensure that no party is persecuted.

Land Acquisition is one of the most challenging processes which often become major reasons for the delay of projects. In India, stalled land acquisition causes 4 out of 10 central government projects running behind the schedule [4]. The delayed land acquisition will eventually escalate the cost of projects [5]. There are many factors that cause delay in land acquisition such as untraced landowner, poor handling of land records and many other factors. Thus, the apprehension of the factors that cause delayed land acquisition is very essential to overcome this issue.

During East Coast Highway development, the determination of compensation amount has caused delay to the project [6]. This was due to the disagreement of the landowner regarding the compensation amount and some of the landowners refuse to compensate their land due to inheritance and some other factors. It was time consuming because these issues need to be solved in courts.

During East Coast Highway development, the amount of compensation paid to the affected landowners is higher than the cost of constructing the highway [7]. Although the value is high to be paid as compensation, it is still not high enough in the eyes of the affected landowners [5]. Establishing a reasonable amount of compensation for land acquisition is very crucial. A lot of matters need to be considered such as market value, type of property, land hold, location and others. The disagreement of the compensation amount often results in the delay of the process. Thus, the understanding of the criteria taken into consideration in determining the compensation amount is very essential.

Aim and Objectives. The aim of this study is to evaluate the land acquisition process for Klang Valley Mass Rapid Transit (KVMRT) Line 1 Project. In order to achieve the aim, the following objectives have been identified:

1. To study the land acquisition process
2. To identify the factors that cause delay in land acquisition during project implementation.
3. To study the criteria taken into consideration in the evaluation of compensation amount
4. To evaluate the compensation amount paid to the landowner

Scope of Study. The scope of this study has focused on the land acquisition of Klang Valley Mass Rapid Transit (KVMRT) Line 1 project limiting the elevated section of the alignment. The study of compensation amount has focused on Lot 425 Mukim Cheras, Daerah Hulu Langat.

Previous Studies

Land Acquisition Act 1960 (LAA 1960) is the instrument used for land acquisition. Provisions in the LAA 1960 provided constitutional procedure for the public authority especially the State Authority in taking any land for any public purpose development. Land acquisition by the State Authority would also be the finest choice rather than selling the land to the private developer as for the public purpose development [1].

Under the LAA 1960 provisions, any land acquired by the State Authority will then be State Land and it shall have no conditions or restrictions applied onto the land [1]. Specific provision for acquisition of land can be referred in the Section 3 of the LAA 1960. [8] indicate that the State Authority may acquire any land which is needed :

- i. For any public purpose;
- ii. By any person or corporation for any purpose which in the judgment of the State Authority is beneficial to the economic development of Malaysia or any part thereof or to the public generally or any class of the public; or
- iii. For the purpose of mining or for residential, agricultural, commercial, industrial or recreational purposes or any combination of such purpose.

With the existence of the LAA 1960, no body may argue the process of land acquisition by the State Authority. LAA 1960 has obviously stated a legal process and procedures that allows the State Authority to do so. However, the authority would not use any approach of land acquisition which could give a negative impact to the landowner. In land acquisition matters, a uniformed procedure is well provided as to ensure that the acquisition would not give any negative impact to all parties involved [1].

One the main objective of LAA 1960 is to prevent such problem of some unwilling landowner to surrender their land to the State Authority even a bigger amount of compensation would be paid to them. Besides that, LAA 1960 would also avoid the imposition of any conditions or restrictions onto any acquired land. Other than that, LAA 1960 also helps in allowing any development for the purpose of public being developed without any interference as well as to leave other problems relating to lease and easement [1].

Land Acquisition Procedure In [1], land acquisition procedure has been uniformed for the whole Peninsular Malaysia with the existence of LAA 1960. Even though all states in the Peninsular Malaysia are adopting the law, however the way of how it is implemented would be different according to each state. According to the provision of Section 3 (1) of the LAA, procedures of land acquisition for every state should include:

- i. Application, examination and endorsement
- ii. Investigations and orders
- iii. Compensation payment
- iv. Acquisition
- v. Court referring
- vi. Tax amendment and provision of title

In certain cases, land has to be investigated before it is acquired to be developed. In such case, Land Administrator should give a public notice as it is stated under the provision of Section 4 of the LAA 1960. As stated in Section 4 of the LAA 1960, public notice has to be issued as to deception in court session of land acquisition. Under Section 4 of the LAA 1960, “Gazette” should be issued in Form A. Land Administrator should then post the notice at several places such as the District Land Office, on public notice-boards in the mukim or township in which the land to which such notification, declaration or document refers, is situated and in such other places on or near the land specified in the notification [1].

If any detail investigation is needed onto the acquired land, hence the Director of Lands and Mines should issue a permission letter through Form B. Form B allows any respected person or officer to enter the land as to do detail investigation on it. However, they still have to comply every

related provision stated in the LAA 1960. Notification made in Form A will expire after 12 months. However, renotification can be made if needed. Thus, any action to be taken such as site visit and investigation must be done within given duration which is 12 months. Land valuation done at this stage is very important as to determine the method being used in evaluating respective land. After notification is made, a declaration has to be made as stated under Section 8 of the LAA 1960. The declaration is important as to inform the public that any land or part of it has been acquired for development. In this declaration procedure provided under Section 8 of the LAA 1960, a paper work must be submitted and approved by the Government Meeting Council (GMC) before it is given to the State Authority. After the approval then the land is approved to be acquired by the State Authority. Approved paper work from GMC must then be followed by Form C, which contains list of lot number of respected land together with a plan showing the location of the land [1].

State Authority will then approve the land acquisition and thus make a declaration in Form D according to the provision of Section 8 of the LAA 1960. The declaration will then be shown in government gazette, together with a copy of Form C. Declared Form D will expire after 2 years effecting from its gazette date. Between this two years time, if Land Administrator failed to do site investigation and awarding compensation, nor the State Authority failed to compensate the land, thus the gazette will automatically be invalid. A new application of compensation must be submitted if the State Authority still interested with the land. After the Form D is declared, Land Administrator has to mark out land which to be compensate as in lined with the provision of Section 9 of the LAA 1960. Land marking has to be done as to facilitate Land Administrator to recognize the land. Land Administrator should then commence proceedings for the acquisition of the land by giving public notice in Form E. Public notice made should fix the date of an enquiry for the hearing of claims to compensation for all interests in such land [1].

Enquiry date fixed in Form E should not be less than 21 days from the date of the Form E itself. As stated under the provision of Section 12 of the LAA 1960, Land Administrator should:

- i. Enquire the value of all scheduled land
- ii. Assess the amount of compensation should be given to the landowner
- iii. Investigate landowner's interests onto scheduled land and the distribution of compensation.

Under the provision of Section 13 of the LAA 1960, Land Administrator has the power to obtain a written opinion on the value of all scheduled lands, summoning and examination of witnesses, including the persons interested in the land which is subject of the enquiry, the administration of oaths or affirmations, and for compelling the production and delivery to him of documents, including issue documents of title and other documents evidencing title. Related documents are such copy of identity card as the verification of landowner, copy of Form 14A if there is any dealing done onto scheduled land within the acquisition period and appointment letter of attorney or letter of power of attorney. During the enquiry, Land Administrator should record all information gathered from landowners, interested parties and other appointed representatives. However, there is no specific method for data recording and it is up to the Land Administrator on how to record the information gathered. A complete statement of enquiry is very important to the Administrator especially if there is anybody who disagrees with the amount awarded and thus making an objection to the court [1].

After the enquiry procedure has completed, Land Administrator should prepare a written award under his hand in Form G. The Land Administrator should make a separate award for each separate area of scheduled land in respect of each person whose interest in the land has been established in such enquiry. Every award prepared by the Land Administrator should be filed in the office of the Land Administrator and should be final and conclusive evidence of the area of any scheduled land, of its value in the opinion of the Land Administrator, and the apportionment of the compensation awarded. Award by Land Administrator should consists of:

- i. Amount of compensation awarded
- ii. Acreage of scheduled land

- iii. Compensation apportionment
- iv. Other related costs and expenses.

Based in [1], Land Administrator should then prepare and serve the award in form of notice in Form H to each person interested in such land. Every notice in Form H should include an extract from the written award of the Land Administrator in Form G, relating to the land in which the person to whom such notice is addressed has an interest. Landowners or interested parties who receive the award notice have the choice either to accept, accept with objection or protest the award. Matters which can be objected are

- i. The measurement of acquired land
- ii. The amount of compensation to be awarded
- iii. The persons to whom it is payable

As for the agencies who acquire the land, they have only two choices, which is either to accept or protest the award. Through normal practice, Land Administrator would inquire for agreement from both agency and interested parties before awarding the compensation amount. Discussion with both agency and interested parties is held as to seek early opinion from both parties on the amount of compensation to be awarded. However, the final amount would be awarded by the Land Administrator without any prejudice until the Form H is submitted. If any or both parties protest the amount of compensation to be awarded, thus Land Administrator would hold 25% of the total amount to be awarded. It is in lined with the provision of the LAA 1960 as to secure the party which protest the amount to be awarded. However, objection can only be made if the offered award is not less than RM15,000 [1].

For example, if the amount to be awarded by Land Administrator is RM100,000 and interested parties protest the amount, thus Land Administrator would only pay RM75,000 to the interested parties and the balance amount which is RM25,000 would be hold by the court until the whole case is settled. During the enquiry, if there are no interested parties or they were absent, thus the amount of compensation would be deposited to the High Court. This kind of decision is made through ex-parte. If the interested party is no longer alive, thus the compensation would be paid to the Amanah Raya [1].

Compensation Payment Implementation of land acquisition and payment of compensation must comply with the provision of LAA 1960 in order to ensure the procedure taken is legal. Otherwise, land acquisition by authorities can be challenged by landowners as violation of human right to the landowner under the provision of Federal Constitution [1].

Federal Constitution. In Malaysia, Federal Constitution is the basic regulation of all acts and regulations. Therefore, all legislations and laws must be in lined with the provisions of the Federal Constitution. It is considered as illegal if any legislation which is contradictory to the Federal Constitution. Article 13 of [9] provides that :

1. No person shall be deprived of property save in accordance with law.
2. No law shall provide for the compulsory acquisition or use of property without adequate compensation

In [1], an individual right is guaranteed onto their private properties with the provision of Article 13 of the Federal Constitutions. However, there is also a provision in the Federal Constitution which stated that there are some ways can be taken in denying ones rights onto their private properties which is through the legal procedures. But, in order to acquire any private property, a compensation, which must be equal to the value of the property, must be given to the owner.

Compensation has to be given to the landowner for land acquisition case only, while no compensation need to be paid for land possession case. Payment of compensation is done with consideration on several elements such as interpretation of related laws, court decision, administration practices and orders from the State Authority [5]

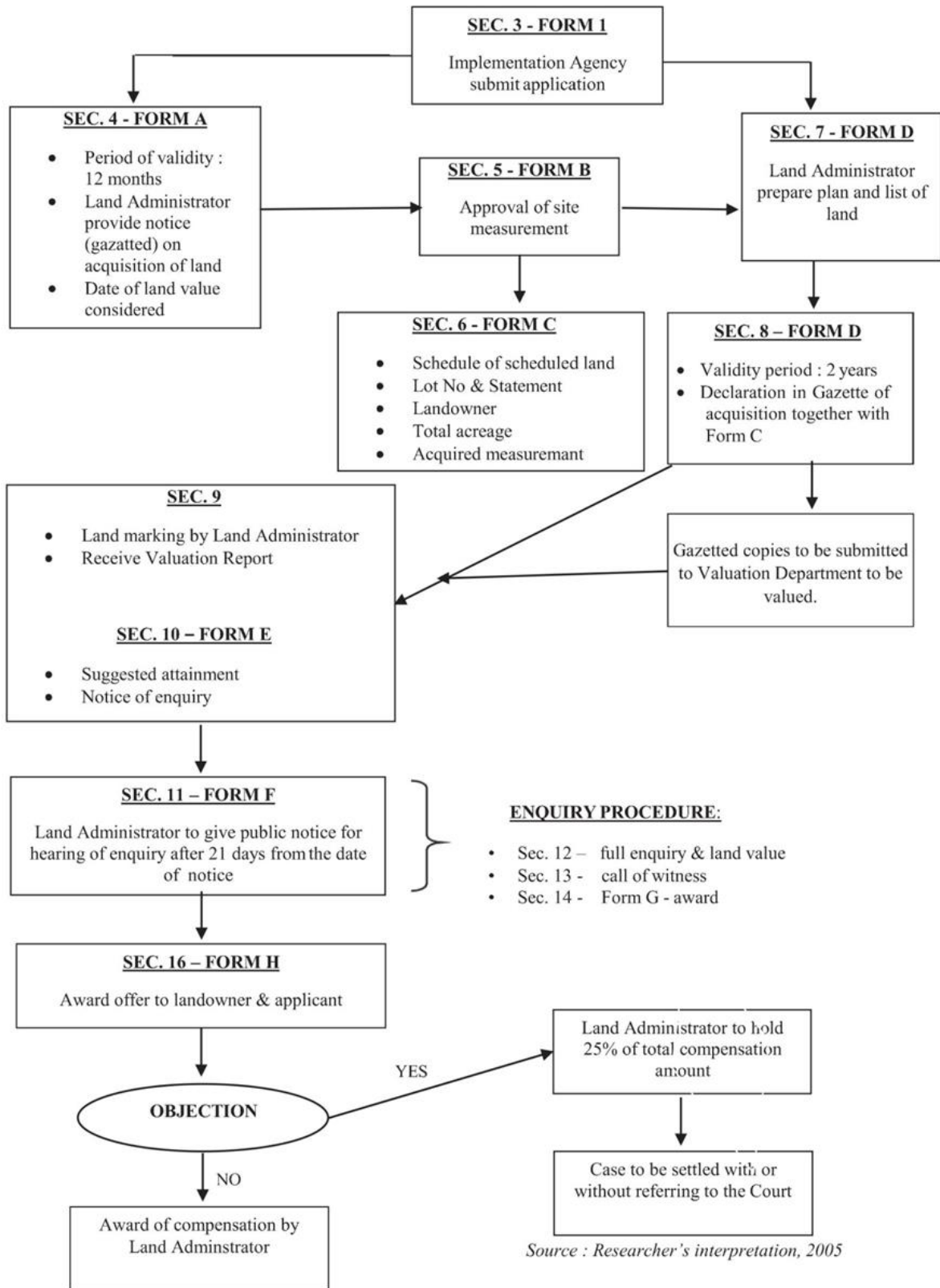


Figure 1: Land Acquisition Procedure Chart

Methodology

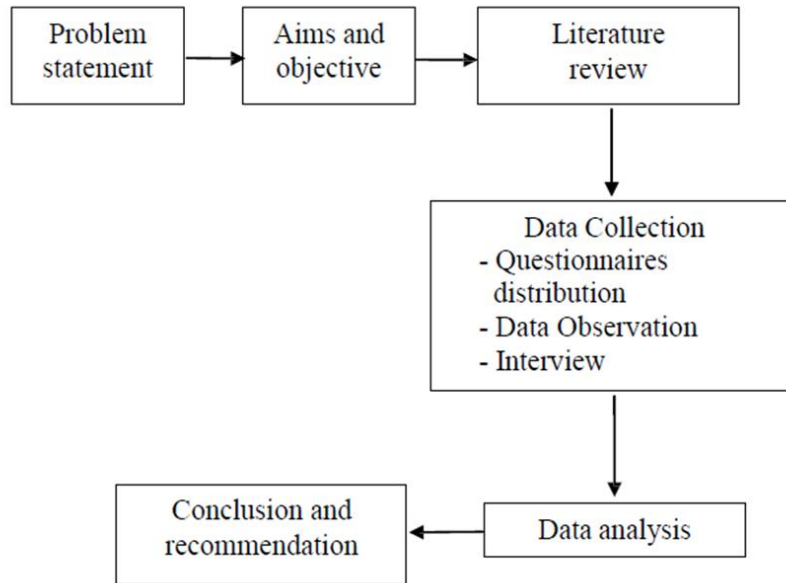


Figure 2: Research Methodology Flow Chart

Data Analysis

Data Observation Date observation method is being used because this study needs primary data from parties involved. These primary data are confidential and only focuses on several important aspects. This method is used to achieve the first, third and fourth objective which are to study the land acquisition process, to determine the criteria taken into consideration in the evaluation of compensation amount and to evaluate the compensation amount paid to the land owners. All data were collected from related reports prepared by Land and Liason Department, Gamuda Berhad.

Questionnaires Survey The questionnaire have been distributed to Land & Liason Department, Gamuda Berhad office. The questionnaires was distributed to all five land officers. This is due to Land & Liason Department only consist of five land officers and all of them are the one who fully in charged for all land acquisition process for Klang Valley Mass Rapit Transit Line 1 Project. A set of questionnaire containing two sections have been developed based on the second objective of the study. Section A is mainly about the demographic information of the respondents while Section B is about the factors that causes delay in land acquisition process.

Demographic Information This section is important in order to get the background information of the respondents. There was a question asking for the basic information of the respondents which is working experience in land acquisition. Figure 3 below shows the number of respondents according to working experience. Majority of the respondents having six years to ten years and 20 years and above working experience with two number of the respondent. The least is having 16 to 20 years working experience which is one respondent.

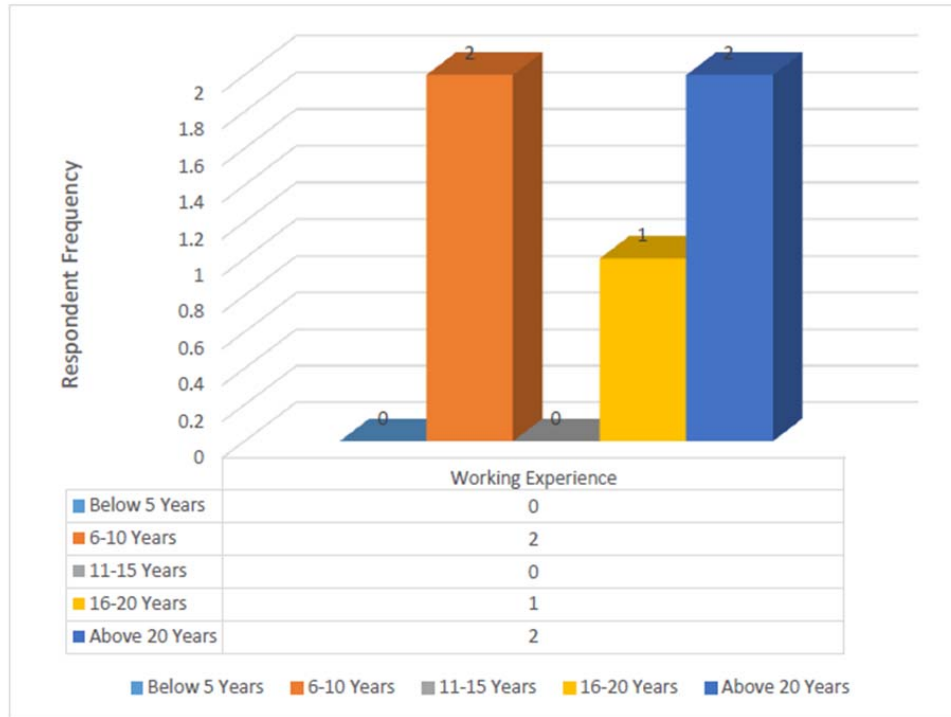


Figure 3: Number of respondents according to working experience

Factors that Cause Delay during Land Acquisition for Klang Valley Mass Rapid

Transit (KVMRT) Line 1 Project. This part discussed on the factors that cause delay during land acquisition Klang Valley Mass Rapid Transit Line 1 Project. In the survey form that had been distributed, there were eleven questions has been asked. Analysis had been done in order to obtain the factors that cause delay during land acquisition.

In this section, average index analysis was being used to evaluate the perception. Before the average index is determine, the mean value for each element was being calculated using the formula below:

$$\text{Mean value} = \frac{\sum a_i x_i}{\sum x_i} \text{----- (4.1)}$$

Where,

a_i = constant which represent the weight for i ,

x_i = variable that represent the frequency of respondents to the I ($i = 1, 2, 3, 4$),

After that, the rating for each elements was done based on each mean value. The classification of the mean values would be classified into five levels of agreements which are:

- 1.00 ≤ Average Index < 1.50 = “Strongly disagree” or “Not satisfied”
- 1.50 ≤ Average Index < 2.50 = “Disagree” or “Less satisfied”
- 2.50 ≤ Average Index < 3.50 = “Moderately agree” or “Fair”
- 3.50 ≤ Average Index < 4.50 = “Agree” or “Satisfied”
- 4.50 ≤ Average Index ≤ 5.0 = “Strongly agree” or “Totally satisfied”

This section explained the factors that cause delay in land acquisition of Klang Valley Mass Rapid Transit Line 1 Project. There are eleven elements to evaluate based on the factors that cause delay in land acquisition of Klang Valley Mass Rapid Transit Line 1 Project. The elements include

long and complex procedure (A), poor handling of land records (B), lack of numbers of Land Officer (C), Land Officers lack of experience and expertise in land acquisition (D), lack of coordination between land administrator and involving parties (E), land have sentimental value to landowner (F), delay of compensation payment to the landowner (G), changes of alignment scheme (H), inaccurate information of lot measurement by land surveyor (I), untraced & un-numbered lot (J) and too many registered name in land title in single lot (K).

Table 1: Respondent’s survey on factors that cause delay in land acquisition
SD – Strongly Disagree D – Disagree MA – Moderately Agree
A – Agree SA – Strongly Agree

Element		Scale					Mean Value
		SD (1)	D (2)	MA (3)	A (4)	SA (5)	
A) Long and complex procedure	Frq	0	3	0	1	1	3.00
	%	0	60	0	20	20	
B) Poor handling of land records	Frq	0	0	2	3	0	3.60
	%	0	0	40	60	0	
C) Lack of numbers of Land Officer	Frq	0	1	2	2	0	3.20
	%	0	20	40	40	0	
D) Land Officers lack of experience and expertise in land acquisition	Frq	0	2	3	0	0	2.60
	%	0	40	60	0	0	

*Frq = Frequency; % = Percentage

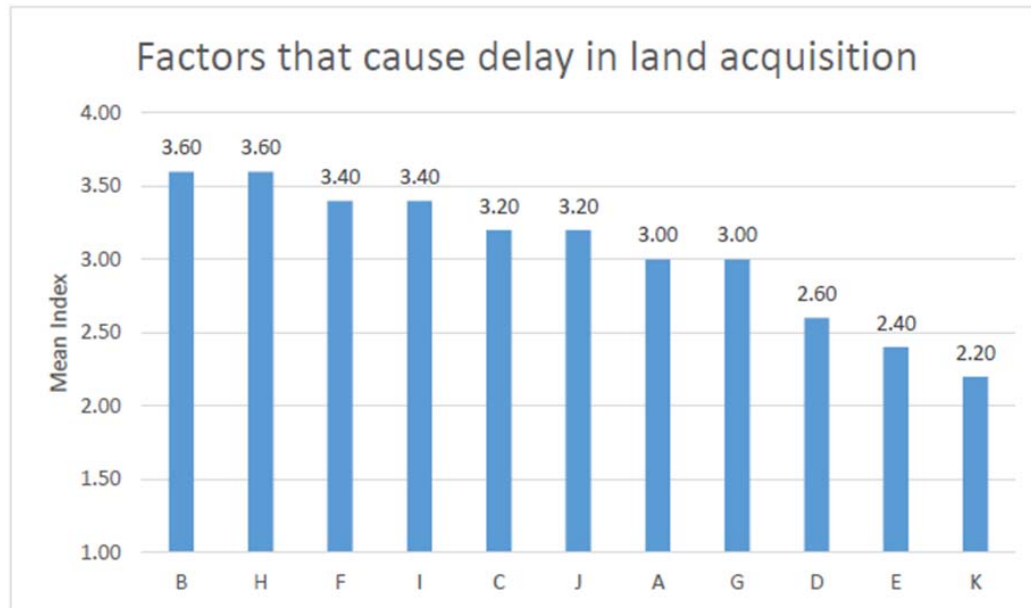


Figure 4: Graph according to priority on factors based on Table 1

Figure 4 above shows the factors that cause delay in land acquisition according to priority from Table 1. It is found that the most frequent mean index falls between $2.50 \leq \text{Average Index} < 3.50$ which falls in “Moderately agree”.

Majority of the respondents agreed that element B, poor handling of land records and element H, changes of alignment scheme are the main factors that cause delay in land acquisition which scored 3.60 and it falls under category “Agree”.

Next, it follows by element F, land have sentimental value to landowner and element I, inaccurate information of lot measurement by land surveyor which scored 3.40 and falls under category “Moderately Agree”. After that, element C, lack of numbers of land officer and element J, untraced and un-numbered lot scored 3.20 and falls under the same category as “Moderately

Agree”. Then, it follows by element A, long and complex procedure and element G, the delay of compensation payment to the landowner scored 3.00 which falls under the same category “Moderately Agree”.

Lastly, the remaining element E, lack of coordination between land administrator and involving parties and element K, too many registered name in land title in single lot scored 2.40 which falls under category “Disagree”.

Data Analysis on Compensation Amount For the Klang Valley Mass Rapid Transit (KVMRT) Line 1 project, the land acquisition process has been carried out by the Land and Liason Department, Gamuda Berhad. 406 lots of privately owned land has been gazetted under Section 8 of the Land Acquisition Act 1960. For the analysis on the compensation amount, Lot 425 Mukim Cheras, Daerah Hulu Langat have been selected. The data has been analyzed from Form G, Government Gazette No.4603, Section 14 Land Acquisition Act 1960 released by Hulu Langat State Land Administration on 24th July 2012. Based on the data observation from Form G, it have been analyzed that the rate for one square meter of land is RM 490.00. The total area of Lot 425 which is 4 956 m² have been acquired.

Table 2: the compensation amount given to each landowner in Lot 425 Mukim Cheras, Daerah Hulu Langat based from [10]

Lot.No	Owner	Area (m ²)	Compensation Amount (RM)	Rate (RM/m ²)
425	A	1 239	607 110.00	490
425	B	619.5	303 555.00	490
425	C	1 239	607 110.00	490
425	D	619.5	303 555.00	490
425	E	1 239	607 110.00	490
Total		4 956		2 428 440.00

From Table 2 above, there are five landowners in Lot 425 namely Landowner A, B, C, D and E. A total compensation amount of RM 607 110.00 have been awarded to Landowner A for a total land area of 1 239 m² which is the quarter of the total land area. Next, the same compensation amount as Landowner A has been given to Landowner C and Landowner E which is RM 607 110.00 for a total land area of 1 239 m². Beside that, Landowner B and Landowner D have been awarded a total compensation amount of RM 303 555.00 for a total land area of 619.5 m² which is a half the quarter of the total land area.

Conclusion

Land Acquisition Process From the study, it can be concluded that land acquisition has long and complex procedure involving many parties. A total number of 17 parties are involved in the land acquisition process consist of ministry involved such as Prime Minister’s Department (JPM) and Suruhanjaya Pengangkutan Awam Darat (SPAD) as the public agency for KVMRT project, Land and Mines Head Director Office, Land and Mines State Head Director Department, District Land Office, State Government Secretary Office (SUK), Government Meeting Council Office, Land Administrator, landowner, Valuation and Property Service Department (JPPH), Private Valuer, Licensed Land Surveyor, Surveying and Mapping Department (JUPEM), High Courts, Law Firms, Syarikat Percetakan Nasional Berhad, and Amanah Raya Berhad.

There are 15 stages for land acquisition procedure. The first stage is Land Acquisition Application by JPM and SPAD to Land and Mines Director followed by the second stage which is draftsman review. After that, the third stage is preparation of the land report for the affected land by land officer. The fourth stage is the notification under Section 4 followed by the fifth stage which is

notification under Section 8. Next, the sixth stage is the preparation of Form E (Suggested Acquisition) which is enquiry notice. After that, the seventh stage is the preparation of Form F which is notice in writing require evidence from the landowner. The eight stage is acquisition of land under the Certificate of Urgency (Form I) if needed by the applicant. Next, the ninth stage is land acquisition enquiry followed by the tenth stage which is record in the enquiry notes by the land administrator. After that, the eleventh stage is preparation of written compensation award (Form G) followed by the twelfth stage which is preparation of award notice and compensation offer (Form H). Next, the thirteenth stage is compensation payment to the landowner followed by the fourteenth stage which is taking possession of the land officially. Lastly, the fifteenth is the objection to the court if there is any objection by the landowner.

The longest process is stage nine which is land acquisition enquiry. During this stage, land administrator need to make full investigation regarding land value and estimate the compensation amount based on the consideration in the principle disclosed in the First Schedule APT 1960. Besides, the land administrator need to investigate the interest parties who claims to be compensated or to whom have the rights to get the compensated. Moreover, the land administrator need to investigate regarding the objection by the interest parties regarding the area of land to be acquired. For this KVMRT project, this stage took up to three months

Factors that Cause Delay in Land Acquisition during Project Implementation From the study, the factors that cause delay in land acquisition according to priority are as follows:

1. Changes of the alignment scheme.
2. Poor handling of land records.
3. Land have sentimental value to the landowner.
4. Inaccurate information of lot measurement by land surveyor.
5. Lack of numbers of the land officer.
6. Untraced and un-numbered lot.
7. Long and complex procedure.
8. The delay of compensation payment.
9. Lack of coordination between land administrator and involving parties.
10. Too many registered name in land title in single lot

Majority of the respondents agreed that changes of the alignment scheme and poor handling of land records became the factors that cause delay in land acquisition process.

There are three stages in determining the final alignment of the railway project. The first step is the establishment of fixed points along the corridor in which the alignment must serve. These points are densely populated areas, center of activity and future potential growth area. The second stage is to connect the fixed points in consideration of six factors which are social impact to be minimized, land acquisition to be minimized, journey time to be optimized, constructability, integration with the existing and future public transport networks and ridership to be maximized and stations to be easily accessible. The third stage is changes following the public feedback gathering process. The changes of the alignment would likely to be happened at this stage. This is due to the response and feedback by the public which area that the alignment should serve and it becomes necessary for the management to investigate the proposed alignment from the public feedbacks.

Before the use of Information and Communications Technology (ICT), the data and information regarding land matters were recorded manually. The manual system was very unsystematic. Only the persons who managed the records can fully understand how it works. After time passes, there are changes of the officer due either staff transfer or staff retirement. The new officer who is in charge of the land records hard to correspond with the system and thus result in poor handling of the land records.

Criteria Taken into Consideration in the Evaluation of Compensation Amount From the study, there are six criteria than need to be taken into consideration in determining the compensation amount based from the First Schedule in Land Acquisition Act 1960.

The first criteria is the market value based on the date of publication in the Gazette of the notification under section 4, provided that such notification shall within twelve months from the date of the Gazette. If not, the market value will be measured based on the date of publication of Gazette in section 8. The second criteria taken into consideration in the evaluation of compensation amount is the increase in the value of the remaining land (non-acquired land) accruing from the use of the land to be acquired shall be deducted from the total compensation received. The third criteria is the damage (if any) might be incurred due to the separation of the land. This is also known as severance. For example, the result of the acquisition of land caused the single lot split into two new lots. Usually it occurs in the highway, road and railway project where the acquisition of land only at the small portion of land and it occur at the middle segment causing the separation of the remaining land. The fourth criteria is the damage (if any) might be incurred because of the acquisition, led to an impairment on its other property. Next, the fifth criteria taken into consideration in the evaluation of compensation amount is the related expenses that have to be spent in the course of changes of residence or business (for moving), transportation of goods, livestock, rental homes, refurbishment costs and the loss of earnings. Lastly, the sixth criteria is if some parts of the land involved in the acquisition and the applicant agency for the land acquisition have promised to take the responsibility for rebuilding roads, drains, walls, fencing and other facilities that can provide benefits to the parts of land that are not acquired, it must be fulfilled by the applicant agent and if not, the cost to rebuild the facilities must be paid and included in the compensation amount.

Compensation Amount Paid to the Landowner From the study, the rate for compensation payment is RM 490 per square meter. A total of RM 2 428 440.00 have been paid to Lot 425 landowners consist of five persons. The determination of compensation amount have taken all of the criteria that have been discussed previously in 5.2.3. For the record, there was no objection to the court made by the landowner. The landowner agreed with the compensation amount and the compensation payment have been done by the applicant agency within the duration bounded by the law which is 3 months after the award date.

Reputation loss is difficult to quantify and commonly neglected in the consequence assessment. It is dependent on time and perceptions. This paper endeavored to identify the factors of stakeholders' perceptions that result in pipeline operator reputation loss. The AHP approach was adopted to prioritize the reputation loss factor. The results show that the factor contributing to the highest priority value is B1 (loss of customer confidence). The AHP method is capable of identifying contributors to reputation loss. Thus, better risk assessment of pipeline damage due to corrosion will be achieved with the inclusion of reputation loss in the consequence assessment. Hence, decision making in pipeline repair, inspection, and maintenance will be improved as well as the company's annual profit margin.

References

- [1] Ismail Omar (2007). Discrepancy In Determining The Amount Of Adequate Compensation For Land Taken In Land Acquisition Projects – A Case Study In Malacca With Reference To The Land Acquired For Kolej Universiti Teknikal Kebangsaan Melaka. Universiti Teknologi Malaysia, Skudai.
- [2] Brown, D., (1991), Land Acquisition, 3rd Edition, Butterworths: Sydney.
- [3] Jain, M.P. & Xavier G., (1996), Compulsory Acquisition in Malaysia, 2 MLJ xxix.
- [4] Amritha Pillay. (2015, March 17). Delays, cost overruns plague infrastructure projects. Live Mint, Retrieved March 3, 2016, from <http://www.livemint.com>

- [5] Ismail Omar 2015. Pengambilan Tanah-Teori & Amalan: Penerbit Pustaka Firdausi
- [6] Ismail Omar, Aminah Md. Yusof and Fahmi Arif Zifa Zaukani (2003). "Urban Sustainability Land Availability for Highway Development in Malaysia." Proc. Paper in International Conventions on Urban Development and Management (ICUDM). Langkawi, Malaysia.
- [7] LPT compensation crisis. (2001, 3 August). Berita Harian.
- [8] "Land Acquisition Act 1960." Act 486
- [9] Malaysia (2003). "Federal Constitution
- [10] Form G, Government Gazette No.4603, Section 14 Land Acquisition Act 1960 (2011, December 16) released by Hulu Langat State Land Administration
- [11] Rathbone, R., 2015. "Delivering Rail Projects in Asia." Pwc. Rev (Online). Retrieved from [http:// www.pwc.com](http://www.pwc.com) (Accessed on 3, December, 2015)
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