

URBAN SUSTAINABILITY – LAND AVAILABILITY FOR HIGHWAY DEVELOPMENT IN MALAYSIA

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Abstract

The proposal of the East Coast Highway, connecting the West Coast to East Coast of Peninsular Malaysia was an effort undertaken by the government to provide infrastructure to better accessibility, hence, helps sustain the economic growth of the country. The purpose of the highway is to shorten the traveling time, and, thus boost the economic development of the States involved. However, the initial proposal of the highway in 1994 was postponed until the first work starts at the end of 2000. The long delay period is caused by various constraints in negotiation, acquisition of land and construction stages. The study seeks to review literatures on the provision of infrastructure with special reference to the process and procedure of land acquisitions and valuation for compensation purposes. Secondary data is gathered from public and private valuation reports on land taken and then compared to the awards of compensation paid to the affected landowners using statistical analysis. In the end, it was revealed that there are differences in the valuation for compensation between public and private valuation that had created dispute on the amount of compensation of the value of land taken. There seems to be slightly different between the public valuation and value awarded to the affected landowners. In contrast, the private valuation seems generally disregarded. This indicates the practical aspect and applicability of the present code of land compensation to ensure the way to avoid delays in developing highway and providing necessary infrastructure to the people.

Keywords – infrastructure provision, highway development process, valuation for highway acquisition.

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1.0 Economic Overview and the provision of infrastructure in Malaysia

The construction industry in Malaysia enjoyed a steady growth of more than 10 per cent since the early 1990s until mid-1997 alongside an economic growth of more than 8.0 per cent per annum. In the late 1997, however, the economic growth had a slower pace of 7.4 per cent due to financial crisis in the far eastern region (Ismail, 2000c). The up and down of economic indicators is shown in Figure 1.0. According to Bank Negara Malaysia (1998), the Malaysian Gross Domestic Product was drastically reduced to 6.1 per cent in July 1997. This was the dramatic influence of drop in aggregate demand by about 26.5 per cent. As a result, rate of inflation rose to 5.3 per cent and rate of employment dropped to 3.4 per cent. It was more disastrous when the rate of foreign exchange dropped by 40 per cent and construction sector was downed by 24.5 per cent in 1998. This resulted from the government effort of tightening the monetary policy and reducing fiscal expenditure by 20 per cent. As a result of this, about RM2 billion worth of projects being cancelled (Adanan Mohamed Hussain, 2002).

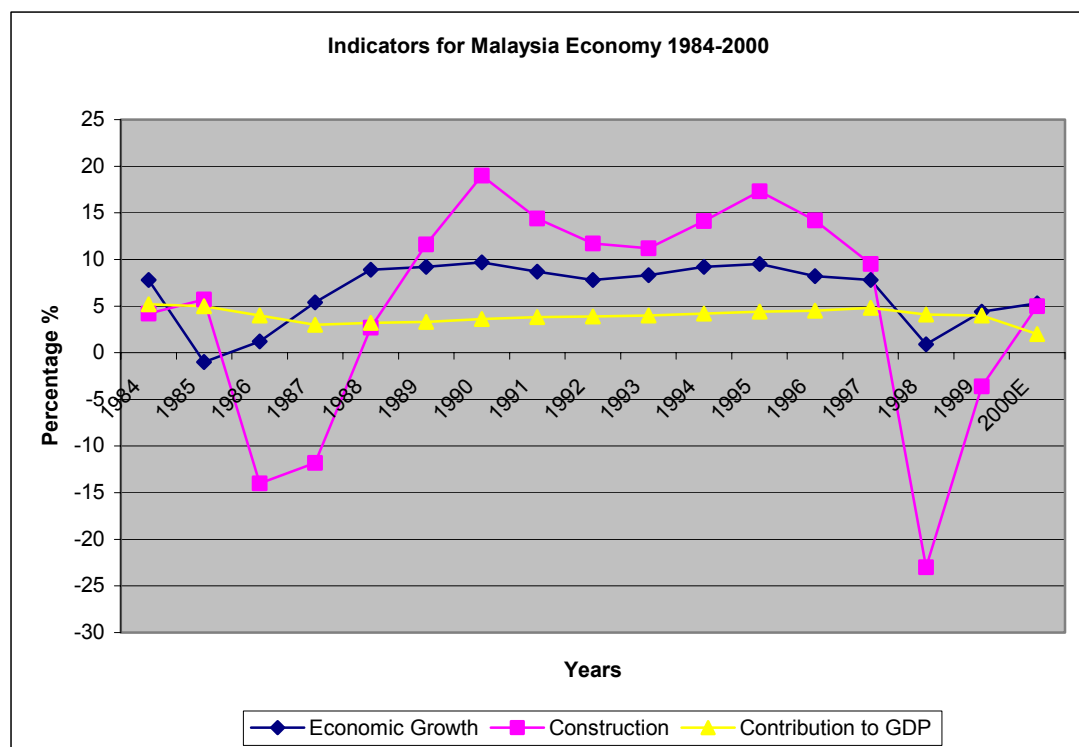


Figure 1.0: Malaysian economic indicators 1985 to 1999

Sources: Property Market Reports (1990-2000)

The control on credit facilities and financial crisis were responsible for the slowing down of the construction activities since mid-1997 (Property Market Report, 1998). The government reviewed the existing financial and legal conditions imposed on land developers and provided incentives to improve the property sector despite economic recession (Property Market Report, 1999). Through the National Economic Action Council (NEAC), the government had reversed the reducing public expenditure by introducing stimulus package of RM7 billion (Adanan Mohamed Hussain, 2002). About RM2.8 billion was taken from the Infrastructure Development Fund to finance and relaunched 36 abandoned infrastructure projects such as roads and bridges, expressway, schools and other public buildings. Despite the refuelling and pumping of money, the construction industry was still showing slow recovery from 23 per cent in 1998 to 5.6 per cent in 1999. Eventually, in the Budget 2001, the government had allocated RM24 billion and RM4.7 billion was for infrastructure projects. As a multiplier effect, the GDP grew at about 5.8 per cent in 1999 and 8.5 per cent in 2000.

In the Eighth Malaysian Plan (until 2005), the government had given priority to the provision of a comprehensive infrastructure projects to support the economic sustainability of the country. A sum of RM5.1 billion was allocated for new road construction, another RM8.9 billion for road widening and upgrading schemes through the implementation of privatisation concepts. Table 1.0 shows some infrastructure projects in the pipelines in Malaysia.

Table 1.0: Infrastructure Projects in Malaysia

Projects	Companies	Value (RM million)
Ipoh-Padang Besar Double Tracking	Foreign/DRB	9,000
Seremban-Johor Bahru Double Tracking	Foreign/DRM	6,500
Kuala Lumpur Elevated Highway	Gamuda	1,200
Malaysia/Singapore Causeway	IJM	1,700
Ipoh-Lumut Highway	MRCB	1,100
Guthrie Corridor Expressway	WCT	700
West Coast Expressway	Talam	1,000
Proton City	-	2,000
Putrajaya LRT	-	1,140

Source: HLG Securities (2002).

2.0 The Highway Construction Process

The Highway Authority of Malaysia (LLM) is responsible for the whole implementation of highway construction. The process is as follow:

The proposal stage

Sulaiman (1999) has outlined three approaches in constructing alignments of a highway. These are:

- Taking into account the accessibility
- Considering secondary roads
- Avoiding negative impact on existing roads

The Highway Authority will study the proper and suitable alignments for the highways. The purpose is to ensure a positive impact to enable economic growth within the region. Moreover, the new alignment is proposed to avoid wastage of land uses. At this proposal stage, factors such as construction scope, financial capability of the concession firm and construction duration have to be carefully considered. It is important to consider the alignment to ensure the size and number of lots of lands to be acquired for the highway construction. The more land is to be taken and the longer time taken to complete the alignments, the higher will be the amount of compensation to be awarded to the affected landowner and higher costs of highway development. Both high compensation and higher costs contribute to higher possibility of delay in the land acquisition to make land available for the highway development. The proposal is then forwarded to the Economic Planning Unit at the Prime Minister's Department.

The Economic Planning Unit Stage

At this stage, the EPU will study to determine the profitability, alignments and the possibility to privatize the highway projects. Upon evaluation, the EPU will appoint a Committee on Highway Privatisation consisting of EPU, some other government agencies such as Ministry of Finance and Ministry of Public Work. The main task of this Committee is to study every aspects of highway construction before Cabinet approval.

Cabinet Approval Stage

At this stage, the Cabinet will discuss and consider the proposal to construct the highway. Upon approval, the endorsement will be forwarded to the Ministry of Public Work. Usually, the proposal to build the highway will be approved depending upon public appeal and opposition parties.

Ministry of Public Work Stage

The Ministry of Public Work will examine all related initial activities prior to further investigation by various committees i.e. technical, concession agreement and financial. Reports from these committees will then be forwarded to EPU as a Drafted Highway Development whilst Highway Authority will present a report on technicalities of the proposed highway.

Implementation Approved Stage

All reports will be reviewed by EPU and then will be prepared a new drafted report on Drafted Development and *ependec technical* for Cabinet approval for implementation.

Concession Firm Selection Stage

This is the stage whereby a concession firm will be chosen. Selection is made based on factors such as financial capability and experience. Among others, the main task of the concession firm is to design the alignment and to incorporate landscaping, ecology and environmental aspect in the construction of the highway (Sidney, 2000).

Initial Stage of Development

The initial stage involves site investigation, survey, site clearance and land acquisition. The land acquisition process is undertaken according to the Land Acquisition Act (1960) involving five different phases: issuance of notice, entry and survey, gazetting, investigation and awarding the compensation. In issuing the notice to acquire the land, Form A will be

gazetted according to Section 4 of the Act. The notice is issued once the State Authority is satisfied with the purpose of land acquisition as stated under Section 3 of the Act. Form D to enter identified land is issued within twelve months of the date of issuing Form A. This is provided under Section 5 of the Act. Then, Form C is issued to present the list and plan of the affected land to be acquired. This is provided under Section 7 of the Act. Form D is then issued to mark the affected land to be acquired in the registration book. Section 8 of the Act provides duration of awarding the compensation to the affected landowners within twelve months' period.

Site Investigation

Land administrators will issue Form D and E to the affected landowners and those interested parties such as mortgagors. The purpose is to undertake site investigation for determining the amount of compensation. During investigation, those interested parties can forward the opinion on the amount of awards of compensation.

Payment of Awards

Form G will be used by land administrators to decide upon fair amount of compensation to the affected landowners. Form H is concerned about the value assessed by public valuers. Although under Section 14(1), the award is final but the affected landowners or interested parties can still appeal to the court under Section 37(3) Land Acquisition Act 1960. The Highway Authority can undertake to pay the amount of compensation directly to the affected landowners without any involvement of concession firm. However, for any highway development project involving privatisation concept, the payment of awards will be conducted by concession firm with the advise from the Valuation and Property Services Department. Here, any appeal or dissatisfaction upon amount of compensation on land taken or injurious affection or severance and other related claims may delay the land acquisition process. If higher payment is made, cost will increase and delay may occur. As a result, concession firm may facing risk of losing income. Then, they may increase rates of toll.

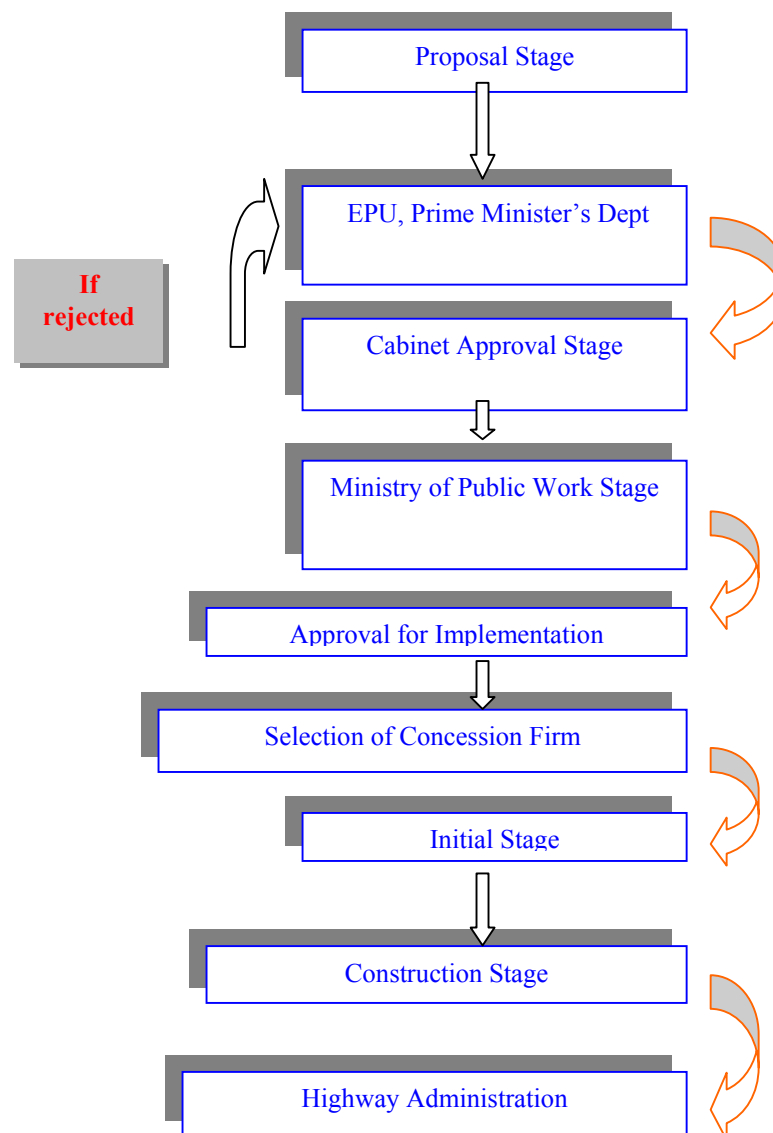


Figure 2.0 : Highway Preparation Procedure
Source : Salleh (2001)

3.0 Compulsory land acquisition laws

This is a way of direct control over land development (Lichfield, 1980; Goh Ban Lee, 1980; Ismail, 1999). The reason is that the government saw land acquisition as a land assembly process in resolving the land supply problems (Singh, 1995). In other words, land assembly through land acquisition is a way to solve the problems associated with landownership and landowners' reluctance to offer their land for development. Ball (1996) noted that the power

of compulsory purchase supports the land assembly negotiations in order to avoid situations where individual landowners can freeze development by refusing to sell - particularly by trying to hold out for unreasonable purchase prices. Under certain circumstances, such as when there are landownership problems and passive landowners, the government feels that to undertake land development by compulsory purchase is more complicated, time consuming and expensive than to reclaim land from sea for development in certain waterfront areas.

The government intervention over land development is directly exercised under the power of land acquisition as stipulated under the Land Acquisition Act (1960), and provided under Article 13 of the Federal Constitution. This article stipulates that no person may be deprived of property in accordance with law and no law may be provided for compulsory acquisition or for the use of property without adequate compensation. With reference to the clause of the land acquisition by the Federal Government, Article 83 set out detailed procedures for land compensation as stipulated by the Federal Constitution. Therefore, using the power contained in the Land Acquisition Act (1960), the government can acquire land for public purposes with adequate compensation as determined under Schedule 2 of the Act.

However, in general, there are cumbersome in the framework to acquire land for public purposes. At present, under Schedule 2 in the Land Acquisition Act (1960), compensation paid to the affected landowner of the Malay Reservation Land should ignore the Malay Reservation status. Therefore, the affected landowners of Malay Reservation Land should receive the open market value of non-Malay Reservation Lands. The main reason for this equivalent amount of compensation is to consider the true nature of the indigenous land status before and after acquisition. However, when the landowners of Malay Reservation Land are not satisfied with the compensation paid, they may appeal and prolong the acquisition process. In extreme cases, landowners' resistance may adversely affect the decision to go ahead with the project. In this case, valuation and landownership constraints are said to exist (Adams *et. al.*, 1988, Adams, 1994).

4.0 Issues on Land Acquisition For East Coast Highway Development

The provision of infrastructure development is necessary to push local economic activities. Therefore, the government of Pahang has allocated a huge sum of money for infrastructure

development. An amount of RM973 million (out of RM1.22 bilion) has been allocated for infrastructure development in the 8th. Malaysian Plan (Berita Harian, August 5th. 2000).

In highway development, the Ministry of Public Work is responsible for the planning, construction and implementation through its agency the Highway Authority. To ensure the success of highway development, the government used to appoint private sector to implement highway construction through privatisation. The private concession firm will be responsible for the collection of toll once the highway is completed. The fact is that concession firm has to bear all costs in relation to land acquisition paid as compensation to the affected landowners. This means that if the compensation paid to the affected landowners is higher, toll rates are likely to be higher in the future (Zaukani, 2001).

Another important aspect of highway development is the technology advancement and skills needed in its construction and development. It has to meet the international standards. Therefore, concession firms appointed must be financially capable to avoid any possibility of delay (Berita Harian, September 19th. 2000). In some cases, government has to prolong the concession period or even inject some more money to ensure the construction is undertaken smoothly. For example, the government has injected RM160 million to subsidise the concession firm on Ampang Multi-Level Highway in 2001.

Why privatization? First, is due to the success of PLUS that showed a way forward for highway development. Second, the limitation on government budget and its financial management. The government has already stressed on the importance of having to develop highways for the benefit of the people at large. In case, the payment of toll is higher and goes beyond the people willingness to pay, the proposed highway development has to be postponed until the government has all those financial capital to undertake the construction. Otherwise, the highway has to be built under concession basis by the people and for the people.

In the development of the East Coast Highway, PELITA consortium has been appointed, consisting of the United Engineer Malaysia (UEM), Malaysia Mining Corporation (MMC) and Malaysia Thailand Capital (MTD) Berhad. The consortium has, unfortunately, failed to award huge compensation to the affected landowners due to the impact of financial crisis and

economic recession from 1997 to 1999 (Salleh, 2001). This pushed the government to interfere to ease the negotiation process on the rates of tolls with the government of Kelantan and Trengganu (Berita Harian, February 7th. 2001). As a result, the privatization project has been withdrawn.

The East Coast Highway is about 338 kilometer and to be completed in three years time with RM3 billion in total costs. It is an extension to the Kuala Lumpur – Karak Highway. It has two alignments: Karak – Jabur of about 169 kilometer with RM1.6 billion in expected total costs and Jabur – Kuala Trengganu of 169 kilometer with RM1.4 billion in expected total costs.

The cost to develop the East Coast Highway is funded solely by the Federal Government. The Highway Authority is supervising the construction whereas the concession firm MTD Construction Sdn Bhd is responsible for designing, construction and implementation. The identification of lots and landowners affected with the project have been completed and sent to the Economic Planning Unit at the Prime Minister Department. The proposed route of the highway is then approved by the Economic Planning Unit for submission to the Government of Pahang for the payment of compensation purposes. Consequently, the States Government then referred to the title documents of the affected landowners for the land acquisition procedures and compensation purposes. In October 2000, land acquisition and compensation payment have been made for about RM292 million for the affected land areas of about 2,179 hectares involving 1,052 lots of land in the State of Pahang. However, there are valuation discrepancies on the amount of compensation determined by private and public valuers. This was the main issue in the land acquisition process for the construction of the East Coast Highway in Kuantan (Suhaimi, 2001).

5.0 Issues on Highway Construction and Development

Problems in land acquisition may disturb the smooth flow of land available for highway construction. Therefore, in other words, it can be said that the problems on land acquisition are the constraints on highway development. Some of the problems are aspects of planning for routes, traffic problems, compensation payment, costs of relocating the affected landowners and selection of concession firms (Berita Harian, 29th. August. 2000). According

to Salleh (2001), problems with highway development are technical, social, high costs and rate of tolls. Technical problems are things like construction, civil engineering works and so forth. Then, social factors are things like non-cooperation of the affected landowners. Economic factors affect the cost of construction and compensation to the affected landowners. Finally, the rate of toll determined to be charged for the use of the completed highway. Figure 4.0 shows landowners' and developers' views on the proposed construction of East Coast Highway (Zaukani, 2001). Both landlords and acquirer were highly recommending highway development for the benefit of the people. Moreover, they were equally agreed that the amount of compensation offered to the affected landowners must be 'just and fair'.

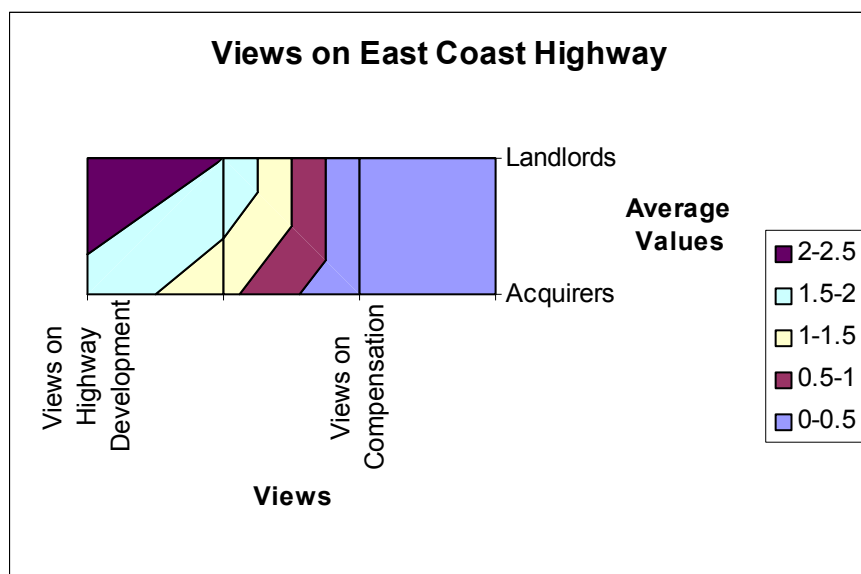


Figure 3.0: Landlords' and acquirers' views on land acquisition

Source: Zaukani, 2001.

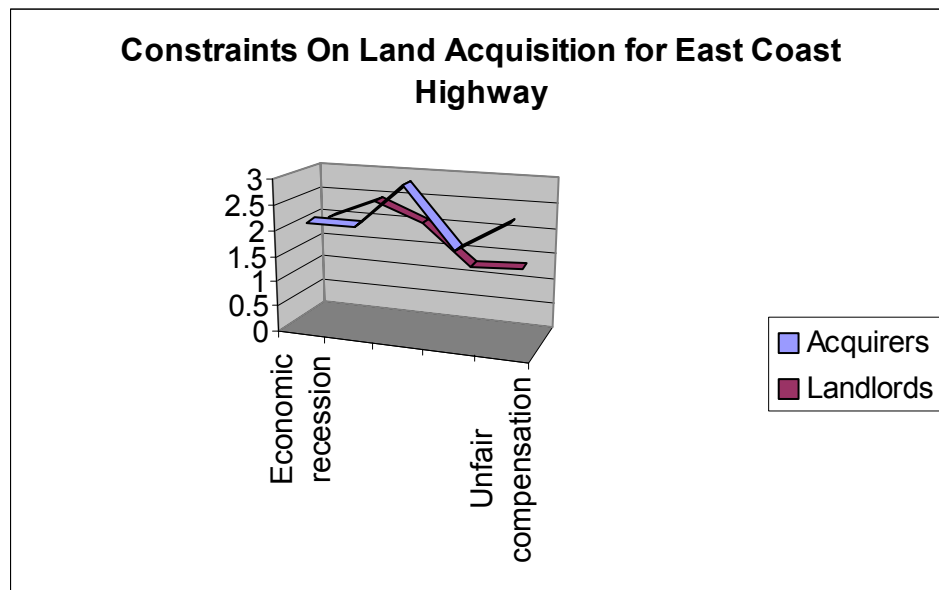


Figure 4.0: Views on Land Acquisition

Source: Zaukani, 2001.

In this paper, however, the focus will be on the aspects of land acquisition for East Coast Highway development. Figure 4.0 shows the landowners' and acquirers' views on constraining factors of land acquisition for highway construction. In brief, there are two main reasons for delays in the East Coast Highway development – the economic recession and determination of compensation (Zaukani, 2001).

However, a more detailed interview on the affected landowners and related land officers, was undertaken to examine the causes or constraining factors in the land acquisition process for the East Coast Highway development. As shown in Figure 5.0, there are, five important factors constraining highway development process with reference to land acquisition and payment of compensation to the affected landowners:

(i) Economic Situation

Financial and economic crisis affected infrastructure provision and development. For example, as what has happened at Felda Sendayan where economic recession has halted the compensation paid to the affected landowners. As a result of the economic downturn, the proposed development is disturbed and constrained by lack of financial capability in 1997 (Suhaimi, 2000). Financial crisis too had affected the smooth running of a highway

development project whenever the concession firm was not able to provide enough funding to cover expenses (Salleh, 2001). The construction of East Coast Highway has been delayed due to the economic recession from 1994 and had just begun by 2000 (Berita Harian, July 19 2000).

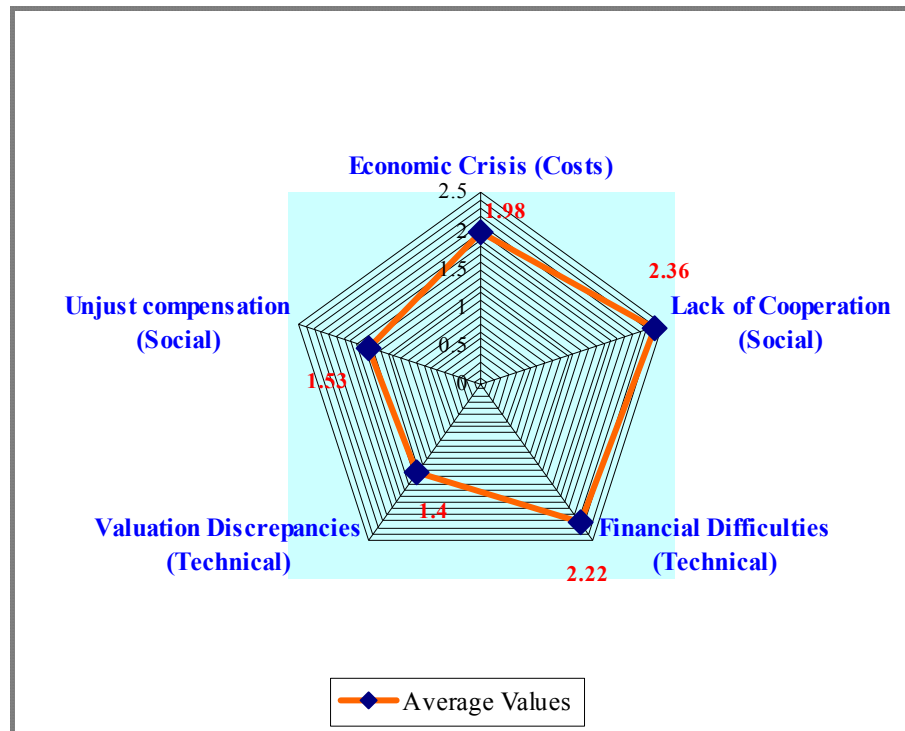


Figure 5.0: Constraining Factors on Land Acquisition Process

Source: Zaukani, 2001.

(ii) Cooperation between Federal and States Governments

Land is a State matter. There are occasions whereby both sides are not cooperative enough about land matters. To a certain extend, planning, land acquisition and land development procedures are different and troublesome (Vijayan, 2001). The East Coast Higway is constructing across a long routes from Pahang to Trengganu. Differences in motives, rules and procedures on land matters in those two States have led to delay in the highway development. More disastrously, differences in political agendas have led to non-compromised and delay in the launch of the projects in Pahang and Trengganu (Berita Harian, September 18, 2000). In other words, government intervention has, to a certain extent; disturb the smooth flow of land to the highway development process. It happened when The Ministry of Public Work delaying sending information about land matters

especially land acquisition problems (Berita Harian, June 7, 2001). As a result, the highway is only started in Pahang and the Trengganu's end will only be started later. This is the delay in providing the infrastructure for the benefit of the whole community and the country especially a highway connecting Kuala Lumpur with Pahang, Trengganu and Kelantan (Berita Harian, May 23, 2001).

(iii) Code of Compensation - Land Acquisition Act (1960)

In general, Land Acquisition Act (1960) attempted to integrate compensation, acquisition and related matters (Salleh Buang, 1993). It is a direct form of government intervention on land (Goh Ban Lee, 1980). The Act is formulated with two reasons: first is to solve the problems of unwilling landowners for their lands to be acquired and, second, for the planning authority to go ahead with development projects. However, in fact, the amount of compensation paid to the affected landowners is higher than the cost of constructing the highway (Berita Harian, August 3, 2001). Higher cost is associated with lengthy of time taken to resolve dispute between public and private valuers in the Court and the value to owners and consequent costs such as injurious affection, severance and other claims. Although the value is high to be paid as compensation, it is still not high enough in the eyes of the affected landowners (Ismail, 1999). In a way or another, the valuation for determining the compensation for land taken is responsible for the differences in the amount of compensation to be paid to the affected landowners (Ismail, 2001).

(iv) Valuation Discrepancies between Public and Private and Awards

The amount of compensation paid to the affected landowners may caused delay and push the costs of highway development higher. Although the Land Acquisition Act (1960) spells out the principles of valuation to be applied when valuing the land taken, there are affected landowners dissatisfied with the valuation mainly due to the sentimental values of their lands. They might be arguing about the future value that is uncomparable to the market value.

In land acquisition for the East Coast Highway in Pahang, the affected landowners were dissatisfied and the valuation made were considered unjust due to different in compensation payments eventhough the land taken have similar sizes and close to one another (Berita

Harian, January 30, 2001). In actual fact, the affected landowners whose lands were taken had misunderstood the valuation methods used by government valuers. This has led to the landowners make appeals for better compensation with the helps of private valuers. In Pahang, there are 262 affected landowners that were dissatisfied with the public valuers' valuation and had objected the valuation for their land taken (Berita Harian, August 8th 2001).

There are obvious differences between valuation done by public and private valuers. Since they are using similar methodology and principles of valuation, how could the value is different? In land acquisition for the East Coast Highway, private valuation for oil palm FELDA lands taken were valued at about RM85,000 to RM120,000 per hectare whereas the public valuation was only at about RM30,000 to RM50,000 per hectare (Suhaimi, 2001). This is very interesting and of particular interest in the analysis of this paper.

In Trengganu, there are landowners of orchard lands who were dissatisfied with the low level of public valuation for their land taken (Berita Harian, May 3rd. 2001). It was the agricultural land use that brings about lower value compared to residential and industrial lands. Once dissatisfied, the affected landowners will form an association for appeal purposes (Berita Harian, March 14th. 2001). As a result, the land acquisition and hence the highway construction takes a longer while to be launched.

In contrast, there are affected landowners who are not willing to accept the valuation of compensation. There are thirty traditional kampong folks who were willingly accepted the amount of compensation amounted to RM2 million awarded to them (Berita Harian, September 18th. 2000). Most of these willing landowners referred to land uses as value determinant to the amount of compensation paid to them. This shows that knowledge on factors affecting land values is important in the willingness to accept the valuation. It is, therefore, negotiation and education are two important aspects in ensuring the smooth flow of the land acquisition process.

(v) Awards To The Affected Landowners

There is no land shall be taken without adequate compensation as stated under Article 13 (2) of the Federal Constitution. The government has to a certain extent, adopted principles of valuation laid down under the Land Acquisition Act (1960) for determining the amount of compensation to the affected landowners. In actual fact, the valuation discrepancies should be minimised for the sake of providing infrastructure to the whole community (Zaukani, 2001). However, there are dissatisfied landowners who are still willingly accepted the amount of compensation awarded to them (Teah Kok Sung, 1998). The reasons were:

- No knowledge about land acquisition and appeal system
- No active public participation
- Do not know about the opportunity of appealing
- Court costs are high

The above reasons had led the affected landowners to appoint lawyers to represent them (Berita Harian, February 12th. 2001). Although the appeal system is workable, the solicitors's costs would be higher. In Sarawak, an open system of compensation had been applied whereby the affected landowners will be explained in a proper way about the details of the land acquisition and compensation to avoid confusion and misunderstanding (Berita Harian, February 6th. 2001). Nevertheless, there will be dissatisfied landowners as in Kuala Trengganu (Berita Harian, August 30th. 2001). As a result, the land acquisition process had been distorted and highway development is delayed.

6.0 The Case Study

The case study area chosen is the land acquired for the construction of East Coast Highway in Kuantan, Pahang Darul Makmur. The area is within the FELDA schemes consisting of 117 lots of agriculture lands that had been chosen for sampling purposes. Only 1.9 per cent of the land taken as samples are freehold and the other 98.1 per cent is held under leasehold tenure. All of the lands are agriculture in uses whereby 4.3 per cent are orchards, 89.7 per cent are oil palms and 2.6 per cent are planted with rubber trees. About 98.3 per cent of the samples are hilly sites and the rest of 0.9 per cent are swampy areas. Most of the lands taken as

samples are under FELDA Scheme or GSA 89.7 per cent and only 9.4 per cent are located outside the areas.

S A M P L E S	
STUDY AREA	EAST COAST HIGHWAY
TOTAL LOTS	1 1 7 (1 0 0 %)
LEASEHOLD	1 0 5 (9 8 . 1 %)
FREEHOLD	2 (1 . 9 %)
LAND USE	
AGRICULTURE	1 0 0 % (1 1 7)
TYPE OF AGRICULTURE	
ORCHARD	5 (4 . 3 %)
PALM	1 0 5 (8 9 . 7 %)
RUBBER	2 7 (2 . 6 %)
TOPOGRAPHY	
HILLY	1 1 5 (9 8 . 3 %)
SWAMP	1 (0 . 9 %)
AREA	
GSA	1 0 5 (8 9 . 7 %)
OUTSIDE GSA	1 1 (9 . 4 %)

Table 2.0: Samples Taken in The Study.

As shown in Table 2.0, the analysis shows that the average size of land acquired for the East Coast Highway construction is about 1.189 hectares (within the range from 0.015 to 4.03 hectares). The public valuation ranges from RM46,000 to RM83,000 per hectare and the average value is about RM71,196 per hectare. In contrast, private valuers hinted the value for the land taken from RM80,000 to RM120,000 per hectare. Analysis shown that the value determinants in both public and private valuation are existing land uses and type and ages of of plantations, land tenure, condition and topography, location, restriction and encumbrances affecting the value of agricultural land taken in the land acquisition. After resolution and settlement between both private and public valuers before the Court, the range of amount of compensation awarded to the affected landowners was from RM40,871 to RM147,103 per hectare only. The average award was RM111,693 per hectare. There are, therefore, differences in the valuation of land taken as subjected to various factors affecting the value of land taken considered by public and private valuers. The general scenario of the awards given to the affected landowners has followed the pattern of valuations provided by public valuers. There was a slightly different amount of compensation for land taken as determined by public valuers and the awards given by the Authority (between –39.46 per cent to 4.12 per cent). This implies that the valuation prepared by the public valuers were generally accepted by the Authority.

7.0 Conclusion and Recommendations

There are constraining factors to the highway development process. The main factors causing delays are economic slowdown that had affected the financial capability of concession firm and the government's financial to release money as compensation for land taken to the affected landowners. Therefore, the Economic Planning Unit has to be very careful in choosing concession firm to undertake the highway development. The economic scenario must be analysed to ensure highway development is to be undertaken at 'right location, right time and right price'.

Both Federal and States governments must work in good faith for the sake of providing infrastructure to the community. Otherwise, delay will bring about higher costs and highway project could be abandoned by all means. Political differences must be avoided to ensure a smooth flow of the land acquisition and highway development process. In this context, a special committee could be set up to avoid differences in land acquisition procedures and amount of compensation to be paid to the affected landowners.

Then, there are problems with land acquisition whereby there are valuation discrepancies undertaken by public, private and the awards offered by land offices. The affected landowners are always disagreed with the public valuation due to misunderstanding and lack of knowledge about principles of valuation. Politicians, their own value judgement and private valuers for whatever reasons were always influencing the landowners. Therefore, education and negotiation in a proper manner should be given priority as solution. In this context, private valuers must be responsible for their valuation professionalism. Moreover, the hearing procedure must be simplified in good faith. Landowners have rights to know the valuation principles and methodology adopted for their compensation. Valuation methodology for compensation using statistical analysis would provide a better way to understand valuation method as a state-of-the-art of valuation profession. In some countries, more advanced valuation methods such as regression analysis has been adopted to make everybody better understand the way in which value is achieved. Otherwise, everything is negotiable. Last, the study indicated the applicability of the 'rule of the game' related to determination of compensation for the construction of East Coast Highway. It provides more

opportunity for negotiation on the amount of compensation to achieve a more justifiable valuation for compensation.

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