



The Local Authority Infrastructure Provision Practice in Malaysia: The Role of Private Developers

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ABSTRACT

Local authorities are turning to the private sectors to achieve their objective of providing local infrastructures for effective management of the local areas. Private sector and local authority have good understanding of the fundamental concept of local infrastructure provision. Despite this understanding, there are still considerable lapses of what best practice and method to adopt in the provision of local infrastructure. This study therefore examined the role of private developers in local infrastructure and the practices used by local authorities for infrastructural procurement in Malaysia. 22 local authorities and 16 developers were selected through purposive sampling method, and data collected using questionnaires was analyzed using the descriptive analysis technique. The findings revealed that joint venture and complete public delivery systems; negotiations are the most commonly adopted practices and successful method applied by the local authority to securing infrastructure. One major weakness expressed by majority of the developers is difficulty to promote private sector involvement in local infrastructure development due to unregulated-procedure. This study therefore recommends that local authorities should not only be concerned on collaborative and joint approach but also in developing a well-coordinated structure and system of operations.

Keywords: Local Authority, Infrastructure Provision, Practice

JEL Classifications: H75, H7

1. INTRODUCTION

Traffic management and accident management is very important for human in congestion city in order to provide comfortable lifestyle and safety. By having this system, people will have real-time information on traffic condition around the city, which can avoid from stuck on traffic jam. At present, ground-based solution are widely used to monitor traffic condition in a small and fixed coverage area which is stationary and short view sight.

Generally, the quest for effective infrastructural provision has become a crucial issue in many countries including Malaysia for an effective national development. Provision of infrastructure is seen as vital in the present economic development agenda in many part of the world. In fact, it is a central issue of discussion in the overall agenda of the country's economic development

agenda (Ennis, 2003). According to Salleh (2011) the adequate provision of infrastructural facility is a prerequisite for local economic development sustainability which is the focus of every developmental agenda across the globe. In the same way Okinono et al. (2015), noted that infrastructure sustainability is gradually becoming a vital element in the changing global scenario of infrastructural development. However, most infrastructural development by the government is often and mostly concentrated in the urban centre's neglecting the rural areas. Local authorities in many parts of the world including Malaysia are seriously facing insufficient local infrastructural facilities as a result of insufficient source of fund for local infrastructure programs as one of the major factors responsible for the dilapidating state of local infrastructural quality. Subsequently, various studies have identified the need to include private sectors in provision of local infrastructure (Ennis, 2003; Vickerman, 2001a).

Nevertheless, private developers will only be interested in provision of infrastructure when such projects are profitable (Grimsey and Lewis, 2002). Apart from the above, the issue of local infrastructures have remained a tough and on-going debate in most countries of the world including Malaysia (Tan, 2011; Khadaroo et al., 2013) and coupled with this, is the problem of incapacity and inadequate standardized frameworks to be used by local authorities to assess, justify and evaluate the extent of development impact and the roles of public sectors in maintaining the existing infrastructure have escalated. Most local authorities have therefore turned to the private sector otherwise called private developers to achieve their objective of providing local infrastructures for effective and efficient management of the local areas. It is therefore, believed that both private and local authority have a good understanding of the fundamental concept of local infrastructure provision and the arguments for and against the use of private provision. Despite this understanding, there are still considerable areas of uncertainty surrounding the precise approach as prescribed in the relevant legislations and measurements of the key elements pertaining to local infrastructure. Also, literature Salleh (2011), Jiboye (2011) and Cruz and Marques (2012), have shown that previous studies have tended to examine the nature of the practice of the infrastructure delivery within the framework of national economy, however very little focus has been given to a comprehensive examination on how private developers can be involved in local infrastructure development (Golland, 1998). The primary problems is that there is no a single approach available at the local level that might be considered or applied to secure infrastructure from private developers. Meanwhile, it is observed that an in-depth understanding of the processes involved in achieving successful infrastructural system is fundamental to infrastructural delivery (Schaffler and Swilling, 2013). The study therefore examined the practice of local authorities, approach and role of private developers in local infrastructural development in Malaysia.

2. THE CONCEPT OF INFRASTRUCTURE

To understand the nature of the general description of infrastructure is very necessary to the understanding of specific infrastructure such as local infrastructures. In other words, having a general understanding of infrastructure would help the study to build on infrastructure at the local level. In attempt to describe infrastructure, Nkechi et al. (2012) has defined infrastructure as those basic physical structures and facilities required facilitating the society and enterprise operations. In this case, they are those vital facilities that aid the economy growth and development of a nation. Havlin et al. (2012) identified two types of infrastructures, economic and social infrastructure. Economic infrastructure includes; transport, gas, water, electricity and communication while social infrastructure are; state schools, public hospitals, police and emergency services and inter-local district roads. Additionally, Ache (2003) identified three levels of infrastructure classification; regional, sub-regional (off-site) and on-site infrastructure. These facilities are secured through various methods available subject to their effectiveness and adaptability of the methods with current local authority practices. All components of local infrastructure exist to indicate the role of infrastructure in the

functioning of local development in form of social and economic activities (Connelly et al., 2011).

Furthermore, it is noted by Salleh (2011) that the first stage in conceptualizing local infrastructure provision is to produce classification types of infrastructure. For the purpose of classification, a distinction is made between hard and soft infrastructure. In some countries, the term refers to infrastructure networks operating at the local level. It ranges from electricity, gas, telecommunications, water supply, sewerage and transport, the community centres', schools, environmental infrastructure (e.g., landscaping and open space). Therefore, such definitions are useful in order to precede the study effectively.

2.1. Local Infrastructure and Private Developers

One pertinent question this present study tends to address is who should provide infrastructures at the local level of government? The arguments surrounding these questions lie at the heart of the controversy on infrastructure provision secured from private developers. The provision of infrastructural facilities secured through various methods is subject to the level of effectiveness and adaptability of the methods with current local authority practices (Liu and Wilkinson, 2011; Shen et al., 2011; Da Cruz et al., 2014).

The provision of infrastructures at both the federal and the state levels is considered very tasking due to its capital intensive nature. This is the more reason why in recent times, the roles of public sectors in maintaining the existing infrastructure have been minimized (Vickerman, 2001a). Thus, most local authorities have therefore turned to the private sector otherwise called private developers to achieve their objective of providing local infrastructures for effective and efficient management of the local areas. However, both private and local authorities are yet to have a very good understanding on the appropriate method or approach of local infrastructure provision and development (Irani et al., 2005).

It is observed that most local authorities are traditionally responsible for the essential "hard" infrastructure networks such as local roads, drainage, and recreation with little or no financial support from the central government. This is premised on the fact that source of financing arises from the recognition that local government has full knowledge on the pros and cons of various funding methods. These include taxes (i.e., general rates, special rates, differential rates, separate rates and remittances from state and federal government taxation streams) and user charges (e.g., utility charges, direct user charges and development contributions) or a combination of the two, likewise the fact that the community pays for infrastructure regardless of the funding regimes (Njoh, 2011). This approach tends to limit the involvements of the private sectors by the local authorities as alternative financial support (Yilmaz and Venugopal, 2013). This scenario is evident in New Zealand where private sectors were constrained in the involvement of funding and development of infrastructure (McKinlay Douglas, 1996).

Also in Malaysia, a similar situation occurred where the local authorities could no longer play the significant traditional role of solely providing local infrastructure ranging from planning stage,

construction to the maintenance works. The scarcity of funding due to the limited source of income leaves the local authorities with no option but to seek for support from the private developers since urgent infrastructures needed have to be delivered at any cost regardless of any constraints. In line with this, the study by Ennis (2003) explicitly noted that the traditional method whereby the government solely provides infrastructures is no longer visible and practicable; the practice has been remediated. The reason is not farfetched; infrastructure provision is very expensive and capital intensive in nature. Therefore, there is a heavy burden on the government in taking full responsibility, and in the involvement of the private sector. There is therefore need for both private and local authorities to adopt a unified and strategic approach of implementation which is the core of developmental goal (Bale et al., 2012). As result of rapid increase in local infrastructure costs, few local authorities in Malaysia have recently adopted the new trend. The Local Government Act 1976 (Act 171, see Section 41 of the Act) has provided local authority with measures to raise funds for local infrastructures, however it does not provide means to secure off-site infrastructure from private sector (Salleh, 2011). Funding mechanisms available however depends on each individual local authority and the choice of method of providing local infrastructures. It is therefore imperative for both private and local authorities to devise and establish an acceptable approach of local infrastructure provision based on their location for effective implementation and development of local infrastructural facilities.

2.2. Challenges and Constrains in Managing Local Infrastructure Provision and Development

Over the past decades, local authorities are faced with the challenge of providing adequate local infrastructural facilities across the globe. Dilworth (2001) noted that, local availability and adequate provision of local infrastructure is a prerequisite for improved economic growth and standard of living of the populace. Nevertheless, several issues have been raised on how this can be actualized. Studies such as Okinono et al. (2015) have identified some factors as impediments to infrastructural program development. These include; inadequate funding, lack of adequate planning, lack of strategic approach and lack of commitment to developmental projects. The rising cost of infrastructure provision combined with the reduction of public expenditure imposed by central government has had a significant impact on the capacity of the local authority to provide infrastructure (Hove et al., 2013). Based on many countries especially in Asia and Africa have intensified their financial commitments by investing more on infrastructure through support of international donors and funding agencies which are also regarded as private investors (Jaarsm and Van Dijk, 2002). Unfortunately, no commensurate impact was realized in allocation of fund and maintenance of infrastructural facilities. Likewise, most of the donor agencies were not willing to sustain this mode of assistance. This resulted in the dilapidating state of most infrastructural facilities (Zietlow and Bull, 1999).

Similarly, planning system approach has equally been identified as hindrance to local infrastructural provision and development. Adequate planning system helps to facilitate implementation process and coordination of the different sectors in developmental process. As stressed by Greed (1996), with effective and efficient

planning system, local authorities are able to enforce and acquire external benefits from developers at the planning and implementation stages. Inadequate planning system therefore, can distort the organization and coordination of infrastructural development. This captures the scenario of local infrastructural development in Malaysia where there is high demand on effective planning approach due to the increasing population in order to secure enough funding and provision of infrastructures (Elhadary and Samat, 2012). This approach also will tend to reduce the financial burden on local authorities. Claydon (2011) maintained that local authorities need to adopt developmental planning system that will enhance effective mechanism system of operations between local authority and private sector in the provision of infrastructures. There is therefore need for local authority to devise a coordinated approach and strategy for local infrastructure provision as a platform between them and the private sector for negotiating local development goals and objectives.

Currently, local authorities are facing quite a number of challenges and constraints in managing local infrastructure. The management of developmental projects is crucial to effective implementation and sustainability. Nevertheless, this is found to be a major constraints experience especially amongst developing countries across the globe (Schaffler and Swilling, 2013). Previous studies have identified insufficient funding as one of major challenges to infrastructure management, and also the method of procurement, operational strategies, partnership collaboration and financial initiatives (Noor et al., 2012; Rouse, 2014). Negotiation which is one of the methods of procurement of local infrastructure is utilized by many local authorities in many countries to secure off-site infrastructures from private developers (Taye and Dada, 2012). As revealed by Hendrik (2003), negotiation creates a platform for both negotiating parties to identify cost effect; approval plan and agreement of modalities for implementation and sustenance of developmental goals. This approach imposes a sense of obligation, responsibility and commitments of parties towards targeted goals. Similarly, Carroll and Steane (2000) maintained that without the active participation of private sectors, it is difficult for local authorities to be able to finance and maintain local infrastructures. Additionally, environmental friendly approach was also identified as one of those factors if not properly managed can distort management of local infrastructures (Cruz and Marques, 2012). This approach increases the level of awareness on how to improve and maintain local infrastructures from environmental point of view to improve the life of the inhabitants.

3. RESULT AND DISCUSSIONS

The main focus of the study is to identify the current method used by local authorities and the role of private sectors in procuring infrastructural facilities in local government. The study used the opinions of developers and local planning authorities in order to identify the best possible approach to adopt in the provision of infrastructural facilities. The survey method of data collection through the use of questionnaires was employed to answer question based on the study objective. Both the local planning authority survey and developer survey were used. According to the Malaysia local government system, there are four levels

which were used in this study. These include city hall, city council, municipal council and district councils. The selection of developers and local authority was based on diverse views on their professional expertise and knowledge of the matter at stake. The two groups needed to fulfill the requirements outlined for the selection of the appropriate respondents. Where the respondents should have experience the practice of infrastructure requirements and have similar backgrounds in terms of interest in local infrastructure development. This is particularly significant for the study as it attempts to explore practice of local infrastructure provision. This approach is corroborated by the study of Neuman; Silverman (2005). A total of the 22 local authorities comprising of municipal council, city council, city hall and district council were selected while 16 developers as the respondents were obtained through the Ministry of Housing and Local Government. The respondents were purposively selected. The respondents representing the developers have been involved in the infrastructure requirement in the past. Even though the characteristics of project involving infrastructure are different, however they are experiencing almost similar process in obtaining planning approval from local planning authority.

Data collection was obtained from 22 local authorities. The questionnaires were sent to the respondents through postal system. The collected data was analyzed using descriptive analysis through the most widely available and commonly used software packages, the Statistical Package for Social Sciences. The response rate for this study is only 13% local authorities.

4. DATA ANALYSIS

4.1. The Present Practice in Securing Local Infrastructure

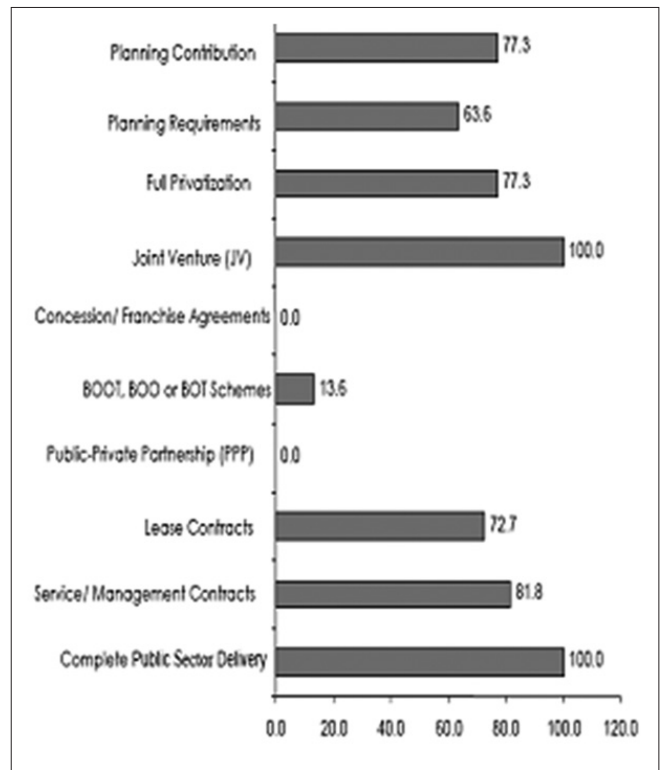
This part of the analysis looks on the present practices used by local authorities to acquire infrastructure from private developer. Figure 1 as revealed by the respondents highlights several practices and methods of securing infrastructure provision at the local level. As reflected in the Table 1, the result shows that joint venture and complete public sector delivery system with a value of 100% each were identified as the major practices adopted by local authorities for procuring infrastructural facilities and development followed by service management contracts (81.1%), full privatization and planning contribution (77.3 each), lease contracts (72.7%) and planning retirements with a value of 63.6%.

The findings from the study as indicated in Table 1 depicts that, although there are various practices used by local authorities in Malaysia, nevertheless, joint venture and complete sector delivery were identified as the two most prevalent practices adopted in the provision of infrastructures.

4.2. Methods Applied for Securing Infrastructure

As shown in Table 2 The result indicates that negotiations which represents 81.8% is the most successful method as perceived by respondents in securing off-site infrastructure while only 18.2% agreed that off-site infrastructure might also be secured through planning requirements such as using Improvement Services Fund

Figure 1: The present practice of infrastructure provision



Source: Fieldworks Survey 2014 (n=22)

Table 1: Type of local authority

Type of local authority	Frequency (%)
City hall	1 (4.5)
City council	5 (22.7)
Municipal council	13 (59.1)
District council	3 (13.6)
Total	22 (100.0)

Source: Field Survey 2014 (n=22)

Table 2: Methods applied to securing infrastructure

Type of methods	Frequency (%)
Planning requirements ISF	4 (18.2)
Negotiation	18 (81.8)
Total	22 (100.0)

ISF: Improvement Services Fund

Table 3: Weaknesses of the present practice of infrastructure provision

List of weaknesses	Frequency (%)
Have no clear guideline of negotiation practice	6 (37.5)
No proper guidelines on the requirements of infrastructure. Most LA applied <i>ad-hoc</i> procedures which some time create disputes among developers and local planning authority	6 (37.5)
There is lack of clear guidelines on the practice of infrastructure. However most negotiation method widely applied was inconsistent	4 (25.0)
Total	16 (100.0)

Source: Field Survey 2014 (n=16)

(ISF) as provided under Section 132 of the Street, Drainage and Building Act 1974 (Act 133) (Table 3).

4.3. The Reasons for Using Private Sector

For this purpose, local authorities were asked to indicate the reason of using private sector delivery method for infrastructure provision.

The result from Table 4 indicates that the main reason why local authority uses private options in delivering of infrastructure is to raise necessary resources representing 100%. This is followed by other reason such as to improve the efficiency and the quality of services (36.4%) and to increase efficiency of the services provided (13.6%). The finding from the survey indicates that the main reason why local authority moves to use private options in delivering of infrastructure frequently is to raise the necessary financial resource to fund the increase in demand of local infrastructure provision. This was represented by 100.0% (n = 22) from the interviewed local authorities. Other reasons were to improve the efficiency and the quality of services (36.4%) and to increase efficiency of the services provided (13.6%).

4.4. The Responsibility of Providing Infrastructure

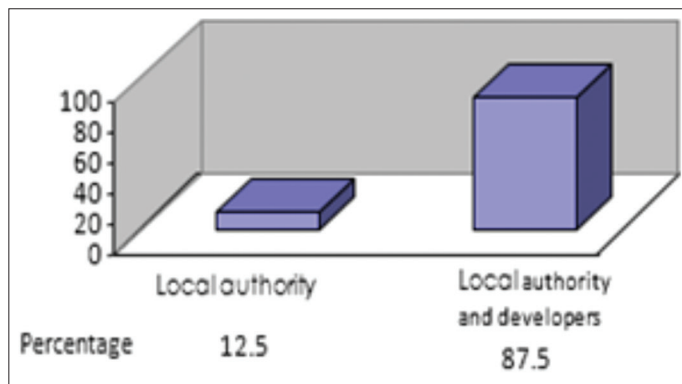
As the result in Figure 2 indicates that majority of the respondents (developers) representing 87.5% agreed that the responsibility in providing the required off-site infrastructure fall under the mutual responsibility of private sector and public sector while only 12.5% of them agreed that the responsibility of providing infrastructures rest on the local authority.

Table 4: The reasons of using private sector for off-site infrastructure provision

The reasons	Involved with off-site infrastructure		Total
	Yes	No	
To raise necessary resources (e.g., financing)	22 (100)	-	22 (100)
Ability to identify and manage risks	1 (4.5)	-	22 (100)
To provide contemporary management skills and optimize performance	2 (9.1)	-	22 (100)
To improve the efficiency and quality of services	8 (36.4)	-	22 (100)
Efficiency improved when exposed to competition	3 (13.6)	-	22 (100)

Source: Field Survey 2014 (n=22)

Figure 2: Responsibility of providing off-site infrastructure facilities



Source: Field Survey 2014 (n=16)

4.5. Weaknesses of the Present Practice of Infrastructure Provision

For this particular survey, the result shows that the main factor contributing to the weaknesses of the present practice of infrastructure provision is that of no clear guidelines of the negotiation practice accounting for 37.5%. The *ad-hoc* procedure applied whenever infrastructure is imposed account for 37.5% while 25.0% of them agreed that there is lack of clear guidelines on the practice of infrastructure requirement and most of negotiations widely applied inconsistently.

5. DISCUSSION AND FINDINGS

The primary purpose of the study is to examine the practices utilized by local authorities and the role private sector play in the provision of infrastructural facilities in Malaysia. Apart from that, the study also examined the reason for using private sector delivery method for infrastructure provision. The survey method of data collection was used in 22 local authorities (comprising of municipal council, city council (and city hall) and district council and 16 developers while the data collected was analyzed using descriptive analysis technique.

First and foremost, the descriptive result revealed that the methods applied to secure infrastructure as revealed by the study finding depicts that although there are several practices adopted by local authorities in Malaysia, nevertheless, joint venture and complete sector delivery system are the most used practices for securing infrastructure by local government authorities, while the practice of using concession/franchise agreement and public-private partnership was not successfully applied. Further findings equally revealed that negotiations are the most successful method applied by the local authority to securing infrastructure. Apart from that, the finding also revealed that planning requirements such as using ISF is also applied in securing infrastructure by the local authority.

The finding also shows the reasons of using private sector in securing local infrastructures. On this note, it was revealed that the main reason why local authority frequently used the private options in delivering of infrastructures is to raise the necessary financial resource to fund the increase in demand of local infrastructure provision while other reasons were to improve the efficiency and the quality of services (36.4%) and to increase efficiency of the services provided. This finding is consistent with the previous study of Monk et al. (2012), which revealed that the efficiency factor constitutes so much on local expenditure reduction on infrastructure. Albalate et al. (2013) also reveals similar findings on private involvement in local infrastructure provision. The result indicates that the increased efficiency consistently happens when the local infrastructure delivery is shifted to private market.

Accordingly, the finding on the responsibility of providing infrastructures revealed that majority of the developers surveyed agreed that the responsibility in providing the required infrastructure fall under the mutual responsibility of private sector and public sector while only a few of them agreed that it is only the local authority reserve the responsibility of providing local infrastructures. Previous study by Ennis (2003), claimed that the private sector should be responsible for delivering of on-site

infrastructure while the public sector should be responsible for the provision of infrastructure and other type of local infrastructure.

Finally, the study further looked into the weaknesses of the present practice of infrastructure provision. The study found that one major weakness as expressed by the majority of the developers is the difficulty to promote private sector (developers) involvement in local infrastructure development due to unregulated-procedure. Other weaknesses revealed are lack of clear guidelines of the negotiation practice; time consuming; lack of clear guidelines on the practice of infrastructure requirement and the inconsistent in negotiations being applied are some of the weaknesses. Claydon (1996) observed that these practices maybe descriptive in nature.

6. CONCLUSION

The study has offered an insight and understanding on the role of private sectors in provision and development of infrastructure especially at the local government level where the support and assistance of private sectors are needed by the local authorities in facilitating local infrastructural development. Similarly, it also revealed that joint collaboration and partnership with private sectors will help in the management and sustainability of infrastructural facilities. The study also identified inexplicit guidelines and inconsistent approach as major flaws in the current practice used by local authorities. The study further demonstrated that the infrastructure, which provides the framework for human action is provided by wide range of mechanisms. The negotiating process plays a significant method available for local authorities to acquire local infrastructure. The nature of process and the effectiveness of the methods also might be varying in different circumstances. Therefore, the study recommends amongst others an all-inclusive and coordinated approach and practices that will not only adopt collaborative and negotiations practices but also well outlined and the structure of how the method can be applied in various local authorities with special consideration on geographical features.

The present study provides several practical implications for local authorities, private developers and researchers. First and foremost, the study provides a lot of benefits to the local authorities, private developers as it provides a lot of insight on the role and use of private developers to secure local infrastructures. Consequently, the study also draws attention of more researchers to further inquiries in this area of investigation.

Limitations of this present study is its descriptive nature, it only accounts for the percentage and frequency of the responses by the respondents without consideration to any empirical form of relationship existing between the local authority and the private developers. Thus, the use of correlation and regression analyses that could account for this relationship was not applied in this present study. The relationship between the local authority and the private developers in providing local infrastructure is very vital and therefore required further investigation by subsequent researchers who might be interested in this area of study. Therefore, the study suggests the use of regression analysis to check for the relationship between the local authority and the private developers.

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