The Enhancement Criteria of Green Building Implementation For Property Development in Perak, Malaysia – Valuers' Perspective

Roshdi Sabu[1], Hayroman Ahmad[2], Lizawati Abdullah[3],
[1]Faculty of Architecture, Planning and Surveying, UniversitiTeknologi MARA (Perak), Malaysia,
Email: shidee1981@gmail.com
[2]Department of Building, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA (Perak), Malaysia,
Email: hayro724@perak.uitm.edu.my
[3]Department of Estate Management, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA (Perak), Malaysia,
Email: lizaw327@perak.uitm.edu.my

Abstract

This paper is conducted to assess valuers' perspective regarding sluggish performance of Green Building (GB) implementation for property development in Perak, Malaysia. The aim of this paper is to recommend the criteria for enhancement of Green Building implementation for property development in Perak, Malaysia from valuers' point of view. The study involved valuers in Perak which were consisting of registered valuers, appraisers, probationary valuers and non-registered or probationary valuers in private and government sector. Most of them were also getting involved in GB experiences for Penang and Selangor. With total population of 176 respondents, a questionnaire survey was conducted involving valuers or appraisers with registered business address in Perak, Malaysia. The data have been analysed using Factor Analysis technique of Statistical Package for Social Sciences. The results revealed consist of several enhancement criteria for Green Building implementation in Perak such as Green Awareness and Knowledge, Green Commitment, Green Collaboration of Construction and Financial Sector, Green Information Database, Green Incentive Schemes, Green Continuous Professional Development Centre, Green Integrated Professional Experts, Green Feedback and Green Return on Investment. Hence, those criteria could be applied for the future of Green Building implementation in the state of Perak where the collaboration between stakeholders and market representatives on green property market through valuers' expert opinions will ensure the success of Green Building development can be accomplished.

Keywords: green building industry, green property market, property development, valuers, criteria

1.0 Introduction

Green architecture or generally address as green building, introduces a lot of environmental and social benefits where architects, engineers, developers, planners, valuers and other property industry players have shown a growing interest in the concept of sustainable development recently. However, in recent development of current issue regarding green building market in the state of Perak, Malaysia, Dr. Ernest mentioned in his article of "The Haven – One Man's Journey to Hell and Back" (NEW STRAITS TIMES, 5 October 2012) about why Ipoh investors sceptical about The Haven. During an interview with The Haven's Co-Principal, Dr. Ernest (NST, 2012) highlighted that, due to misconduct and negligent among banker's panel valuers, the valuers summarized that The Haven project is not viable in Ipoh and these Ipoh valuers passed the "death sentence" on The Haven. Without further explanation of the Haven project in his article that the development is the debut of green building development in Perak, Dr. Ernest put the blame on Ipoh valuers for not recognizing the reasonable market value of the development. He also suggested in his article on the step-by-step guides on how appropriate valuation tasks should be carried out to determine the value of the property for end financing approval. In addition, Dr. Ernest (NST, 2012) highlighted that this circumstances have led to misinterpretation of building value among bankers panel valuer's and resulted to rejection of applications for end financing facilities and end up to 300 bookings cancellation by purchasers.

Warren-Myers (2013) also insisted on the danger of misapplication of knowledge and its implications to the profession in the future regarding the value of sustainability. He identified the role of valuers as who are responsible to identify a value relationship between sustainability and market value, and pointed out that valuers in Australia are not the barrier of sustainability due to lack of inclusion on green value in valuation practice. In recent study conducted in Malaysia regarding green building property market, Halim (2012) found out that several private valuers agreed that green element will be highly considered in the valuation with estimated around 5%

increased in value of green buildings. Thus, for initial perception, the valuers should not be blame as the barrier in current performance of green building development in Perak, Malaysia especially in determining green value aspect.

In other development, with reference on Green Building Index (GBI) statistics in December 2014, the numbers of green building implementation in Perak can be summarised as sluggish and this scenario needs responsive determination on market barriers as well as effective market representatives' role especially valuers in enhancing the implementation of green building using a conceptual enhancement criteria that will be developed at the end of this research. As outlined at Dec 3, 2014, Table 1 recorded only one project in Perak that has been 'certified' as Green Building which is The Haven compared to Selangor and Penang where they recorded 94 and 26 certified green buildings respectively. These scenarios were ranked Perak at 11 out of 16 states and territories in the country (GBI, 2014).

Table 1: Number of Certified Green Building Projects by States/Territories. Source: Green Building Index (GBI) (2014).

GBI Projects by States/Territories	Registered Projects	Certified Projects
Kuala Lumpur (2)	177	94
Selangor (1)	220	94
Penang (3)	56	26
Putrajaya (4)	34	20
Johor (5)	49	14
Melaka (6)	17	5
Sarawak (7)	7	3
Sabah (9)	9	1
Perak (11)	**6**	**1**
Pahang (10)	9	1
Negeri Sembilan (8)	7	2
Kelantan (13)	1	-
Kedah (12)	3	1
Perlis (14)	-	-
Terengganu (15)	-	-
Labuan (16)	-	-

Due to lack of green building development in Perak, Valuers in Ipoh respectively and Perak generally are struggle to identify the reasonable market value of 'Green Elements' which affect value due to limited comparables of similar property and resulted to rejection of applications for end financing facilities and end up to 300 bookings cancellation by purchasers involving first green building project in Perak. Thus, this paper objectives are to answer several questions consists of i) Is there any issues on implementing green building development in Perak? and ii) What are the criteria that can be recommended to enhance green building development in Perak, Malaysia. Therefore to manage those questions, the article is to be arranging with literature review followed by research methodology, the result and analysis, discussion and ended with energetics conclusion.

2.0 Literature Review

Construction industry is known as one of the contributor in Gross Domestic Product (GDP) for Malaysia and plays vital role in indicating the economic performance of a country. According to Department of Statistic Malaysia (2014), construction sector has shown impressive growth as compared to other sectors which recorded about 10.9% in 2013 with total GDP of RM29.554 billion. It is believed to be bolstered by housing development projects and civil engineering division involving infrastructure projects in Oil and Gas (O&G) industry. This statement is strongly agreed by Bakar *et al.* (2010) where the researchers mentioned that the construction sector is essential for development of the nation. They explained the important of construction industry to the nation because it provides the economic and social infrastructure for industrial production and reproduction. It provides basic amenities and infrastructure such as residential space, roads, airports, railways, ports, power electricity, communication utilities and also other basic infrastructure needed in a country and some of the basic developments required for the society to improve in social living standards as well as for other sectors to develop and grow. The above statement agreed by Horvath (1999), when he described the construction industry as one of the largest and most vital industry but at the same time, the construction industry has been identified as one of the largest polluters as well.

With understanding of the essential role of construction industry and the consequences of negative impacts on social, economic and environmental, the entire stakeholders of construction industry must work together to ensure their development will anticipate the elements of sustainable development to meet the needs of the present without compromising the ability of future generations to meet their own needs. Thus, Vivian *et al.*, (2012) highlighted the needs of the construction industry in meeting the needs of society and improving the quality of life of the people. The research paper urged the key industry players for developing more green building in current property market. The development of green building is essential to ensure sustainable growth for current and future generation where the green building concept will responsible more in term of environment and resource-efficient throughout a building life-cycle. Green building implementation can minimise the emission of toxic substances throughout its life cycle, harmonise with the local climate, traditions, culture and the surrounding environment. It is believed to be able to sustain and improve the quality of human life whilst maintaining the capacity of the ecosystem at local and global levels. For the benefit of the building itself, the green features will offer better use of building resources, significant operational savings and increased workplace productivity (Hussin *et al.*, 2013).

In Perak, the need of green building development is essential due to conservation and preservation of its environment, heritage and uniqueness. As the four biggest state in the country, Perak is significant to be a leading state in sustainable development as Perak is the former leading state for tin production that forms Malaysia today (Ahmad and Jones, 2013) and known as major forestland owner in the country with the creation of Royal Belum State Park (Schwabe *et al.*, 2014). Perak also considered as second state producer for natural concrete aggregate (Ismail *et al*, 2013) in the country and create huge source of potential building stock due to Ipoh city is known as former mining town in Malaysia, through building conservation (Hew *et al.*, 2014). From ecotourism aspect, the state offers number of tourism attractions and national heritage sites such as karst landscape in Kinta Valley (Muhammad and Komoo, 2003), the largest single mangrove forest in peninsular Malaysia (Ahmad, 2009) and source of historical rock art site in Lenggong Valley (Saidin *et al.*, 2011). Thus, as an emerging agenda and 'promise' for present and future generation, the relevant of green building development is clearly agreed and undeniable to avoid unsustainable development jeopardize the state of Perak's legacy. However, to ensure green building development successfully implemented and self-regulated, the stakeholders in local construction industry should acknowledge Valuers expert opinions in property market to enhance Perak property development in the near future.

Based on the literature, the new concept of sustainable development is broadly discussed and each country around the globe is difficult to implement unless the barrier of the development thoroughly overcome. According to previous research, Warren-Myers (2012) highlighted that sluggish performance of green building development or sustainable building is believed to have strong relationship with the Vicious Circle of Blame introduced by Cadman (2000) as illustrated in Figure 1.

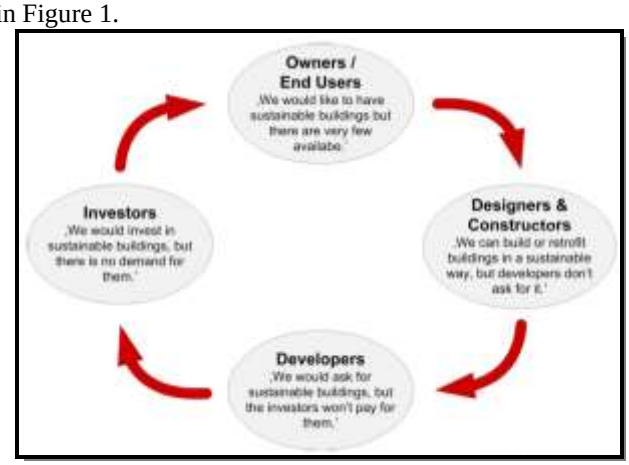

Figure 1: The Vicious Circle of Blame. Image Copyright, Cadman (2000).

Lorenz (2008) shed the light on the central role of Valuers in breaking the Vicious Circle of Blame where the Valuers will recognise the benefits for being sustainable and interprets it in estimating the market value and calculations of worth as well as giving in the advice to the clients. The Central Role of Valuers in breaking the Vicious Circle of Blame is illustrated in Figure 2.

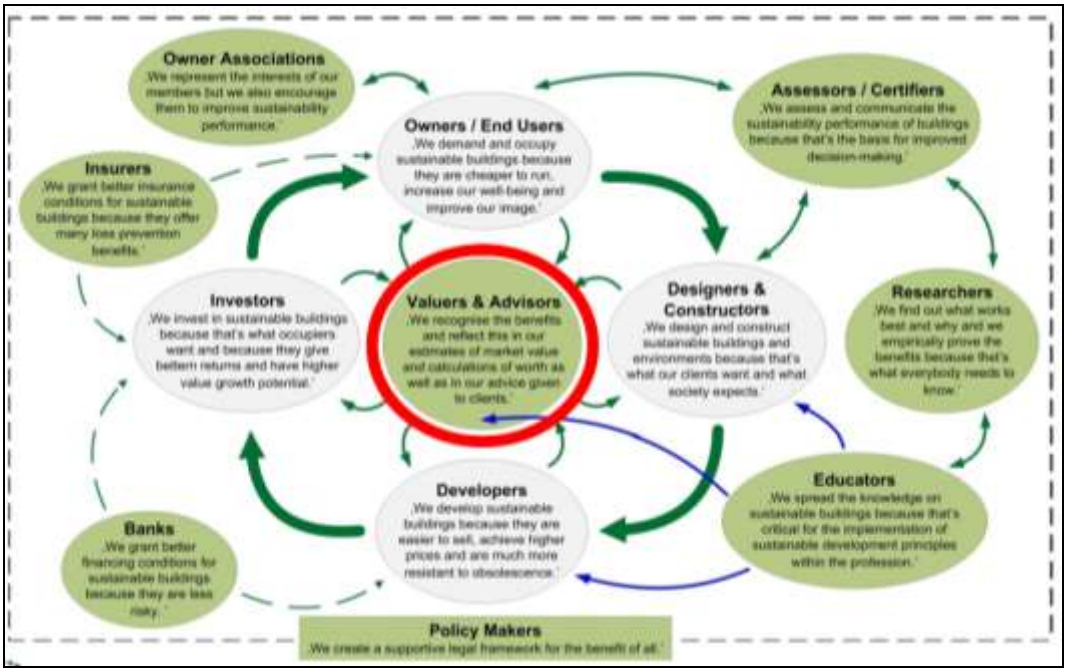

Figure 2: The Central Role of Valuers in Breaking the Vicious Circle of Blame. Image Copyright, Lorenz (2008).

From the above illustration regarding the role of Valuers in implementing sustainable development, therefore it is a vital for the research to be conducted among Valuers in Perak who responsible to interpret local property market and advising the stakeholders in Perak mainly on the issues of green building implementation for property development in Perak, Malaysia. Efficient solutions through conceptual framework from Valuers' perspective will be recommended to enhance green building implementation where this sustainable building is considered as a bridge concept to sustainable development.

3.0 Research Methodology

For the purpose of the research, a questionnaire survey was conducted in order to achieve two main research objectives in identifying the factors that contributes to the lack of green building development in Perak and to recommend an enhancement conceptual framework in increasing the green building implementation for property development in Perak, Malaysia. The survey was conducted consisting of registered valuers, appraisers, probationary valuers and non-registered or probationary valuers in private and government sector that have their postal or registered business address with the Board of Valuers, Appraisers and Estate Agents Malaysia and the valuers who work in the Valuation and Property Services Department in the state of Perak.

With total population of 176 respondents, which are the total sample of the research, the questionnaire was sent via email through web-based hyperlink, by-post and by-hand with total response received are 73 responses which contribute about 41.5% of response rate. However, only 71 questionnaires are completed whilst 2 questionnaires are partially complete. The data have been analysed using Factor Analysis technique of Statistical Package for Social Sciences (SPSS) version 21.0 for Windows. The criteria have been divided into four (4) main categorises as General Criteria, Financial Criteria, Building Industry Criteria and Social and Environmental Criteria.

4.0 Result and Analysis

4.1 Respondent's Profile

Based on respondents background, about 32.8% of respondents possess higher level of job title or position and involved in determining their organisation decision's making while 56.2% of respondents representing junior level manager consisting most of the valuers who performing on-site technical valuation task. In term of job specification, about 21.9% of respondents are professional Registered Valuers either in government or private sector and majority of respondents covering up to 57.5% are the valuers who have their code of conduct under jurisdiction with the Board of Valuers, Appraisers and Estate Agents Malaysia either as registered valuers or probationary valuers. Majority of respondents which is 56.2% are the Valuers who have more than 11 years of experience in property market and their experience will assist in developing reliable recommendation for local property development. From total response received, about 21.9% of the valuers have been involved or might be

involved in dealing with green property market while the rest have limited experience with green property market due to current performance of green building development in Perak, Malaysia. It seems reliable response while they are also getting involved in GB experiences for Penang and Selangor.

4.2 General Criteria

Based on Factor Analysis (FA) output, the Measures of Sampling Adequacy (MSA) value are more than 0.500 and produce the same value of 0.500 in Communalities-Extraction. In term of Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy = 0.7880 and resulted to produce 319.253 in Bartlett's Test of Sphericity. A rotation method of Varimax with Kaiser Normalization has been applied to overcome cross loading problems and as a result, Factor Analysis was dividing the output into three components with Total Variance Cumulative of 66.651 percent. An output of 39.5 percent recorded in first component while second and third component produced 15.255 percent and 11.896 percent respectively. All selected item were suitable and reliable as generated via Reliability Analysis (RA). The recorded Cronbach's Alpha values were 0.862, 0.773 and 0.667 which is satisfactory because within 0.65 to 0.95 (Piaw, 2013).

4.3 Financial Criteria

Based on Factor Analysis (FA) output, the Measures of Sampling Adequacy (MSA) value are more than 0.500 and produce the same value of 0.500 in Communalities-Extraction. In term of Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy = 0.842 and resulted to produce 259.568 in Bartlett's Test of Sphericity. A rotation method of Varimax with Kaiser Normalization has been applied to overcome cross loading problems and as a result, Factor Analysis was dividing the output into two components with Total Variance Cumulative of 63.34 percent. An output of 48.107 percent recorded in first component while second component produced 15.233 percent. All selected item were suitable and reliable as generated via Reliability Analysis (RA). The recorded Cronbach's Alpha values were 0.863 and 0.695 which is satisfactory because within 0.65 to 0.95 (Piaw, 2013).

4.4 Building Industry Criteria

Based on Factor Analysis (FA) output, the Measures of Sampling Adequacy (MSA) value are more than 0.500 and produce the same value of 0.500 in Communalities-Extraction. In term of Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy = 0.798 and resulted to produce 460.76 in Bartlett's Test of Sphericity. A rotation method of Varimax with Kaiser Normalization has been applied to overcome cross loading problems and as a result, Factor Analysis was dividing the output into two components with Total Variance Cumulative of 65.408 percent. The output of 49.872 percent and 15.536 recorded in first and second components respectively. All selected item were suitable and reliable as generated via Reliability Analysis (RA). The recorded Cronbach's Alpha values were 0.868 and 0.842 which is satisfactory because within 0.65 to 0.95 (Piaw, 2013).

4.5 Social and Environmental Criteria

Based on Factor Analysis (FA) output, the Measures of Sampling Adequacy (MSA) value are more than 0.500 and produce the same value of 0.500 in Communalities-Extraction. In term of Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy = 0.706 and resulted to produce 198.892 in Bartlett's Test of Sphericity. A rotation method of Varimax with Kaiser Normalization has been applied to overcome cross loading problems and as a result, Factor Analysis was dividing the output into two components with Total Variance Cumulative of 67.429 percent. The output of 49.644 percent and 17.785 recorded in first and second components respectively. All selected item were suitable and reliable as generated via Reliability Analysis (RA). The recorded Cronbach's Alpha values were 0.824 and 0.696 which is satisfactory because within 0.65 to 0.95 (Piaw, 2013).

5.0 Discussion

In regards to General Criteria of green building development in Perak, the three elements are i) Green Awareness and Knowledge, ii) Green Commitment and iii) Green Collaboration of Construction and Financial Sector. These three basic elements are the main factors to create demand and supply of green property market where each element can be considered as completing each other. Higher level of awareness and knowledge in sustainability or green issues will surely increase the commitment of stakeholders or potential buyer and tenant to build, buy or lease green property and at the same time supported by financial sector through effective green collaboration and communication. As mentioned by Aliagha et al., (2013) and Chan et al., (2009), the papers claimed that the demand level will increase when stakeholders' level of awareness and knowledge in environment issue is high.
The two elements of Financial Criteria also revealed that i) Green Information Database and ii) Green Incentives

Scheme are the main factors to be intensified in order to seek self-regulated green building development successfully implemented. The reason of stakeholders ignoring the green concept is primarily due to vague risks and opportunities offered in green industry. Thus, if construction industry players could provide and share all green information especially on costs, risks, incentives, products, technology and the benefits of being green using single information database, then the potential of green building development will not be hesitated.

Building Industry Criteria meanwhile produced two elements in order to boost green building development in Perak which are i) Green Continuous Professional Development Centre, and ii) Green Integrated Professional Experts who responsible to conduct and provide continuous training, research and expert opinion in green or sustainable development to assist industry players implementing green development in minimising the risks and maximising the output.

Lastly, the Social and Environmental Criteria which consists of two elements that focused on empirical data and feedbacks on the benefit of being green. The need of i) Green Feedback criteria and ii) Green Return on Investment criteria will ensure the building owners and occupants appreciate the green concept and reflected in their ownership in term of prestige, market value appreciation, occupancy rate, operational cost and rental benefits as compared to conventional building.

By using Factor Analysis, about 47 items have been analysed through varimax rotation processes and as a result, nine (9) criteria have been generated for enhancing green building development in Perak, Malaysia. The result of finding can be summarised in Table 2 below.

Table 2: Conceptual Framework of Enhancement Criteria of Green Building Development In Perak, Malaysia from Valuer's Perspective

No.	Criteria	Number of Independent Variable	Enhancement Criteria
1.	General	14	i. Green Awareness and Knowledge ii. Green Commitment iii. Green Collaboration of Construction and Financial Sector
2.	Financial	12	i. Green Information Database ii. Green Incentive Schemes
3.	Building Industry	12	i. Green Continuous Professional Development Centre ii. Green Integrated Professional Experts
4.	Social and Environmental	9	i. Green Feedback ii. Green Return on Investment

6.0 Conclusion

By developing comprehensive enhancement criteria of green building development in Perak, Malaysia from valuer's perspective, hopefully the sluggish performance of green building implementation in Perak is not an issue anymore. Those criteria could be applied for the future of Green Building implementation in the state of Perak where the collaboration between stakeholders and market representatives on green property market through valuers' expert opinions will ensure the success of Green Building development can be accomplished. The credibility of Perak Valuers in interpreting green value should be uphold in the future as the Valuers are the vital profession in breaking the Vicious Circle of Blame, a syndrome that preventing to generate extreme growth in sustainable building development. However, for future research, it is essential for a research to be conducted involving Valuers in Malaysia to attract more industry players to go greener in their construction industry portfolio within south-east Asia region

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