

An Insight of Sustainable Development – A Study Among Construction Professional in Malaysia

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Abstract- Nowadays, as the world population growth increase significantly, the needs of more haven, buildings, and other infrastructure become major agenda for Malaysian as developing country. As continues developing country, Malaysia is the one adopting sustainable development and green building as one of the national agenda. One of the most important aspects that play a crucial role in achieving sustainable development of the country is implementing sustainable construction and design practices into Malaysian construction industry. This study concerns the essential elements of sustainable development adopting in Malaysia and after that, the constraint factor in the incorporation and implementation in Malaysian construction industry has been discussed. The element identification process was collected through intensive literature study. This study involved all the expertise who has strong background in sustainable development. The research conducted via questionnaire, which is to obtain their response through these issues. From the data collection and analysis, as conclusion, a number of strategies need to developed and tight in the current situation in order to achieve the sustainable development and construction. Respective parties have to get a first move to make it awareness among construction player and community as well. From this research as well, other relevant issue such as economic and social issue also has been discuss together to make sure our construction industry can adopt new technology implementation without compromising with quality and standard of building itself.

Index Terms- Sustainable Development, Sustainable Construction, Constraint Factor, Green Building

1 INTRODUCTION

Development activities and construction can contribute to higher impact to the side of economic expansion in the country. This adverse impact especially towards environment may lead people realise that certain approach and implementation certain ideas are needed to solve this issue. Delivering sustainable development in one country by applying the conceptual framework as not as simple like that. The use of sustainable construction requires action from all those involved in building and maintaining a structure or building that provides services including design, consulting and construction (Atkins, 2001). To increase the consideration to sustainability, building practitioners should be prepared to change their behaviour in exploring new territories and be ready to accept new products, ideas and practices (Ofori et. al., 2000).

Ding (2008) stated that sustainable development is important to the management and protection of the environment. Sustainable development issues deals with the various factors in the local and global level to make sustainable development issues that are common to different business sectors (Azapagic, 2003), which in turn give rise to differences in work practices are often seen in many cases (Gloet, 2006). All the construction practitioners have to face so called as long-term challenge by implementing the sustainable development concept in their practicing (Blair, 2006).

Furthermore, sustainable development also can be blend with sustainable construction as well. According to Henriques (2001), the proposal of sustainable construction concept it's to justify the responsibility by adoption this concept to construction sector. Sustainable construction has special aiming of sustainable development which targeting to the specific group of construction industry who participating in certain activities such as developing, planning, designing, constructing, operating and maintaining the built environment (Hill & Bowen, 1997). Parkin (2000), sustainable construction activities may create sense of

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responsibility towards the environment, the awareness among parties involve, and economic profitability. Never the less, by implementing these special concepts actually directly or indirectly just create a new world of built environment and construction industry.

1.1 Background of Study

The development progress in Malaysia improved significantly according to the world globalization initiative. The Government of Malaysia had looked forward to increase the quality of living in Malaysia by the implementation of Agenda 21 through it is owned development planning and long-term Outline Perspective Plans (Nordin & Hezri, 2001). Further explained, noting that Agenda 21 is dedicated to improving the quality of life, promote sustainable consumption and production, environmental protection, sustainable management of natural resources on enhancing human, institutional and infrastructure capacity (Saki Hirono, 2003)..

The construction industry will inevitably have to change the historical method operates with little regard for the environmental impact of the new modes that make environmental issues a central quest. Therefore, the activities of the construction industry need to work and to comply with the need to protect and preserve the environment (Nazirah et. Al, 2006).

Nazirah et. al (2006) stated that sustainable projects in Malaysia, mostly at the pilot stage, which indicates that the industry is still in its infancy in this field. Moderate number of sustainable development projects built in Malaysia is slowly taking the concept of sustainability assign the construction fraternity. In addition, the slogan of sustainability, particularly regarding dissatisfaction with the results of the construction and irresponsible actions by all levels of practitioners in the construction of the Malaysian construction industry. Therefore, more efforts need to take into account for the buzz-up level of environmental awareness and civic consciousness among the people to build a sustainable future.

Sustainable development is important for the management and protection of the environment (Ding, 2008). Sustainable development issues deals with the various factors in the local and global level to make sustainable development as a common issue with a different point of the business sector (Azapagic, 2003), which in turn have different working practices, and it is often seen in many cases (Gloet , 2006). Sustainability development is a continuous economic development approach strategy which needs to utilize local surrounding and life quality. Sustainable development will enable the economic progress and the natural quality achieved the goals of continuous human welfare. If the

sustainable development strategies had been practiced seriously, it will able to preserve the surrounding environment, saving the resources, increasing the local business growth and making the community less vulnerable to the pollution threats.

The construction sector is an extremely labour intensive sector and has a very large spectrum of stakeholders / actors; each actor is of critical importance for the completion of the construction chain; if Sustainable Construction is to be mainstreamed. The barriers that stand in the way of mainstreaming must be clarified and prioritized. Numerous barriers preventing sustainable construction have been listed by Najah Zuhair Osaily (2010). As follows:

- i. Operational factors: failure to effectively manage markets, finance, employees, prices and customer satisfaction.
- ii. Management skills, technical ability and leadership, decision making ability, motivation and aspiration values of managers.
- iii. Accepting change.
- iv. Financial constraints; lack of financial resources.
- v. Limited marketing and human resource management expertise; lack of understanding marketing concept and lack of employees training and development.
- vi. Limited strategic planning; market segmentation, pricing strategies and environmental analysis.
- vii. Limited incentives for innovation.
- viii. Ineffective information technology, lack of system knowledge.
- ix. Ignorance of life cycle cost, lack of education and knowledge in sustainable design, and client worries in profitability and pay-back period (N. W. Alnaser & R. Flanagan, 2007).

2 METHODOLOGY

The aim of this research it's to study the implementation of sustainable development in Malaysian construction industry and create the awareness among parties involves.

The objectives of this research, to investigate the level of knowledge on sustainable development and the importance of green building among professional practitioner in construction industry.

The study is focusing on the current construction practices of sustainable development and sustainable construction in Malaysian construction industry. These

studies lean towards the challenging factors for the adaption of sustainable development concepts by the developers, consultants, local authorities and the academicians in Malaysia.

The study its focusing more on these three angles of challenging factors as stated below:

- i. Lack of skills
- ii. The absence of specific regulations
- iii. Lack of awareness

There are a few limitations in this research, namely:

- i. The respondents' selections are based on the good records and the experience in construction aspect. The experience based respondents selection must have at least two (2) years of experience in property developments.
- ii. The sampling involves two groups of respondent which are developer and contractor. This group consider as those who practices directly the principle of sustainable development. The selection of developer based on ISO certified and the contractor types its G7 only.
- iii. The research focusing to respondent located in Kuala Lumpur (capital city of Malaysia) and Selangor (the state where Kuala Lumpur is situated).
- iv. The research its more focusing to test the awareness level among construction parties involve whether direct or indirectly participate.

3 RESULTS

About 59% of the respondents completed the questionnaire. Total response is 70 numbers from 120 of questionnaire distribution. Number of questionnaires returned is not the same as sending due to time constraints in the construction fraternity with their project running. Results will be analyses based on respondent answer and it will be highlighted if there have a different answer response by respondents. Most of the respondents come from ISO certified company. This is because of ISO certified company allowed to run specialist project like sustainable and green building project. The following are respondent's opinion towards the importance of sustainable development and Green Building in three angles – knowledge, ordinance and awareness.

Table 1. Respondent's Results on the Importance of Sustainable Development and Green towards Knowledge, Experienced and Skilled

No	Description	Frequency Analysis				Result
		Yes (No.)	Percentage (%)	No (No.)	Percentage (%)	
Part One: Knowledge, Experienced and Skilled						
1.	Inadequate skill.	42	60.00 %	28	40.00 %	Yes
2.	Site layout, site preparation and development process should comply with Sustainable Development concept.	36	51.43 %	34	48.57 %	Yes
3.	Operation and maintenance of building after completion of construction activities reasonable if practicing sustainable development concept.	42	60.00 %	28	40.00 %	Yes
4.	Principles and rules towards sustainable development highly understand.	34	48.57 %	36	51.43 %	No
5.	Alert – sustainable development implementation.	40	57.14 %	30	42.86 %	Yes
6.	High cost of training workforce on new methods and technology.	50	71.43 %	20	28.57 %	Yes
Part Two: Ordinance, Specification and Guidelines						
1	No specific and detail law, policies and act of sustainable development in Malaysia.	50	71.43 %	20	28.57 %	Yes
2	Government have to encourage the entire construction player in Malaysia to implement the sustainable building element in their project.	56	80.00 %	14	20.00 %	Yes
3	Government have to setup detail rules and requirement of sustainable development.	52	74.29 %	18	25.71 %	Yes
4	Government has to come-out with special privilege for those who can implement the concept of sustainable development in their project.	52	74.29 %	18	25.71 %	Yes
5	Government have to set and enforce the proper law, policies and act of sustainable development to follow.	56	80.00 %	14	20.00 %	Yes
6	Local authority – they do not have specific roles and power in order to control sustainable development in Malaysia.	50	71.43 %	20	28.57 %	Yes
Part Three: Apprehension and Awareness						

1	Lack of awareness and understanding of sustainable development/ green building.	42	60.00 %	28	40.00%	Yes
2	Lack of information/ knowledge about sustainability.	45	64.29 %	25	35.71%	Yes
3	Lack of training and campaign to construction player towards sustainable development and building material.	47	67.14 %	23	32.86%	Yes
4	Lack of training and campaign to public according to the importance of sustainable development implementation.	50	71.43 %	20	28.57%	Yes
5	Public and society aware the ingredients of building material use for construction.	28	40.00 %	42	60.00%	No
6	Awareness on environmental issue rise from development/ construction activity.	36	51.43 %	34	48.57%	Yes
7	Lack of training and campaign from NGO, media, etc.	42	60.00 %	28	40.00%	Yes

media and also NGO's. According to the analysis, 71.43% of respondents agree that there is a shortage of campaign and training to public, regarding the importance of sustainable implementation to construction player. Similarly, 67.14% of respondent reflected lack of training to all the construction stakeholders towards sustainable building material and development. Proper knowledge and information distribution must be channelled to both public and construction player so that they are aware about the importance and benefits gained through green development.

CONCLUSIONS

The main thing that should be emphasized is the effort to raise awareness and leadership skills are also the main key element here. In terms of skills- leading to be exposed to the concept of sustainable development in the context of environmental issues such as the rise of greenhouse gases (GHG) and energy consumption. Awareness aspect requires knowledge about the effects of changes in the climate, environment pollution, the extinction of fossil energy resources and so on.

These efforts will indirectly encourage those involved in the property development industry related knowledge. Furthermore, the government should encourage building owners, developers, contractors and consultants working to improve the concept of green building methods by means of adding other incentives available to the implementation of sustainable development, encourage environmentally-friendly building material. Various incentives can be given as a tax reduction and ease of production, promotion and marketing of such materials, emphasis on environmental awareness and sustainability concepts maintenance practices for building maintenance organizations. This should be seen as a competitive factor for the maintenance of commercial opportunities; and institutions of higher education, skill training centre and schools should establish related subjects environmental sustainability so that students, especially those that are currently enrolled in programs related to the built environment can be exposed from at an early stage of their studies. Thus the realization of the concept of sustainability and green building practices can be enhanced.

Key players such as developers, consultants and contractors are encouraged to elevate sustainability properties. In implementing environmental management (EMS), they may contribute to the development and application of the concept of sustainable green building elements in the design and construction. Their contribution in the form of training to students in the

4 DISCUSSION

The level of knowledge and awareness among construction player and also public towards the importance by implementing sustainable development and building concept through the project, also the ordinance and specification or guideline for them to follow has been discussed. In respective of knowledge, experienced and skilled – 71.43% respondents agrees that high cost of training workforce on new method and technology towards sustainable development may lead to unsuccessful implementation of this concept to the project. Almost all the practical course pretty much expensive and as employer, they have to face this higher cost to sending their employees for training. Lacking in term of knowledge can lead to inadequate skill among construction practitioner as well.

In the point of ordinance, specification and guideline relating to sustainable development mainly in Malaysia, 80% from them are strongly agrees that government should have their incentive to encourage the entire construction player in Malaysia to implementing sustainable development and green building concept. This can be successful achieve through some enforcement of proper law, policies and act of sustainable development by government itself. Then, some reward or privilege can be offer by government to those (construction player) who adopt this concept to their project- taxes exemption to building owner.

To create awareness and apprehension among community especially construction player, training and campaign to public and construction player according to the importance of sustainable development should be carried out by respective parties from professional,

relevant field when conducting field studies or research in real estate sustainability aspects should be encouraged.

In addition, contractors and developers with the support of government agencies such as the Malaysian Construction Industry Development Board [CIDB] are also encouraged to provide adequate research funding in the field of sustainable real estate development with such findings should be patented and commercialized.

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