INCORPORATING SUSTAINABLE BUILDING FEATURES INTO PROPERTY VALUATION: A REVIEW

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Abstract

The importance of expanding the level of Sustainability in the real estate directly affected to impact of the built environment on our planet. Real estate valuation is a process of forecasting the future benefits of interest in the property and converting this into a current price. The impact of Sustainability on the market value of a building would require more advanced valuation techniques to fully determine the impact of Sustainability on valuation elements and subsequent the overall value of the property. However, Sustainability is a complex issue for property practitioners – including real estate agents, property valuers, financiers and insurers – about which have thorough ideas in incorporating information related to sustainability features into their practices. There some methodologies identified that seek to identify the relationship of the impact of Sustainability on building's market value. However, none are entirely reliable and able to measure the impact of Sustainability on market value accurately. Some academic researchers have been done on sustainable building development focusing the benefit in term of social, environmental and economic. Over case studies, observational data and property market information expose the existence of the relationship between Sustainability and market value. After all, in valuation practice, the professions stand unaware of the research finding of a relationship between Sustainability and market value and therefore the keep restrained from incorporate this into prevailing practice. This paper reviews the literature on sustainable building features on property valuation.

Keywords: Sustainability, Sustainable Real Estate, Green Buildings, Green Value

Introduction

The importance of increasing the level of Sustainability in the real estate directly affected to impact of the built environment on our planet. Sustainability, a word generally used across several disciplines and has become part of our everyday speech. The present use of the word implies something that continues for a long time. Looking at the perspective, Sustainable Value is about integration. Sustainable value combines the economic, environmental and social dimension of Sustainability. Also, Sustainable Value incorporates environmental and social dimensions into financial analysis and investment decision making. Sustainable development is the development that meets the need of the present without compromising the ability of future generation to meet their needs (Report of the Brunt Land Commission, 1987).

Countries alone, the built environment is responsible for between 24% to 40 %of total energy use, 30 %of raw energy use, 30%to 40% of solid waste generation (OECD, 2003). Thus,

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property and construction have a substantial single share in global environmental degradation and impairment of human well-being. Unfortunately, actors within the property market, including real estate valuers and analysts, are slowest in responding to challenges imposed by sustainable development (Lorenz, 2006)It is argued that advancement in attaining more sustainable development in property and construction largely relay on signs of progress in consolidating sustainability issues into property valuation theory and practice (Lorenz D. P., 2008)Unless and until valuers began to reflect and account for sustainability features in the values of property, investors may not be motivated to incorporate sustainability features into property development. Appropriate pricing of externalities will have an impact on both people's behaviour and the advancement of the environment (Pearse, 2005).

As the assessors and advisors of market value, Valuers role within real estate markets are being consulted as to their opinions, judgment, and assumptions about the effect of Sustainability on market value. Professions have already gradually realized that sustainable development is not only a vital issue for their work, but also play an essential role in the relationship between professions and society. This is particularly the case in the built environment, where buildings could affect social, economic and environmental aspects significantly. For instance, buildings are the main emitters of carbon, which is the main reason for global warming. If the energy used during construction, occupying and operating are combined, then it accounts for 50% of the carbon emission in the UK (Building Research Establishment, 2003). This is also the case at the global level, which built environment contributes to the environmental damage. Not surprisingly, many professions have taken initiatives to achieve sustainable development (SD), and ultimately, the goal of Sustainability. For example, the Engineering Council UK put Sustainability in their regulations in 2004 that all chartered members need to demonstrate their commitment and practice to sustainable development (Institution of Civil Engineers, 2002; Royal Academy of Engineering, 2005), and Royal Institution of Chartered Surveyors(RICS), with 130,000 members worldwide, introduced Sustainability as a mandatory requirement for membership (Royal Institution of Chartered Surveyors, 2007a).The topic of Sustainability also has its impact in the real estate industry and inspire the professions to carry out scientific researches intensively.

Furthermore, Royal Institution Chartered Surveyor (ROYAL INSTITUTE OF CHARTED SURVEYORS) introduced 'green value' concept demonstrating whether sustainable development creates money or not (RICS, 2005).

Sustainable Real Estate Development

In recent years the acknowledgement of our impact upon the earth and consequent effects for the future has become a primary issue in all industries, commonly referred to as 'climate change'. In the property industry, this has led to the development and promotion of sustainable buildings. Sustainable buildings are claimed to reduce the impact upon the environment, although not just during the construction phase but also throughout the life of the building up to and including disposal. The real estate industry is a significant source of adverse environmental impacts contributing significantly to raw material depletion, harmful gas emissions, solid waste generation and energy use (Lorenz., 2006)The peculiar nature of properties and the impact of their construction on the environment suggest that Sustainability should be a significant priority for policymakers and investors in the real estate sector.

In most countries, land accounts for between half and three-quarters of national wealth. The property provides space for living and recreation. Production and other economic activities also take place on real property. The property also constitutes a significant part of assets value in companies' balance sheets and is extensively used as collateral for corporate debt. Property is the most prevalent form of asset held by corporate bodies and individual investors. The place

of real property in the economic growth and overall well-being of any nation cannot, therefore, be overemphasized. This, however, comes at a cost. Properties are not known to be socially and environmentally benign commodities (Lorenz, 2006). The real estate industry is a significant source of adverse environmental impacts contributing significantly to raw material depletion, harmful gas emissions, solid waste generation and energy use (Addae-Dapaah, 2009; Lorenz., 2006).

Sustainability has many definitions and explanations, a widely accepted definition of sustainable development is ' 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs." from the (Report of the Brunt Land Commission, 1987).The original intent of sustainable development included concerns of social equity between generations, basic global living standards, non-exploitation of others, and reducing the rate of consumption of non-renewable resources. "The principle of Sustainability seeks to balance economic, environmental and social objectives, at global, national and local levels, in order to meet the needs of today, without compromising the ability of future generations to meet their needs: According to Royal Institution of Chartered Surveyors (RICS, Green Value – Green Buildings, Growing Assets, 2005). Their focus is about leaving the world a better place than we found it and about securing our long-term future, by following the four central tenets of sustainable development:

1. Protection of the environment;
2. Prudent use of scarce resources;
3. Promotion of access to services for the benefit of all; and
4. Production of a healthy local economy, including high levels of employment

According to their aspects, increasingly, clients are requesting improved sustainability performance from their buildings, over and above the regulatory requirements arising from changes in the Building Regulations. Methodologies such as BREEAM (Building Research Establishment Environmental Assessment Method) and LEED (Leadership in Energy and Environmental Design) are often used as the tools for achieving these improvements. However, these tools are mostly environmentally biased, and the broader social and economic dimension of Sustainability must also be considered. They strongly recommend that these issues are considered holistically at an early stage in estate management and project inception and taken forward in an integrated manner.

Sustainable development, according to World Commission on Environment and Development, refers to development that meets the need of the present without compromising the ability of future generation to meet their own needs (Report of the Brunt Land Commission, 1987). Within efforts undertaken by the global community to achieve more sustainable development, probably no sector has a more significant potential role as property and construction (Lorenz, 2006). For instance, in the Organization for Economic Cooperation and Development (OECD) countries alone, the built environment is responsible for between 24 to 40 % of total energy use, 30 %of raw energy use, 30 to 40 % of solid waste generation (OECD, 2003)Property and construction, therefore, has the most significant single share in global environmental degradation and impairment of human well-being. Regretfully, actors within the property market, including real estate valuers and analysts, are slowest in responding to challenges imposed by sustainable development (Lorenz, 2006).

Problems Associated with Valuing Sustainable Buildings/Green Buildings

Numerous previous literature interprets and reviews about the role of the valuer in estimating the green property in the real estate industry. But, valuer still fails to consider green or environmental performance in valuation practice (Bullier et al., 2011). (Warren-Myers G. , 2012), argues that valuers are acknowledging Sustainability in their practice; they may be

forbidden further investment in Sustainability due to misleading assessments of Sustainability in valuations. Others, review highlights on the issue of short of evidence, and the suitability of current research into Sustainability and value to the valuation profession in providing direction and instructions in valuing real estate incorporating Sustainability (Babawale, 2011; Warren-Myers G. , 2012)(Warren-Myers, 2012)(Jasimin &Mohd Ali, 2015)(Sabu et al., 2016). Lack of data makes it integrally crucial for valuers to assess the value of sustainable buildings through current valuation approach and restrict the modification into it (Warren-Myers G. , 2012)(Huttler et al., 2011). The problems relating to the valuer integrating green into valuation are summarizing in Table 0-1.

Table 1: Problems Integrating Green into Valuation

No	Author	Title	Method	Results found
1	(Sabu et al., 2016)	Valuer' s Perspective on The Implementation of Green Building Development	Questionnaire e survey	Selected factors sated by Malaysian valuer are green knowledge and awareness, the empirical data and information on the return and benefit of green should be acknowledged.
2	(Jasimin& Mohd Ali, 2015)	Valuation of green office building: A preliminary study of Malaysian insight	Questionnaire e survey	Singapore valuers and industry player need to raise awareness and training to transfer the knowledge to realize sustainability and their economic and environmental performance
3	(Elaine Ng, 2013)	Impact of green buildings on the value of property	Online survey	Australian valuers are endorse sustainability in their practice, but perhaps inaccurate or misjudged assessments of Sustainability in valuations due to their lack of understanding of Sustainability.
4	(Warren Myers, 2013)	Is the valuer the barrier to identifying the value of Sustainability?	Online survey	Australian valuers are acknowledging Sustainability in their practice, but maybe inaccurate or misjudged assessments of sustainability in valuations due to their limited understanding of Sustainability.
5	(Nurick et. al, 2013)	Incorporating GBFIs into Commercial property valuation	Interview and online survey	South African valuer acknowledge the GBFIs incorporating in valuation, but they have limited knowledge and experience
6	(Pengfei, 2011)	How to effectively integrate Sustainability into property valuation	Questionnaire E survey	Swedish valuer has considered the green feature into the valuation process since two years ago

7	(Warren-Myers, 2011)	Sustainability – the crucial challenge for the valuation profession	Questionnaire E survey	Australia and New Zealand Senior valuer have a better understanding of sustainability compare to the young valuer need to combine curriculum on Sustainability.
8	(Babawale& Oyalowoi, 2011)	Incorporating Sustainability into real estate valuation: the perception of Nigerian valuers	Questionnaire E survey	Nigeria valuers should develop more their knowledge on Sustainability because they are the principles driver in sustainable development
9	(Huttler et. al, 2011)	Integrating energy efficiency and other Sustainability aspects into Property valuation – methodologies, barriers, impacts	Questionnaire E survey Immovable Project – case Study	Finite market data, but 93% agree to green will generate higher market value -a survey among valuers from various country
10	(Northeast-Midwest Institute and Delta Institute, 2008)	Removing market barriers to green development	A workshop	Chicago appraiser's Knowledge gaps and communication deficiency – the consumer does not know the benefit of green building because the expertise,e.g. appraiser do not have knowledge

Source: Analysis Data, (2020).

Conclusion

The valuer should answerable to the real estate industry to ensure that their valuation should reflect the element of sustainable buildings/green buildings. The role of valuers is to have the knowledge and awareness of Sustainability. It guides the market to recognize the impact of green and the economic benefit that can be gain by Sustainable building/green building. As an emerging market, the issue of lack of data or market sale is one of the challenges to the valuer. Further, lack of knowledge and awareness on the green building can be enhancing by educating through training or workshop. Government or regulator bodies should play their role, by providing training, guideline or a platform to promote Sustainability.

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