



Cultural Values in Green Rating Framework

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Abstract

This paper presents a review on holistic approaches of green building assessment tools (GBAT) for sustainable development (SD) showing the trends and conceptual framework. The method of the study is through literature review which highlighted the socio-cultural inadequacy of most GBAT. The paper proposes several hypotheses. Firstly, to use a holistic universal method to assess sustainability within the community's cultural context. Secondly, the assessment criteria for sustainability from the socio-cultural viewpoint would differ from the conventional tools. Thirdly, the study proposes that the community would prefer to shape their future environment with specific preferred values in their home environment.

Keywords: holistic approach; green framework; cultural; Malay community

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1.0 Introduction

Undeniably our world is facing challenges to ensure sustainability for our future. Green building assessment tool (GBAT) has become one of the means for countries to shape their future to be sustainable within the built environment. A plethora of assessment tools has been established worldwide, enlisting many evaluation criteria. These assessment tools were designed based on a particular philosophical basis deemed suitable for the country, such as “Triple Bottom Line” (TBL), “Cradle to Cradle” (C2C) and “Glocal Approach”. Many studies have evaluated whether these tools’ ‘ingredient’ (the criteria and attributes) covered all the dimensions of their noble philosophical basis and approach, towards achieving a sustainable future.

Malaysia, a developing country gained momentum in their green and sustainable development (SD) with the implementation of Green Building Index (GBI), their GBAT, in 2009. The research is aimed at finding the gaps within the pool of knowledge of sustainability in Malaysia particularly, and fulfilling them towards enhancing the home environment in shaping sustainable future within the Malay communities, the indigenous communities in Malaysia. The study focuses on the socio-cultural aspects of the Malay communities in Negeri Sembilan, a central west coastal region of Malaysia. Their communities, well known for their unique and complex matrilineal custom as well as ruling systems, with a strong historical link to the Malay ancient kingdoms of Sriwijaya, Pagarruyung (Minangkabau) and Melaka (Masri, 2012; Masri & Ahmad, 2012). The Malay communities of Negeri Sembilan reflected their socio-cultural uniqueness in their traditional built form.

2.0 Literature Review

This paper aims to present the literature reviews; that focuses on the trends of GBAT research that lead to this research concluded conceptual framework and the proposed hypotheses. The reviews are meant as a start to analyze critically the gaps and overlaps between the frameworks and the noble philosophical basis of their invention. Among recent literature on GBATs and their frameworks within the built environment are Poston, Emmanuel, and Thomson (2010) and Shari and Soebarto (2012).

For the purpose of this paper, literature evaluating the frameworks from environmental impact assessment perspective, that is Hacking and Guthrie (2008), which has been found to be applicable as the depth narrows to achieving the TBL within the framework. Although there is numerous literature with regards to green building designs and GBAT, for the purpose of this paper, narrows down to discussion relating to the identified gaps in the frameworks. With limited literature addressing the country’s own niche and perspectives within the identified gaps in the Malaysian context, it can only be assumed, currently, that certain commentaries contextually are the same across cultures such as in Blaviesciunaite (2012) findings in scrutinizing cultural values embedded within GBAT criteria.

Socio-cultural aspects are very contextual (Poston et al., 2010) shaped by the communities’ customs and traditions that determined their norms and moral etiquette, as well as their spiritual faiths or religion (Masri, Samadi, & Aziz, 2012; Panitchpakdi, 2012b; Puspitasari, Djunaedi, Sudaryono, & Putra, 2012). Therefore, the roots and the historical

contextual background explanation from which this proposal emerged are vital in understanding the innovation creation within the discussion presented in this paper. Furthermore, shaping the environment processes had started since the early civilization (M Saruwono, 2010). 'Space' especially within the home environment consists of tangible and intangible dimensions (Puspitasari et al., 2012).

The discussion highlights the preliminary synthesis of the narratives. In reviewing the literature, it is important to bear in mind that firstly, Malaysia is a developing country. Secondly is that the ultimate aim of GBAT is to achieve sustainability for the future, in this paper, in the context of the home environment.

2.1 Historical settings: Contextual

Malaysia is a Malay country, stemmed from the dynamic maritime civilization of the ancient Malay kingdoms (Ishak, 2009; Masri et al., 2012) within the Nusantara Civilization of the Malay Archipelago and now a Malay country with a multicultural population (Ishak, 2013). For the timeline of these kingdoms, refer to Masri (2012, 2013). The dynamism of this archipelagic culture differentiates the Nusantara Civilization from other ancient civilizations. However, this dynamism is not an easy aspect to grasp by people of other civilizations. Nusantara Civilization dynamism can be divided into two groups, first is the Material Dynamism, which consists of life creations and experiences (the tangible culture associated with the way of life). The second is Civilizational Dynamism, which consist of their accumulated views of life and values (the intangible culture). Both groups of dynamism existed symbiotically, Symbiotic Dynamism (Ishak, 2013). The most important part regarding the Nusantara archipelagic culture is that the people within the Malay Archipelago recognized their common culture and civilization, and they travels freely among the islands and may settle anywhere within the archipelago. This concept, understood among the people of Nusantara existed through the indigenous democracy which is founded on the basis of community interest, the Nusantara way (Ishak, 2013). Their traditional way has always been a community-based, not individual. Even representation too is a community-based. The Malays in Malaysia is communities rooted from this civilizational through symbiotic dynamism, observed their environment, including built environment as not only an integral part of natural, cultural, social and economic systems but also the universe. Nusantara's indigenous architectures, far-ranging outside the confines of Western architectural history, interestingly are not Islamic in origin (Waterson, 2009).

2.2 Brief introduction to Green Building Assessment Tool (GBAT)

Green building has now become the flagship of sustainable development (SD) in this century (Ali & Al Nsairat, 2009). The assessment systems measure how well a building performs in achieving sustainability (Shari, 2013). Table 1 enables the reader to have a brief view of the key established international GBATs available in the world.

The weightings of the criteria within the aspects of GBAT vary according to the development's category and construction type. In Malaysia's GBI, for example, is divided into five categories. They are 'Non-Residential' (NR), 'Residential' (R), 'Industrial', 'Interiors' and 'Township'. For 'Residential', they are again divided into 'Existing Building' (EB) or 'New Construction' (NC).

Table 1: Key established international GBAT

	Country	Tool	Initiated		Country	Tool	Initiated
1	United Kingdom	BREEAM	1990	8	France	HQE	2004
2	International	GB/SB Tool	1996	9	Portugal	Lider A	2005
3	United States of America	LEED	1998	10	Singapore	Green Mark	2005
4	Canada/ USA	Green Globes	2000	11	Spain	VERDE	2005
5	Japan	CASBEE	2001	12	Germany	DGNB Certification	2009
6	Australia	Green Star	2003	13	Malaysia	GBI	2009
7	Canada	LEED Canada	2004	14	Abu Dhabi (United Arab Emirates)	Pearl Rating System	2010

(Source: Poston et al., 2010)

2.3 The existing GBATs framework: trends and recommended approach

In studies reviewing the currently accepted standards of what constitutes best green building practice, Blaviesciunaite (2012) critically concluded that these standards do not incorporate a holistic approach. The designed buildings should be an integral part of natural, cultural, social and economic systems and processes, exist in harmonious relation with its inhabitants. Most importantly recent studies of the GBAT frameworks and assessment systems concluded recommending the adoption of a more holistic view of the built environment as imperative in successfully shaping our future to be sustainable (Blaviesciunaite, 2012; Poston et al., 2010). Evidently, a few of the recent novel articulations of SD have been expressed through holistic design theory and frameworks.

Regarding the built environment, two ways of viewing 'holistic' were suggested. The first is through broadening the meaning of 'environment' or 'the scope of discussion to be beyond the environmental responsibility' (Hacking & Guthrie, 2008). Second is through embracing the 'wider agenda of sustainability' (Sebake, 2008), a 'wider range of issues' and 'broader coverage of sustainability' (Poston et al., 2010). Even though such improvement in coverage and range of issues to the GBAT had been implemented, including the life-cycle, most are still failing to sufficiently cover all the dimensions of the TBL, natural and cultural approaches to sustainability. Many of the criteria within the GBAT of the countries shown in Table 1 were found to be less on the responsive and developmental impacts on social, cultural and economic issues (Poston et al., 2010). Jenken and Pederson-Zari (2009) stated that although aiming for neutral or reduced environmental impacts are indeed worthwhile targets; it should not compromise the flexibility to develop 'sustainability' rather than 'green' frameworks (cited in Blaviesciunaite, 2012). Thus, recent researches on GBAT identified the 'shift' in the emphasis of these assessment systems globally from 'green' to 'sustainable' building (Poston et al., 2010).

2.4 The holistic framework

Poston et al. (2010) classified the 'shift' as the next generation of Sustainable Assessment Method (SAM) and derived the holistic framework for SAM based on a very comprehensive study of GBAT framework's aspects and criteria from fourteen countries. Refer to Table 1 and Figure 1.



Figure 1: Seventeen aspects of criteria for holistic SAM framework
(Source: Poston et al., 2010)

Surprisingly GBI was identified to fulfill only six of criteria within Poston et al.'s SAM holistic framework. Obviously, there are rooms for research to fill in these gaps within the Malaysia's local context, fitting their socio-cultural context.

2.5 Malaysia as developing countries: the difference

Shari (2013) criticized that, very few of the assessment systems in developed countries addressed purely non-environmental issues. Among the criteria within non-environmental scope listed by Shari is "Social, cultural, heritage & perceptual aspects". In fact, even if they did address, they are associated with underlying environmental concerns whereas developing/emerging countries should be different in focus, models and priorities compared to developed countries (Ali & Al Nsairat, 2009; Shari, 2013; Shari, Soebarto, & Williamson, 2008). The differences depend on factors such as economic situations, level of urbanization, historical and cultural context, climate and national policies. Malaysia, therefore, along with many other developing countries, is confronted with the danger of facing potential inadequacy in addressing their complex concept of sustainability especially when there are 'importation's of inappropriate cross-cultural as Shari had cautioned, may be detrimental. Darus et al.

(2009) had highlighted that the non-technical aspects are becoming crucial in significance. Lim's studies revealed that certain elements in the design are culturally and ethnically specific to the Malays. Housing design influenced by the Western were not based on local culture (Abdul Rahim & Hashim, 2012) creating social settings and living environments which are alienating the local culture (Lim, 1987). In the traditional context, the homeowners are involved in the process of building their homes.

Shari et al. (2008) recommended the integration of green (eco-systemic well-being) and brown (concerns the human well-being) agendas. Even Gu (2012) suggested creating cultural fusion in China's green building design. Within the Malaysia's scenario, (Saruwono, Rashdi & Omar, 2012b) found that homeowners in Shah Alam, Malaysia, altered the external aesthetic with some regards to the local architecture, with the intention to create a more desirable living environment. Housing modifications are the manifestations of the inconsistency between housing design and the people's culture (Abdul Rahim & Hashim, 2012). The underlying point is the importance of the psychological and spiritual aspects influence to human health, which is cultural well-being within the home environment. Hacking and Guthrie (2008) found that environmental takes on a meaning beyond the biophysical aspect in developing countries, where the relationship between the biophysical and social is potentially stronger. In developing countries, the people and their social groups (such as villages and clans) are a component of their environment (Hacking & Guthrie, 2008). Supporting this statement is Lim's comparison between the houses he termed as 'westernised conventional modern houses' and the Malay houses highlighted almost contrasting philosophy in the aspect of the environment, culture, view of values, housing concept and functional focus (Lim, 1987). Moreover, in 'home' environment, the immediate environment, the dweller's emotional response plays a distinct and contextual role (Sazally, Omar, Hamdan, & Ibrahim Bajunid, 2009), fundamentally socio-cultural in origin. Interesting highlights among the oldest characteristics of the Malay social systems are the shared social responsibility within the communities, priorities given to their women, matrilineal lineage and election of their leaders based on the community's majority decision (Idrus, 1996).

2.6 The philosophical basis: the holistic approach

The philosophical basis in SD, however, it is accepted that the TBL of sustainability, 'social', 'economic' and 'environmental' are the required factors to achieve sustainability. Essentially this research explores the context of design where Poston et al. (2010) expansion of the three images of sustainability outlined by Williamson et al. (2003, cited in Poston et al., 2010) that is parallel to TBL, the 'Natural', 'Cultural' and 'Technical' images. Among dominant concerns for design within the 'Cultural' are the cultural place, people, genius loci and cultural sustainability (Masri, Yunus, & Ahmad, 2015a; Poston et al., 2010). Similarly, within the Japanese GA towards the architecture of the future, among the local aspects of design highlighted are the appreciation of place, genius loci and Feng-shui (AIJ & IBEC, 2005). Redefining local culture through identifying the underlying fundamental values was the consideration for sustainability of the local environment. 'Glocal' architecture materialized through also having a sensitive response to the local aspects integrating with local relevance identity. The 'essence of place' and their values clearly are essential considerations

incorporated into a holistic approach towards a sustainable future. More importantly, both approach discussed above indicated local community participation. The complex relationship between environment and social behaviour is deemed possible only through local attachment (Abdul Karim & Abdul Rashid, 2010), likewise for the home environment through place attachment and concepts or sense of place (Shirotsuki, Otsuki, & Sonoda, 2010; Ujang, 2010).

3.0 Methodology

The methodology is through critical literature review which focuses on identifying the trends and recommendations from comparative studies of the GBAT criteria and the empirical findings of the studies regarding the weightings of the criteria for developing assessment tools.

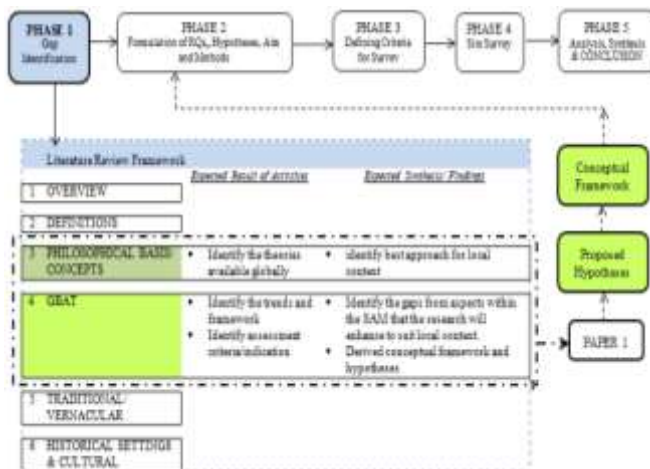


Figure 2: This paper's methodology diagram
(Source: Authors)

The research design adopts a multi-dimensional strategy with qualitative and quantitative methods including ethnographic approach. The literature resources include the academic sourcing via on-line journals and databases in Universiti Teknologi MARA (Ahmad, Abbas, Mohd Yusof, & Mohd Taib, 2013; Bajunid, Abbas, & A.H., 2012; Bajunid, Abbas, & Nawawi, 2013) and papers from seminars, talk, forums organized by International Exhibitions and Universities which contributed to preliminary literature reviews. Tapping into socio-cultural viewpoint were reports from the non-government organizations (NGO) workshops' discussions. To understand a complete picture of sustainability and its relationships and association to green, a thorough search of the initial scholarly literature that frames the periphery of the holistic sustainable built environment was undertaken. However, there

remain numerous studies of the criteria and the parameters' weightings in developing the GBAT frameworks which revealed empirical findings, though related, not discussed within this paper. This paper, however, limits the scope to reviewing literature comprehending the trends within the development of GBAT framework. Figure 2 present in detail, the methodology within Phase 1 of a bigger study which led to this paper. The documents about GBAT were obtained from their official website, the limitations for this paper.

4.0 Results and Discussions

Undoubtedly, holistic approach of SAM is recommended. The literature review has identified the inadequacy of most GBAT in addressing the non-environmental issues of sustainability within the assessment criteria for a holistic approach. The 'shift' in trends and emphasis proves that built environment, therefore, must go beyond the technicality of the green framework. Hence, it is equally necessary to observe the built environment as an integral part of natural, cultural, social and economic systems rather than isolated identities (Blaviesciunaite, 2012). Clearly for most of the GBAT, two significant aspects of a holistic sustainability identified to be in need of further attention other than economic were the Social and Cultural, Malaysia included. Hence, it is reasonably imperative to explore the socio-cultural realm to be alongside the environmental dimension of Malaysia's future home environment. In developing countries, such as Malaysia, the meaning of "environmental" should go beyond the biophysical aspects to those more closely linked to the quality of life and growth.

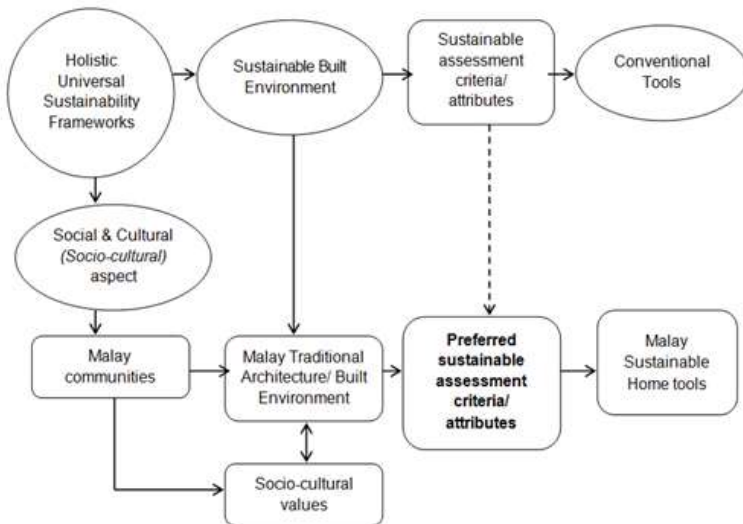


Figure 3: The conceptual framework diagram
(Source: Authors)

The paper, therefore, proposes several hypotheses. Firstly, the study proposes to use a holistic universal method to assess the sustainability within the community's cultural context. Secondly, the assessment criteria for sustainability from the socio-cultural viewpoint would differ from the conventional tools. Thirdly, the study proposes that the community would prefer to shape their future environment with specific preferred values in their home environment. Undeniably, one community's socio-cultural values in a home environment setting would differ from another (Omar, Endut, & Saruwono, 2012). In fact, Coolen and Hoekstra (2001, cited in Zinas & Jusan, 2010) regarded preferences and choices as value-oriented and goal-directed activities.

The conceptual framework derived shown in Figure 3, illustrates the research's future directions. The paper at this juncture highlighted the possible preference tool for sustainability within the Malay socio-cultural context. Developing the research towards substantially robust Theoretical Framework requires further literature and research across disciplines.

5.0 Conclusion

Until now there seems to be a gap in understanding as to what are the actual attributes involved in exploring the sustainability of 'home environment' from the socio-cultural aspects of GBAT, particularly the Malay socio-cultural viewpoint that may or may not contribute to the quality of life of Malay families and communities. Empirically identifying this would contribute enormously to the body of knowledge of architects, interior designers, planners, and developers alike and the enhancement of the current GBAT. It will also serve as an educational mechanism. The paper has deliberated that the fundamental understanding of the relationship between 'cultural values' and 'home environment' needs to be identified first, and involvement of the Malay communities in this process is essential in creating cultural well-being innovation in GBAT. It is unwise to rule out the potential and significance these aspects of human well-being in Malaysia and Nusantara region. We should be well equipped to be able to assess these aspects within the socio-cultural context when the 'shift' in the paradigm of GBAT arrived. Only then those involved in the green design may truly claim that they have contributed to the creation of holistic GBAT.

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