

A critical review of environmental assessment/certification tools for resort development in Malaysia



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Summary

Tourism is one of the largest and fastest growing industries in the world and a major source of income in many developing countries. Conversely the damage caused by tourism development not only has negative implications for a national economy but can threaten the livelihoods of many in the locality, and also the natural environment. As with other sectors of the economy, concern has been expressed about environmental problems associated with tourism and pressure is growing to ensure ecologically sustainable forms of tourism development. Tourism assessment and certification systems were developed to be one of the drivers to assist resort development internationally. The development of different tools in the tourism sector has been active, different organizations and research groups have contributed new knowledge through experience to create resorts that are environmentally conscious. Some of these tools have been applied beyond the borders of their countries of origin, due to either the need for environmental performance verification by clients and building professionals or the lack of it in the project country, especially in developing countries. In order to address this situation, many developing countries including Malaysia tried to modify or adapt existing tools that came from inherently different environmental, social and economic contexts. The issues and concerns related to sustainable tourism vary from one tourism destination to another as the local resort might not be able to adapt and comply with new imported standards and ideals that are more suitable in highly advanced societies and tourism industries. The aim of this research is to review and analyse the existing sustainable tourism assessment certification system operating internationally. This research will summarise the main components of each system, including the implementation structure, its main criteria, organizations involved, and associated costs. Based on the above evaluation, the research will justify the modification and potential adaptation of some of the international tourism assessment systems for resort facilities in Malaysia.

Keywords: Sustainability in developing countries, sustainable water and waste management, cultural and regional issues, social and economic changes.

1. Introduction

Various commitments and interventions have been implemented to reduce the negative impacts of development and for promoting sustainable development in developing countries. Tourism developments are considered critical because most developing nations rely on tourism to solve poverty problems and support rural economic empowerment and community social development. Research done by Lee [1] concludes that tourism in the South Asia market is particularly noteworthy, and as economic development proceeds from newly industrializing country to advanced industrialized country status, tourism remains one of the biggest shares of GDP in most countries in Asia. Hence the tourism industry needs to be better understood to enable improvement, and resort development is one of the major components of the tourism industry.

The tourism industry as a whole has a significant impact on the environment. Conventional tourism is estimated to be responsible for about five percent of global carbon emissions, as the transportation required to reach tourism areas releases a large amount of greenhouse gases [2]. Resort and accommodation development for tourists is one of the main contributors to total energy consumption in tourism development, in terms of embodied energy within the materials specified and the cost of running the building to maintain the required human comfort levels. Resorts are designed to protect tourist from nature's extremes, yet they also affect the environment of tourism destinations in countless ways. Resort developments also have significant impacts on the economic and social aspects of host nations. Environmental examples include water pollution, land degradation and greenhouse emissions [3], and on the economic front tourism resort development sometimes creates negative impacts on the local community. For example agricultural land may be converted to commercial development for tourism purposes. As the environmental impacts of resort development in tourism become more apparent, procedures for sustainable tourism assessment are gaining momentum [4].

Sustainable resort development is the practice of creating and using healthier and more resource-efficient models of construction, renovation, operation and maintenance. Sustainable tourism assessment systems bring together a vast array of practices and techniques to reduce the impacts of tourism facilities on energy consumption, environment, human health, society and local economies. Sustainable resort development still faces barriers in the tourism market and is often perceived as involving more expensive initial design and construction costs than standard resort development [5]. It is argued that the extra cost will gradually be reduced during the operational stage of the resort development and also that new, more sustainable technologies will be developed and accepted by the market because they will create competition [6]. The implications of sustainable tourism facilities development have captured the attention of building stakeholders across the world [7]. Resort development in tourism destinations is now a major concern of professionals in the tourism industry [8] and sustainable tourism assessment has emerged as one of the major areas of interest in sustainable tourism development in most countries [7]. In order to protect the natural environments on which the tourism industry depends in developed nations, a range of sustainable tourism certification, awards schemes, environmental quality assurance, eco-labelling schemes and evaluation tools are currently being utilized [9]. A resort assessment system provides an efficient framework for assessing tourism facilities environmental impacts and also integrating sustainable development principles into resort development processes, as it provides design guidance by setting sustainable design priorities and aims, appropriate resort design approaches, and determining performance measures to guide the sustainable design and decision making process [10]. Using a sustainable assessment system in the resort development process can reduce significant impacts which conventional practices are unlikely to address. Furthermore an assessment

system to measure sustainability in resort development can produce long term beneficial consequences for the building owner and occupants [11]. Most assessment systems for sustainability measurement help to solve existing resort development problems, creating healthier and more productive places, reducing environmental impacts and reducing operational cost. However, to make sustainable development practices easier to implement in the tourism industry, all countries reliant on tourism should develop technical services and resources to determine the sustainability of resort development in tourism areas. Gibberd [12] and Libovich [13] explained that different countries have different priorities for sustainable development, for example developing nations focus more on social and economic issues and cannot afford to focus only on the environmental performance. This provide some context to the development of building assessment for resort development in Malaysia, which needs to be based on local culture, tradition, needs, climate and governance.

2. Resort development in Malaysia and the need for a sustainable rating tool

In Malaysia tourism is a major source of income and continues to grow both in scale and scope. Concerning scale, the nation is one of the fastest-growing tourism areas in the world. Based on the world tourism barometer Malaysia ranks ninth for the most visited country in the world with about 23.6 million tourist arrivals in 2009. Regarding scope, the nation is experiencing changes in the types of tourism. Long-haul international tourism from Europe and Australasia is now running alongside growing regional tourism from both the East Asian industrializing economies and other ASEAN countries. Tourism from all three categories is increasingly concentrated spatially along in the coasts and islands of Malaysia. Whilst governments and investors plan huge multi-billion dollar integrated developments such as Langkawi International Beach Resort, across the country hundreds of small-scale coastal resort destinations have emerged. These have grown - often outside the formal government tourism planning frameworks – to cater for backpackers and independent travelers. Islands are particularly attractive to tourists with many examples of small-scale tourism including the Southern islands [14]; the Pangkor islands of Perak [15]; and Malaysia's Perhentian islands [16]. The main attraction of tourism in Malaysia is the coastal region. Increasing the rate of development in the eastern states through encouraging growth of the tourism Industry is one way to ensure more uniform economic growth within the nation and to maintain the competitiveness in the tourism industry [17]. The eastern coastline of Malaysia includes some of the most pristine beaches, and the coral reefs that offer world-class diving due to the rich biodiversity of marine life in the region. Such biological assets have the potential to support a thriving tourism industry which is particularly important in eastern Malaysia where there is a recognized need to develop industries to provide jobs and income to the eastern states. Currently the job market in eastern Malaysia is more agricultural-based, and this often results in high intra-national migration of people towards the cities in western Malaysia. Malaysia has recognized the growing disparity in greater poverty rates in the rural areas of Eastern Malaysia compared to Western Malaysia. The tourism industry could solve many of these social issues, while increasing economic growth. Presently there is a trend for building large, four-star coastal resorts in the south-east Asia region. In order to attract tourists, Malaysia needs to build resorts of similar caliber to have a competitive advantage over other resorts in Thailand, Indonesia or the Philippines [15]. However, although a booming tourism industry would support the economy, irresponsible resort development could ruin the delicate ecosystems, which is detrimental for tourism in the long term.

As with other sectors of the economy, concern has been expressed about environmental problems associated with tourism and pressure is growing to ensure ecologically sustainable forms of tourism development. In recent years, this concern has increased significantly,

manifesting itself in anti-tourist development sentiment in some sections of the community. Unless potential threats can be identified and eliminated, tourism could compromise the environment that is attractive to tourists and on which the industry depends. The Malaysian Government shares this concern and has recognized the need for the tourism industry to plan and operate in ways which seek to conserve the environmental resource base while allowing sustainable growth and development.

Undeniably resort development in Malaysia has the potential to create negative ecological consequences that could ruin or alter the environmental resources of host destinations [19]. In the light of this issue and the need to maintain the balance between social and economic development in this region, appropriate management and planning are essential to create healthy tourism development. One consequence is that recommendations for regulating a sustainable tourism assessment system for Malaysia are being put forward by tourism and construction stakeholders [18].

3. Sustainable assessment systems world-wide

The concept of developing an assessment system to evaluate how well the development meets the sustainability principles for tourism destinations is new and needs considerable work in developing countries like Malaysia to be comprehensive and to include different strategies for resort development. The four international assessment systems Green Globe, Earth Check, Blue Flag and STEP will be reviewed for the purpose of this research. These assessment systems provide comprehensive criteria for their regions, provide operational resort development evaluation, use measurable criteria to identify how well the resort development integrates sustainability principles; moreover they are the most widely known assessment systems in tourism industries world wide.

The developed countries such as Australia, United States of America and United Kingdom are more aware about pollution issues and environmental degradation; they have attained significant progress in environmental management in their tourism sectors through developing sustainable assessment systems and sustainable practices. On the other hand developing nations are unlikely to have addressed many of the key aspects required for sustainability. Dealing with sustainability objectives is therefore likely to be a main agenda item in developing nations.

There is a growing number of sustainable assessment systems developed for the tourism sector worldwide. This study will focus on sustainable assessment tools for resort development. The field of tourism assessment tools is vast. These assessment systems have been developed by various institutions and for different purposes. The emerging role of the tourism assessment systems requires discussion of both the structure and the context of the different systems (Table 1).

Table 1 Comparison of four influential sustainability assessment systems for the tourism sector

Assessment method	Origin	Characteristics	No of resorts evaluated in Malaysia
Green Globe [20]	United States of America (1994)	<ul style="list-style-type: none"> Evaluates sustainability of travel and tourism business performance Covers operation and management Web-based evaluation process and third party evaluation on site 	1
STEP [21]	United states of America (2002)	<ul style="list-style-type: none"> Developed by Sustainable Travel International Assessment process addresses sustainable policy and performance, environmental impacts, socio-cultural impacts, economic Impacts and innovative best practices. Rating system based on a scale of 1 – 6 stars Evaluates operational aspects of tourism businesses 	1
Earthcheck [22]	Australia (199)	<ul style="list-style-type: none"> Operational assessment for tourism accommodation, tourism activities, administration offices for tourism activities, cruise vessels, display & retail, restaurants and spas, vehicles & visitor centers. Assessment criteria based on four main areas: energy, water savings, waste minimisation, lower staff turnover Uses third party audit and online assessment 	7
Certification for Sustainable tourism: CST [23]	Costa Rica	<ul style="list-style-type: none"> CST - is regulated by the Costa Rican National Accreditation Commission and consists of a scale of 5 "levels" of sustainable tourism achievement Uses a purpose-design questionnaire to evaluate the level of sustainability of business in the tourism sector. Seeks to categorize and certify each tourism company according to the degree to which its operations comply with a model of sustainability. Operations must comply with 5 main criteria, Physical-biological implication from tourism development, Infrastructure and services quality, Service Management, External clients input, Socio Economics and Environments impacts. 	0

There are common concerns between these four tourism assessment systems, such as emphasizing energy and water efficiency and both indoor and outdoor environmental quality. At the same time each assessment/certification system focuses on certain aspects more than others according to local context: for example CST considers energy, water and waste management as one item in the assessment categories and gives them an overall credit; on the other hand Earthcheck evaluates these element as individual items and awards more substantial credits. Although all four systems rate energy efficiency highly, (it forms more than 20% of the total credits for each system) each system treats the assessment categories differently in respect to the context of its country of origin. For example, Green Globe ranks environmental impacts very highly, at more than 50% of the total – as a system designed for developed nations like the USA, Green Globe places the environment as its main concern. However, tourism sustainability assessment systems suitable for developing nations will need to give greater weight to economic and social development.

Earthcheck and Green Globe use software based assessment and on site third party assessment measurement based on accepted energy and environmental principles. The Earthcheck framework consists of the following six major categories: energy, emissions, water, waste, community involvement, paper use, cleaning and pesticide use. Green Globe focuses on four main areas: sustainable management, socio-economic, cultural heritage and environmental.

CST uses an evaluation questionnaire developed specifically for accommodation facilities operators. The questionnaire for hotel and resort establishments consists of 153 questions, divided into 20 descriptors grouped into four categories: physical-biological environment, infrastructure and services, external client and socio-economic environment. Each question reflects a positive condition in terms of sustainability, so the evaluation seeks to determine what percentage of these positive conditions is being met in a particular company. STEP on the other hand focuses mainly on the sustainability policy and action plans of hotels and resorts.

Criteria comparison	Sustainable Tourism rating systems			
	Green Globe	STEP	Earthcheck	Certification for Sustainable tourism: CST
Energy Efficiency	X	X	X	X
Water efficiency	X	X	X	X
Material and resources	X			
Waste and Pollution	X	X	X	X
Community involvement	X	X	X	X
Cultural	X	X		X
Economics	X	X	X	
Social		X		X

Table 2: Evaluation criteria for international sustainable assessment

4. Modification and adaptation of international tourism assessment systems for resort facilities in Malaysia

Most sustainable tourism assessment systems were developed for specific locations and sometimes do not meet other national or regional needs and variations. To certain extent, the weighting processes used in sustainable assessment systems may provide opportunities to revise the assessment scale to reflect regional variations and priorities. For instance STEP aspires to provide an assessment system that can be used in different locations. However, social, cultural and regional issues are complex and the boundaries are difficult to define. Some of these variables are critical to development of the tourism industry: climate, building materials and construction techniques, earning levels, building stock, appreciation of local culture and historical value [24]. Ko suggests that dimensions, indicators and data gathering methods could vary from one tourist destination to another, in order to adapt the methodology to the specific conditions of each tourist destination. Many countries have adapted international sustainable assessment systems (Green Globe and Earthcheck) for their own use, giving rise to new systems such as Fair trade in Tourism South Africa and Certification for Sustainable Tourism Costa Rica.

Malaysia needs to develop its own rating tool to solve local tourism and resort development problems. For instance, a Malaysia rating assessment system will be for a tropical climate and zones. There are no assessment tools developed by Asian countries specifically for resort development. The scoring priorities of international sustainable tourism assessment systems are very much customized for the current state of developed nations. For example, significant priority is given to energy and water efficiency scores (Earth Check and Green Globe). In addition some assessment systems give little priority to the planning and design of tourism destinations in relation to public transport systems because most developed nations already have public transport networks in place. This is in contradiction with Malaysian government policy, whereby the government wants new tourism developments to provide proper transport systems to enable tourists to reach them. Malaysia differs markedly in these areas and thus understandably a sustainable assessment system should be customized to suit both the local climate and the current state of Malaysia's development and existing resources in tourism destinations.

In Malaysia new buildings constitute the greatest fraction of the total resort building stock. Conversely, most of the resorts that dot the landscape of developed nations have been in existence for a longer time. The Malaysian government through its economic transformation program 2010 plans to build more resorts by 2020 in order to enhance the economy and maintain Malaysia as one of the global tourism hubs. A core element in this economic transformation plan is sustainable development.

4.1 Towards a sustainable tourism assessment system for Malaysia

Based on the above analysis, it is proposed that a Malaysian sustainable tourism assessment system should incorporate existing criteria from international systems where they are appropriate, and also some important elements which are rarely found in international assessment systems to acknowledge the local context and government policies, as set out below.

4.1.1 Adaptation of alternative energy sources

Government strategies to achieve its economic transformation program include among others diversification of alternative energy sources and technologies, maximizing use of indigenous energy resources and minimizing negative environmental impact in any development. The Tenth Malaysian Plan (2011-2015) focuses on renewable technology to be a significant contributor and also better utilization of existing energy sources. Malaysia as a tropical nation must harness more of its potential especially in solar and rainwater, which Malaysia is blessed with all year round, and turn these into energy sources through application of sustainable design and technology. Research done by Darus et al [18] found that the potential of solar and wind energy and possible integration of other form of renewable energy can be achieved successfully in Malaysia.

4.1.2. Manipulation of passive building design elements to improve environmental sustainability for the resort industry

Most resort and hotel developments in Malaysia were built near beaches or highland areas because these are the main attractions for tourists visiting Malaysia. According to Malek [25], two ideal building locations to take advantage of natural ventilation are, (i) locations which receive land and sea breezes, and (ii) locations which receive prevailing winds in valleys, normally found in hilly areas. At a seaside location during the daytime the land is heated more rapidly than the sea. It is possible to integrate passive building design to curb the current trend of reliance on energy dependent ventilation and/or cooling mechanisms for achieving good indoor air quality in resorts which can be extremely costly and may still be insufficient. For that reason, any plan to minimize the energy consumption needed to achieve good IAQ conditions in resorts must exist alongside a plan to naturally and passively improve the overall IAQ. Furthermore, studies in the Southeast Asian regions have shown that the use of daylighting can reduce overall energy consumption by 20% and also reduce the sensible heat load on air conditioning for hotel and resort buildings [26]. Lighting energy consumption in Malaysia is about 25–35% of the total energy supplied to buildings. Incorporating passive building design to provide natural light should be implemented in Malaysian resorts because Malaysia receives significant natural daylight.

4.1.3. Using traditional/local materials in resort design

The use of local materials has given Malaysia some wonderful natural benefits because these materials required little processing or transport and their economic costs are low. These include renewable resources such as trees and straw, and some non renewable resources such as rocks and sand which appear to be so abundant that supply seems almost inexhaustible. One of the advantages of building with local materials is that they seem to fit perfectly with a sense of place. Local materials available in good quality can often be found in the vicinity of planned resort and can be used in the development process. Use of local materials will make the resort building more aesthetically acceptable and also should provide the same mechanical strength and ability to withstand the effects of climatic conditions. The profit from local material used in the development process will provide economic benefits to local communities.

4.1.4. Cultural adaptation

Tourists come to Malaysia for two main reasons for culture and for landscape. It is important to protect these two elements in order to maintain international competitiveness. Most international tourism assessment systems do consider preservation of culture as an element of evaluation criteria (in architectural design and tourism activities that involve local communities and people).

However, these assessment systems do not match the local context of Malaysia and tourists' expectations in relation to the local culture. For example cultural traditions regarding nature appreciation differ between Malaysia and the west, affecting eco tourism behavior, tour operation management and infrastructure design [18]. Social-cultural implications such as over development of cultural landscape and heritage sites, shifting attitudes of local society and erosion of cultural identity are likely to be down-played by assessment programs, due to the methodological complications associated with measuring these impacts and resolving them [27].

4.1.5. Design, site selection and construction phase evaluation

Most sustainable tourism assessment systems internationally only incorporate criteria for the operational phase and existing building while in Malaysia more than 60% of the resorts are new developments [1]. Furthermore, under the government's new economic program [17], more resorts will be built by 2020 in order to enhance the Malaysian economy. However, most assessment systems do not consider design, site selection or the construction process in their assessment criteria. It is important for Malaysian resort development to include early stage evaluation as well to provide a more holistic approach to match the Malaysian local context and align with new government policies.

5 Conclusions

A sustainability assessment system for resort development in Malaysia would be highly important for tourism development. The potential for an assessment system to maintain and even enhance the physical environmental attributes of tourism enterprises and foster environmentally sensitive business operations among such enterprises would make the concept particularly appealing to Malaysia. Furthermore it can ensure maximum beneficial social and economic impact, rather than merely concentrating on the more conventional approach of minimizing environmental impact. Existing sustainable assessment systems have their limitations examined in this paper; these reduce their effectiveness and usefulness in the Malaysian context. Most international assessment systems concentrate on site specific environmental impact assessment, rather than "triple bottom line" sustainability assessment, and are not easily adaptable for other nations, especially developing nations. The opportunity to modify international assessment systems is important for resort development in Malaysia because existing systems may not contain all the elements relevant to many resort development goals, local conditions and government policies in Malaysia. None of the systems have yet tackled the problem of adaptation to different social, economic and technological environments and conditions. The potential of sustainability assessment can be achieved successfully if the assessment system can be applied to the local context. The combination of local elements and existing criteria in international assessment systems will provide a more comprehensive assessment and allow the best possible decision making process. Additional research is recommended to support the development of a more efficient and effective sustainable tourism assessment system for the Malaysian context.

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