



Environmental Practices of SICs Operators

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Abstract

The uncontrolled lodging industry usually caused environmental degradation. However, some lodging operators have started to incorporate green practices in their operation. The objectives of this study are to identify green practices of Small Island Chalets (SICs) operators in Kapas and Tioman Island in Malaysia and to determine the differences of the green practices on the both islands. This study had employed case study method using in-depth interview and structured observation. Six case studies were selected. The findings had identified the difference and several green practices of the operators. Therefore, this study provides a platform for another similar study to be conducted.

Keywords: Green practices; Small Island Chalets (SIC); Green practices theories.

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1.0 Introduction

Recently, environmental issues such as global warming and climate change are the essence of the global discussion (Smith & Perks, 2010). All the countries are affected due to the impacts. Essentially, global warming occurred due the industrialisation age. Several sorts of industries grow like mushrooms, which utilise all kinds of chemicals and natural resources. These industries produce vast amounts of waste and carbon dioxide. Not left behind the tourism sector. Several studies had confirmed that tourism is one of the most resources consumptive industry (Baysan, 2001; Chan & Wong, 2006; Li, Yang, Liu, & Zheng, 2014; Mason, 2011; McKercher, 1993).

Tourism industry uses an enormous amount of fresh water and energy (Tang, 2012) and produces a vast amount of waste (Bohdanowicz, 2005). It was approximated a typical hotel can produce an excess of 1 kg of waste per guest per day, which results of tonnes of waste each month (Bohdanowicz, 2005). Counting at the amount of pollution and waste produced by the lodging industry, it is necessary for this industry to take further action in greening the industry.

Large hospitality enterprises are taking gradual steps in greening the industry. Various types of green rating tools and certifications emerged worldwide. Various studies were conducted in the field of environmental management of lodging industry (A. Enz & A. Siguaw, 1999; Alonso & Ogle, 2010; George I & Andreas C, 2003; Goodman, 2000; Molina-Azorin, Claver-Cortés, Lopez-Gamero, & Tari, 2009).

However, studies regarding environmental practices of small lodging enterprises are way behind, particularly in Malaysia. Thus, the objectives of this study are to identify the environmental practices of the Small Island Chalets (SICs) operators and to determine the differences of the environmental practices on the both islands.

2.0 Literature Review

Environmental practices have various synonyms terms such as environmentally friendly practices, green approaches, green practices, best practices, green environmental attributes, and sustainable practices. All the terms considered having the similar meaning which is *"practices that applied by the operator to save the environment by cutting back or eliminating his operations impacts on the environment"* (IHEI, 1993).

Theoretical studies regarding green practices main items generation

Environmental practices main items generation for the lodging industry was identified from several kinds of literatures. The first literature was Baker (1987) study. Her work offers a renowned framework of lodging industry attributes. The attributes were divided into three areas such as ambience (non-tangible attributes), design (tangible attributes) and social attributes. The example of ambient attributes was heating, ventilation, air conditioning, lighting, acoustics, scent and cleanliness. Where else, the examples of design attributes are

layout and comfort, aesthetic, architecture, colours and fabrics. Whereas, the examples of social attributes were service personnel and customers (Baker, 1987).

Later, Kreidler Nicole Bleak (2010) has taken on the Bakers service environment attribute frameworks and developed into green service environment framework. This work has produced a valid scale to measure consumers perceived the importance of green environmental attributes within the service environment. Figure 1 shows example of the environmental attributes in the lodging industry identified by Kreidler.

Tangible attributes	Non-Tangible attributes
Optimization of building footprint	Air quality
Use of sun visors	Optimization of lighting (foot-candles)
Living roof	Temperature control
Living wall	Use of compact fluorescent bulbs
Operable windows	Use of LED lights
Sustainably harvested food	Fresh air transfer
Fly ash concrete	Optimization of day lighting
Recycled stone	Monitoring of temperature
Plaster wall surfaces	Recycling of waste
Wool carpets	Zoning of interior environments
Linoleum	Acoustics barriers
Recycles glass tiles	Recycling of cooking oils
Bamboo flooring	Monitoring of global footprint
Zero VOC paint	Soy based insulation
Natural fiber wall	Use of green cleaning products

Fig.1: Green practice components of kreidler study
(Source: Kreidler,2010)

However, the environmental practices are not limited to what has identified by Kreidler (2010) study. There are many more environmental practices which is categorised under specific areas such as energy and freshwater management, community involvement, pollution prevention, sewage management, toxic waste management, green purchasing policy, bioclimatic design, renewable energy, paperless technology, environmental conservation programs, green transportation and many more (Enz & A. Siguaw, 1999; Erdogan & Baris, 2007; Mensah, 2007; Nabiha et al., 2011; Nicholls & Kang, 2012; Tooman, Sloan, Legrand, & Fendt, 2009). These areas were usually listed in the green certification and rating tools.

Content analysis of all the literature above, this study has come up with refined environmental practices framework. The framework divided into technical and behavioural solution. The technical solution consists of tangible and non-tangible environmental attributes. Where else the behavioural solution consists of behavioural attributes.

Figure 2 shows the component of environmental practices framework. This framework has listed 14 main items of environmental practices into physical, ambient and behavioural attributes. The items are used as the basis of this survey

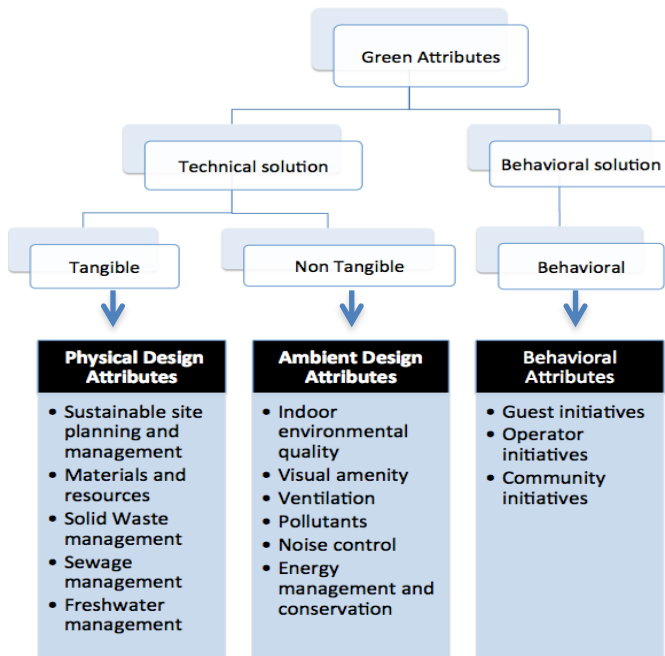


Figure. 2 : Environmental practice framework
(Source: Author)

3.0 Methodology

In general, this study applied qualitative research approach using case study method. In-depth interview and structured observation techniques were employed.

Case study description

This study was conducted on the two Malaysia Marine Park Islands, which are situated along the Eastern side of Peninsular Malaysia. The first island is Kapas Island, which is located in the Terengganu State, and the second island is Tioman Island, which is located in the Pahang State. Kapas Island has nine operating SICs, and Tioman Island has 70 operating SICs. The list of chalets was obtained from various sources such as tripadvisor,

Journey Malaysia, tourists' blogs, and JPBD Island Booklets. Micro to Small type of SICs was selected for this study. The selection criteria were based on the Standard provided by Malaysia SME Corporation. From the both island only six chalets operators agreed to participate in this study. The chalets are listed in the table below.

Table. 1: List of case studies

Kapas Island- Terengganu Marine Park	Tioman Island -Pahang Marine Park
(QC)	(BHC)
(KBC)	(ABC)
(CLH)	(JR)

(Source: Author)

Data collection

Data are collected for this study using in-depth interviews and structured observation checklist. This study is conducted in two phases for each island. In phase one, the researchers conducted general site observation of all the chalets and send participation letter for the study. During general site observation, the existing surrounding environment and general practices are observed in a brief. Later, in phase two in-depth interviews were conducted with the chalet operators using semi-structured interview questions. Structured observation with the aid of the checklist and photographs was conducted after the in-depth interview session.

Tioman Island is a big island, and only one village is chosen for the case study. Within the Tioman Island, Kampong Air Batang was selected as a case study area due to the better accessibility and facilities available. Among the 15 chalets, only four operators decided to participate in this study. Where else, in Kapas Island, only four operators agreed to participate in this study.

Interview questionnaires formulation

Interview questions were formulated based on the study environmental practices framework above. Interview questions were articulated based on the technical solution only due to the limitation of the time and cost. There are ten main areas of environmental practice. The main areas are listed below.

a) Physical design attributes

- Sustainable site planning and management
- Materials and resources
- Solid waste management
- Sewage management
- Freshwater management

b) Ambient design attributes

- Indoor environmental quality/ ventilation
- Visual amenity element
- Pollutants
- Noise control
- Energy management and conservation

Each main area consists of several sub-questions. Altogether, there are 50 sub-questions regarding the environmental practices. The sub-questions are articulated by referring to the several hospitality green rating tools, guidelines and Standard. The sources are ASEAN Tourism Standard (ATS-Green Hotels), Green Building Index (NREB Resort Tool) and Environmental Best Practice Booklet from Department of Marine Park Malaysia. Example of question asked was - Do you apply energy saving or LED lighting in the chalet operation? If yes, Where and what kind energy saving bulb? If No, Why not?

Limitation of the study

Limitation of this study is time and cost. Expenditure cost in Malaysia Marine Parks Islands is expensive regarding food, boat transportation and accommodations. Therefore, only four days could be spent on the each island based on the researcher personal budget allocation. The second limitation is very few operators agreed to participate in this survey.

4.0 Results and Discussions

The results of this study are divided into two sections. In the first section background of the chalets are explained. In the second section environmental practices adopted by the chalet operators are explained.

Background and characteristics of chalet

It is apparent from the table below, there are several similarities of the background of the SIC operators. One of the similarities is most of the chalets started to operate around the 1980s due to the booming of Malaysia tourism industry. Another similarity is the numbers of the permanent staffs are less than five peoples due to the small capital of the chalet operators. The table also illustrated that different operators provided different services based on their capital and preference. Only four types of services rendered such as accommodation, food, recreation and laundry.

Table. 2: Background of the case studies chalets

Kapas Island

<i>Name of the chalet</i>	<i>QC</i>	<i>KBC</i>	<i>KLH</i>
Owner age range	46-55	36-45	56-65
Education level	Secondary	University	University
Operation year	1986	1985	1992
No of rooms	16 chalets	14 chalets	8 rooms plus 1 dorm
Land size	1 acres	1 acres	1 acres
Services provided	Snorkelling and kayaking Accommodation Restaurant Laundry	Accommodation Laundry	Accommodation Restaurant
No of permanent staff	5	2	2

Tioman Island

<i>Name of the chalet</i>	<i>BHC</i>	<i>ABC</i>	<i>JR</i>
Owner age range	Demise	46-55	46-55
Education level	Secondary	Secondary	Secondary
Operation year	1998	1980	1985
No of rooms	6 chalets	13 chalets	12 chalets
Land size	0.5 acres	2 acres	3 acres
Services provided	Accommodation Laundry	Accommodation Restaurant Laundry Snorkelling and diving	Accommodation Restaurant Laundry Snorkelling and diving
No of permanent staff	2	3	3

(Source: Author)

Environmental practices of the case studies

The first objective of this study was to identify the environmental practices of the SICs operators. The practices were identified in Table. 3 below. The finding shows that different operators on the both islands are taking in different environmental practices. For example, regarding solid waste management each of the operators has its own way of reducing the waste such as KBC operator composting its dry and wet waste. Where else, the KLH operator is recycling its aluminium cans and plastic bottles.

However, there are many similar environmental practices adopted by the operators. The similar environmental practices are in the area of materials and resources, sewage management, indoor environmental quality and ventilation, visual amenity, noise control and energy management. Another, finding shows that the chalet design are similar to each other. The examples are chalets built on the stilts, existing terrain and landform is maintained, made of timber and replicating the Malay traditional architecture. The chalets design can be referred at the Figure 3. (a) and (b).



Figure 3(a): Timber chalet at
Tioman Island



Figure 3(b): Timber chalet at
Kapas Island

Other similar green practices were recycling of aluminium cans and cooking oil, use of energy saving bulbs, noise control from cafés and bars, linen drying using sunlight and reuse of products. Whereas, mineral bottles, TV, iron, carpets, fridge and shampoos are not provided in the guest rooms. The omission of this stuff able to save energy, water, waste and freshwater contamination.

The second objective was to determine the differences of the environmental practices on the both islands. There are not many differences in the practices at the both islands. However, only one significant difference was identified. The difference is regarding solid waste management. Kapas Island surrounding environment are cleaner and organised compared to Kampung Air Batang in Tioman Island. The Kapas Island surrounding is clean due to the operators and the Municipal workers clean and collect the waste every day. Besides, many waste bins are located at the beach area.

However, solid waste management on the Tioman Island is less efficient due to the several reasons. The first one is small vessel capacity. Waste vessel only takes in domestic waste, not the construction waste. Therefore, all the construction waste or bulky waste such as broken boats, batteries, oil drums, fridges are thrown on the beach or at the chalet area.



Figure 4(a): unused
construction bricks on
the beach at Tioman



Figure 4(b): bulky waste
on the beach at Tioman
Island

The second reason is Tioman Island is a large island with 70 operating chalets and villagers' houses. The amount of waste produced daily is tremendous which makes difficult for a waste vessel to pick up all the waste. Therefore, most of the time waste is left at the collection point at the beach area. Also, recycling or waste bins is not provided at the beach area.

The second difference is Kapas chalet operators are more creative in reducing their solid waste compared to the Tioman Chalet operators. The Kapas operators applied recycle, reuse, reduce and rethink concept in their operation. Some of their interesting environmental practices were listed in the Table. 3 below. The findings revealed that environmental practices decision is closely related to the operator's knowledge and educational background. The three operators interviewed at the Kapas Island are knowledgeable about green practices due to their education level (refer to Table. 2). Whereas, operators interviewed on the Tioman Island shows less understanding regarding green practices due to the lower education level and awareness.

Table. 3: Environmental practices of case studies

Kapas Island				Tioman Island		
Chalet	QC	KBC	KLH	BHC	ABC	JR
Sustainable site planning and management	Natural terrain and existing trees maintained Trees within chalet Chalet built on stilts Clean env	Big trees maintained Herb garden Plant shrubs Small scale Clean env Chalet built on stilts	Big trees maintained Chalet elevated high Minimum built up Clean env Replant coconut trees	Natural terrain and existing trees maintained Small scale Clean env Plant shrubs Chalet built on stilts	Plant grass on the terrain Fruit trees Herb garden Chalet built on stilts	Natural ground cover Terrain maintained Chalets built on stilts Herb garden
Material and resources	Natural rocks and tree columns	Fully timber construction	Fully timber construction	Fully timber construction	Fully timber construction	Fully timber construction
Solid waste management	Fishing net as a hammock Curtain for decoration Dead shells as table ashtray Recycling of cooking oil	WC, Wash basin and dead shells as plant pots Wine bottles as decoration Composting Reuse bottles Tree trunks-signage's Recycling of aluminium cans Recycling of cooking oil	Music records and dead corals as decoration Fishing net as canopy and hammock Wine bottles for landscape Boat ropes, Coconut husks as flower pots Plastic bottles as bulb holder Recycling of cans and oil	Water dispenser Recycling of aluminium cans Paperless technology	Recycling of aluminium cans Recycling of cooking oil Reuse of food container	Boat rope as railing Stones as restaurant table marker Recycling of cans Reuse of cooking oil
Sewage management	Overflow sewage pump to forest bed	Good quality septic tank	Good quality septic tank	Overflow sewage pump to forest bed	Overflow sewage pump to forest bed	Good quality septic tank

Freshwater management	Water saving reminder	Rainwater harvesting Water saving reminder	Rainwater harvesting Water saving reminder	Water saving reminder	Water saving reminder	Dual flush WC
Ventilation\ Indoor Environmental Quality	Roof openings Adequate windows Full height sliding door	No air-cond Open balcony Adequate window	No air-con Adequate window Open corridor and balcony	No air-con Open balcony Adequate windows and openings	Adequate windows and openings	Adequate windows Air- cond
Visual amenity Element	Wooden blind	Louver windows	Elevated room	Timber louver windows	Casement windows and curtain	Louver windows and curtain
Noise control	In control	No Bar	In control	No Bar	In control	In control
Energy management	Energy saving bulb Key card Natural drying Light of No TV and Iron	No air-conditioners Energy saving bulb Energy saving stickers Natural drying	No air-conditioners Energy saving bulb Natural drying No TV and iron	No air-conditioners Energy saving bulb Natural drying No TV and iron	Energy saving bulb Natural drying No TV and iron Light of when unused	Light of when unused Energy saving bulb No TV and iron
Pollutants Control Management	No carpet Green paint Roof ceiling	No carpet Green paint No air-cond Roof ceiling	No air-cond No carpet Roof ceiling	No air-cond No carpet Roof ceiling	No carpet Roof ceiling	No carpet Roof ceiling

(Source: Author)

5.0 Conclusion

The findings have shown that there are various kinds of environmental practices adopted by the chalet operators and most of the environmental practices are similar on both islands. Only one difference was identified. The difference was in terms of solid waste management. Structured observation of the islands has shown that Kapas Island is cleaner compared to the Tioman Island. Less solid waste is found on the Island compared to the Tioman Island. The finding also shows that the Kapas Island operators are greener than Tioman operators. They adopted more environmental practices in their operation compared to the Tioman operators. The most important finding is creative and educated operators can introduce new environmental practices, which able to reduce waste, energy, water and pollution. This study outcome is adding knowledge to a growing body of literature on the environmental practices. This study suggested that more environmental practices should be informed to the SICs operators in Malaysia for the improvement of the quality of life of the peoples and environment.

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