

AcE-Bs 2013 Hanoi

ASEAN Conference on Environment-Behaviour Studies

Hanoi Architectural University, Hanoi, Vietnam, 19-22 March 2013

*"Cultural Sustainability in the Built and Natural Environment"*

## Green Approaches of Malaysian Green Hotels and Resorts

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### Abstract

Currently tourism is moving towards sustainable tourism because this industry poses negative impacts on the environment. Tourism industry consumes and produces many resources such as water, energy and waste. The purpose of this research is to determine the rate of participation in green approaches of Malaysia green hospitality industry. The methodology used was in depth interviews and observations. This research finding shows that the operators adopt greener approaches in three common areas such as energy, waste and water. Less participation in indoor air quality, sustainable management of the site, renewable energy and rainwater harvesting system.

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Selection and peer-review under responsibility of Centre for Environment-Behaviour Studies (cE-Bs), Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia

*Keywords:* Green hotel and resort; green approaches; area of participation

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### 1. Introduction

Since the Rio Earth Summit Conference in 1992 all the nations of the world have clear targets to reduce waste and atmospheric emission of pollutants in all industries (Kirk, 1998). All the countries are urged to integrate the concept of sustainability in their operation in order to promote cleaner production through more efficient use of resources (Pezzoli, 1997; Sunday. I. Okeiyi et al., 2005). The World Commission on Environment and Development (1987) provides a definition of sustainability as “development that meets the needs of the present without compromising the ability of future generations in order to meet their own needs (Bromberek, 2009). This definition equally significant for the tourism industry which is operating in the natural environment using significant amounts of natural resources (Scanlon.N.L, 2007). The excessive use of natural resources will lead to the depletion of resources in the

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future. According to Bohdanowicz and Martinac (2003) the tourism industry are most environmentally harmful industry producing vast amounts of non-durable goods, wastewater, and energy and carbon emission. According to Peršić-Živadinov (2010) the concept of green and sustainability should be incorporated in the tourism industry. There are many literature which discussing the definition of green and sustainability. However for this paper the terms green and sustainable are considered as synonyms.

Sustainability concept in Malaysia started way before but get serious attention in 1997 after the economic crisis. Malaysia had faced many environmental issues and pollution. According to (Halimahton Borhan et al., 2012; Shing Chyi Chua et al., 2011) Malaysian government started to incorporate the sustainability concept in the 8<sup>th</sup>, 9<sup>th</sup> Malaysia plan and the concept was strengthen in National Green Technology Policy 2009 (NGTP). Adhering to these policies sustainability concept was incorporated in Malaysia tourism industry. Nowadays many green hotels and resorts are emerging in Malaysia. However research on area of green approaches in Malaysia tourism industry has been sparse. Consequently, the objectives of this study are to determine the area of participation in green approaches of Malaysia green hospitality industry.

## **2. Literature review**

The green approaches started way before civilization. Then it was recognized by the world in 1970. However in 1990 the concern grew rapidly when scientists report that the earth's atmosphere is warming, this was the beginning of the green decade (Kirkpatrick, 1990). This decade witness the escalating numbers of environmental laws, policies, paradigms, framework and strategies for environmental protection worldwide. Riding the wave of environmental concern many operators around the world started to understand the importance of sustainability concept in their operation.

This was the beginning of sustainable hospitality industry. According to Melissen, F. et al, (2007) green hospitality industry started in middle of 1990s with the few numbers of leading individual and chain affiliated resorts and hotels. Green hospitality industry begins because of financial benefits and the changing attitudes of the tourists towards sustainable tourism (Bhat, 1999; Wahab.S, Pigram.JJ, 1997). In terms of financial benefits a sustainable hotel can save a lot in terms of energy, water and waste. For example Hilton International in the year of 2000 it saved nearly \$2.5 million in energy costs (peršić-živadinov.I et al., 2010). Where else in terms of changing attitudes of visitors is further explained by Poon (1989) that the trend in international tourism's demand is shifting towards a more heightened concern for the environment and for participatory, experiential, educational and conservation-enhancing vacations (Bennett, 1992; Boo, 1993; Burr, 1991; Crawford, 1991). Where else Etzel and Woodside (1982) revealed that long-distance travellers exhibit the strongest orientation to natural and cultural heritage (Jamaludin. M, 2004). In addition Ayala's (1995) study also showed the strong partnership between eco-tourism and the resort industry (Jamaludin. M, 2004).

Numerous studies were conducted in the area of green hospitality industry in terms of perception and the green practices of the operation. In terms of perception, many studies are conducted on the perception of the managers towards environmental management by (Kirk, 1998; Prayag,G et al., 2010; Sunday I. Okeiyi et al., 2005) and perception of tourists on the green operation by (Kelly, J. et al., 2007; Sasicha Sukkay, 2012). Where as studies on green approaches of operators are abundant such as study by (Scanlon, 2007; Oreja,J.R. et al., 2012; Peršić-Živadinov et al., 2010; Imran Rahman et al., 2012). However there is no study was conducted regarding the rate of participation in green practices by green operators in Malaysia. Adhering to this gap this research was conducted.

### *2.1. Reasons and benefits of greening the hospitality industry*

There are many reasons that force lodging industry to exercise green practices in their operation. One of the main reasons is negative impacts of this industry on the natural environment. Some of the negative impacts are loss of natural habitats, contamination of the local water system, production of waste and contribution to global warming (Briguglio & Briguglio, 1996; Kirk, 1998).

Other reasons are competitiveness and legitimation (Bansal and Roth, 2000). According to Imran Rahman (2012) competitiveness in terms of going green can improve profitability in the long term by lowering expenses and return the saving to the customers. Being green in nowadays marketplace adds value to the image of the hotels and resorts. Legitimation means complying with the environmental regulation provided by the government body in order to avoid being shut down or penalized in some way (Imran Rahman, 2012).

Another important reason is customers. According to Kirk (1998) most hoteliers would respond to the pressure from the society or customers. According to Hotel Melia manager, nowadays customers or visitors are more concern about the environment. They like to travel to Eco destination and choose a green hotel for their stay (Raj Murthi, 2013). According to Butler (2008) also if a hotel fails to adopt environmental friendly practices, it may lose potential customers to other green operators.

The main benefits of being green hoteliers are financial benefits. According to the report of the Department of Environment (DOE) UK inform that by applying green approaches can reduce energy saving up to 20%. Green hoteliers can gain profit by lowering the cost of energy, waste, water, emission cost, operational and maintenance cost (Butler, 2008). A LEED certified building typically can save up to 30 to 50 % in energy usage, 35% in carbon emissions, 40% in water consumption and 70% of solid waste (I. Peršić-Živadinov, B. Blažević, 2010).

### *2.2. Defining the area of green approaches in hospitality sector*

The basic area of green approaches was to reduce energy, water and waste consumption. The green approaches concept focus on 3Rs –‘reuse, reduce and recycle’ and the 2Es –‘energy and efficiency’ (Nair.V et al., 2012). Lately the area has expanded to indoor air quality control, noise reduction, purchasing of green products and materials, paperless technologies, site management, green transportation, environmental education and community service (Pizam, 2009). Where else according to Ceballos-Lascurain (1993) other examples of green approaches area are such as renewable energy, rainwater harvesting, waste recycling, bioclimatic design, energy efficient lighting and use of local materials. In addition there are many other studies that discuss on numerous green approaches areas such as studies by Bode Hapke, & Zisler, 2003; Dorward, 1990; Gunn, 1994; Inskip, 1987, 1991; Quilici, 1998. The example of the approaches are such as environmentally friendly land use and building designs, sustainable recreation options, innovative transportation infrastructure and service options, low-impact energy generators, and enhanced solid waste management systems (Kelly.J et al., 2007). However for this research the area of green approaches is chosen based on the Green Building Index (GBI) and Asean Green Hotel Standard (AGHS). The GBI is recognized as certified green rating tool for buildings in Malaysia. Several hotels in Malaysia had received green certification from GBI. Where else all the green hotels and resorts in Malaysia comply with AGHS standard in order to obtain green recognition each year.

### 3. Methodology

This research is descriptive research. Several research techniques were applied for this research. The techniques are case studies, structured interview and observation. Four case studies were analysed in order to determine the rate of participation in area of green approaches. The first case study is Hotel Melia located at Jalan Imbi, Kuala Lumpur. The second case study is Hotel Shangri-La located at Jalan Sultan Ismail, Kuala Lumpur. The third case study is Resort Golden Palm Tree located at Bagan Lalang, Sepang. The fourth case study is Resort Andaman located at Jalan Teluk Datai, Langkawi. Approval for disclosing the name of the hotels and resorts was obtained.

#### 3.1. Formulation interview questions

A set of interview question was divided into two sections. The first section regarding the background and green policy of the operators. The second section is regarding the green approaches of the operators. Questions for second section is formulated based on the seven areas of green approaches listed below.

- Application of green products and materials
- Waste reduction management
- Energy management
- Water management and conservation
- Community service
- Indoor environmental quality
- Sustainable site planning and management

Overall there are 50 sub question for each main area of the green approaches. The example of question was asked for energy management are such as What are the energy conservation techniques or methods adopted by this hotels?, Does this hotel provide any separate sub metering for lighting and power supply?, Where is the location?, Does the hotel used renewable energy? For what purposes? The data collected is rich with information and later the data are summarize into Yes and No answer in order get the rate of participation in each area.

#### 3.2. Data collection

This research was conducted in two stages. In the first stage each case studies was studied through literature. In the second stage on-site visit was conducted. During the on-site visit an interview session was conducted with each environmental managers of the case studies. After the interview session observation of the green approaches was carried out using checklist and photographs are taken for documentation.

#### 3.3. Limitation of study

There are several limitations. One of the limitations is to get positive response from the operators for interview session. 12 hotels and resorts was send official letters for interview session. Only four operators agreed. It was difficult to get positive response from the operators because of the confidentiality of their operation activities. Other limitation is some of the hotels and resorts located far from KL city such as located in Penang, Kedah, Sabah and Sarawak. It is difficult to visit to this hotels and resorts due to cost.

#### 4. Findings and discussion

The findings of this research are explained based on the two sections of the questionnaire. The summary of the findings for section one questionnaire can be refer from Table 1 and Table 2 and summary of findings for section two can be referred from Table 3.

##### 4.1. Background and green policy of the hotels and resorts

The findings shows that hotels and resorts that adopting green approaches in Malaysia are chain affiliated. The international parent company supports the operators to adopt the environmental management activities in their operation. The green policy of the hotels and resorts are distinctive from each other. This is due to diverse vision of the parent company. However all the operators consider in reducing water, energy and waste. The findings show that the operators conduct monthly review of the environmental activities of their operation and staffs are given training on the environmental management during the orientation day and time to time basis.

Table 1. Case studies background

| Background        | URBAN HOTEL           | COASTAL RESORT             |                                |                               |
|-------------------|-----------------------|----------------------------|--------------------------------|-------------------------------|
|                   | <i>Hotel Melia KL</i> | <i>Hotel Shangri-La KL</i> | <i>Resort Golden Palm Tree</i> | <i>Resort Andaman</i>         |
| Year of operation | 1985                  | 1986                       | 2010                           | 1996                          |
| Owner             | Pudu Sinar Sdn Bhd    | Shangri-La Hotel Berhad    | Will be joining Avanis Group   | Luxury Collection Hotel group |
| Parent Company    | Melia International   | Shangri-La International   | Swiss bell Hotel.              | Starwood Hotels               |
| Room no           | 300                   | 662                        | 392                            | 188                           |
| Staff no          | 170                   | 900                        | 450                            | 370                           |

Table 2. Green policy of the case studies

| Policy Background               | <i>Hotel Melia KL</i>             | <i>Hotel Shangri-La KL</i>  | <i>Resort Golden Palm Tree</i>  | <i>Resort Andaman</i>                                      |
|---------------------------------|-----------------------------------|---|---|--|
| Green policy                    | Yes                               | Yes   | None  | Yes  |
| Focus of policy                 | 3R, Energy ,Community involvement | Sustainability, care for nature, community, supply chain, stakeholder relationship, staffs, health and safety | None written policy<br>Eco resort initiatives<br>Energy, waste, water | Water, Energy, Waste                                       |
| Year (green policy)             | 2003- 2013                        | 2005- 2013  | 2010-2013   | 2009-2013  |
| International green Recognition | Earth Check, ASEAN Green Hotel    | ASEAN Green Hotel   | None  | ASEAN Green Hotel, Best Sustainable Hotel (Malaysia Award) |

|                    |   |   |   |  |
|--------------------|---|---|---|--|
| Reasons            | Enforcement from parent company         | International pressure and demand                     | Own management initiative                     | Enforcement from parent company        |
| Monitoring         | Monthly meeting and review of documents | Yearly target. Meeting monthly                        | HOD meeting monthly                           | Monthly meeting and review             |
| Staffs involvement | Two days orientation                    | During orientation and CSR 2 hours module every month | During orientation and CSR module every month | Orientation and CSR module every month |

#### 4.2. Green approaches of Malaysia green hotels and resorts

The second section of the questionnaire is regarding the green approaches and participation rate of the operators in green approaches. The findings and discussion are on the seven areas of the green practices can be referred from Table 3 below.

Table 3. Case studies analysis of green approaches and participation of the operators

| No       | Green approaches                              | Hotel Melia KL | Hotel Shangri-La KL | Resort Golden Palm Tree | Resort Andaman | % of participation |
|----------|---|----------------|---------------------|-------------------------|----------------|--------------------|
| <b>A</b> | <b>Green products and materials</b>           |                |                     |                         |                |                    |
| 1        | Use recycled materials and products           | No             | No                  | Yes                     | Yes            | 50%                |
| 2        | Use local products from the community         | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 3        | Buy products from green vendor                | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 4        | Used green chemical products                  | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| <b>B</b> | <b>Waste reduction management</b>             |                |                     |                         |                |                    |
| 5        | Waste separation program 3R                   | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 6        | Composting- food and waste from garden        | Yes            | Yes                 | No                      | Yes            | 75%                |
| 7        | Refill soap dispenser in the guest room       | No             | No                  | Yes                     | Yes            | 50%                |
| 8        | Paperless technology                          | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 9        | Reuse printed paper, refill cartridge         | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 10       | Waste monitoring by the officer               | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 11       | Recycle cooking oil                           | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 12       | Permanent dishware                            | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 13       | Newspaper service for guest in room           | Yes            | Yes                 | No                      | No             | 50%                |
| 14       | Used biodegradable plastic bag                | Yes            | Yes                 | No                      | Yes            | 50%                |
| <b>C</b> | <b>Energy management</b>                      |                |                     |                         |                |                    |
| 15       | Sub metering                                  | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 16       | Percentage of energy reduction                | 2.5%           | 2.5%                | 1.5%                    | 3%             | 100%               |
| 17       | Renewable energy-solar panel                  | No             | No                  | No                      | No             | 0%                 |
| 18       | Install occupancy-based room unit controllers | Yes            | Yes                 | Yes                     | Yes            | 100%               |
| 19       | Air Cond set to 23 to 24 degrees              | Yes            | Yes                 | Yes                     | Yes            | 100%               |

|          |   |            |            |            |            |      |
|----------|---|------------|------------|------------|------------|------|
| 20       | Regular maintenance of air Cond system                          | Yes        | Yes        | Yes        | Yes        | 100% |
| 21       | Use of energy saving equipment in the guest room                | Yes        | Yes        | Yes        | Yes        | 100% |
| 22       | Use of energy saving equipment in the office                    | Yes        | Yes        | Yes        | Yes        | 100% |
| 23       | Using LED lighting  | Yes        | Yes        | Yes        | Yes        | 100% |
| 24       | Using energy saving bulbs                                       | Yes        | Yes        | Yes        | Yes        | 100% |
| 25       | Lighting of Exit Signage change to LED                          | Yes        | No         | No         | Yes        | 50%  |
| 26       | Use automatic system to avoid direct sunlight                   | No         | No         | No         | No         | 0%   |
| 27       | Officer in charge for monitoring                                | Yes        | Yes        | Yes        | Yes        | 100% |
| 28       | Provide auto sensor controlled lighting (dimmer)                | Yes        | Yes        | Yes        | Yes        | 100% |
| 29       | During day and late night switch off lighting at unusable space | Yes        | Yes        | Yes        | Yes        | 100% |
| 30       | Apply bioclimatic design more daylight penetration              | Yes        | No         | Yes        | Yes        | 75%  |
| <b>D</b> | <b>Water management and conservation</b>                        |            |            |            |            |      |
| 31       | Low flow toilets and showerheads                                | Yes        | Yes        | No         | Yes        | 75%  |
| 32       | Rainwater harvesting  | No         | No         | No         | Yes        | 25%  |
| 33       | Use grey water for irrigation                                   | No         | No         | No         | Yes        | 25%  |
| 34       | Regularly check and repair leaks                                | Yes        | Yes        | Yes        | Yes        | 100% |
| 35       | Encourage guests to re-use towels                               | Yes        | Yes        | Yes        | Yes        | 100% |
| 36       | Encourage guests to save water                                  | Yes        | Yes        | Yes        | Yes        | 100% |
| 37       | Laundry in-site   | No         | No         | No         | No         | 0%   |
| 38       | Officer in charge and documentation                             | Yes        | Yes        | Yes        | Yes        | 100% |
| <b>E</b> | <b>Community involvement</b>                                    |            |            |            |            |      |
| 39       | Involve community in nature saving program                      | Yes        | Yes        | Yes        | Yes        | 100% |
| 40       | Donation for saving wildlife, natural disaster                  | Yes        | Yes        | Yes        | Yes        | 100% |
| <b>F</b> | <b>Indoor environmental quality</b>                             |            |            |            |            |      |
| 41       | Designated smoking room   | Yes        | No         | No         | No         | 25%  |
| 42       | Used of low VOC paints and coatings                             | Yes        | Yes        | Yes        | Yes        | 100% |
| 43       | Indoor air quality meets the requirement                        | Yes        | Yes        | Yes        | Yes        | 100% |
| 44       | Mold measure  | Yes        | Yes        | Yes        | Yes        | 100% |
| <b>F</b> | <b>Sustainable site planning and management</b>                 |            |            |            |            |      |
| 45       | Use of green roof   | Yes        | Yes        | No         | No         | 50%  |
| 46       | Herbs Garden  | Yes        | No         | No         | Yes        | 50%  |
| 47       | Green transportation strategies                                 | Yes        | Yes        | Yes        | Yes        | 100% |
| 48       | organic fertilizer  | Yes        | Yes        | Yes        | Yes        | 100% |
| 49       | Consideration of natural surroundings in the design             | No         | No         | Yes        | Yes        | 50%  |
| 50       | Use of green material for building envelop                      | No         | Yes        | No         | No         | 25%  |
|          | <b>% of participation</b>                                       | <b>82%</b> | <b>74%</b> | <b>70%</b> | <b>84%</b> |      |

Area A is about application of green products and materials. The findings show that 100% participation of the operators on the use of local products from nearby community, products from green vendor and use of green chemicals in their operation. As for the use of recycled materials and products in their operation findings shows that only 50% of participation. The findings also show that only resorts are using recycle materials in their operation. According to Melia and Shangri- La manager, they do not use recycle materials because it is costly and sometime the quality of products is not good.

Area B is regarding waste reduction techniques. The findings show that 100% participation in the waste separation program. The operators separate the waste into plastics, glass, paper and organic waste. The solid waste is sold to recycle companies. According to Melia and Shangri-La they earn about



RM1000-2000 by recycling their waste. Once a month they have a joint waste recycling program with other premises nearby. Where else the organic waste is composted to be used as fertilizer for herb garden by Melia, Shangri-La and Andaman. Whereas there are 100% participation in recycling of cooking oil. Cooking oil is sold to companies for other purposes such as for soap, candles and biodiesel. All the operators implementing paper and ink reduction techniques such as print when necessary, print double sided, reuse the printed paper for note pad, use paperless technology and refill cartridge. Other approaches which are not more than 50% are such as refill of soap dispenser and no service of newspapers in the guest rooms. These initiatives did not have 100% participation because of several reasons. For example according to Shangri-La manager no service of newspaper in the rooms was not preferred by guests who complaint to have newspaper service every morning in their rooms.

Area C is on energy management. Energy reductions are adopted by all the operators. The participation is 100%. The participation are in terms of sub metering, use of LED and energy saving lighting, energy saving equipments, regular maintenance of air-cond system and use of occupancy room unit controllers. Energy saving also achieved by closing lighting manually during day and night time by staffs. None participation is for the application of solar panel. Solar panel technology is costly and most of the operators cannot afford to apply this technology in their operation.

Area D on the water management and conservation. The findings show 100% participation of the operators on encouraging guests to save water and reuse towel and linen. The operators use the green card system in the guest room. A guest who wishes to have new towel will place the green card in the toilet. All the operators used low flow toilet, taps and showerhead except for the Golden Palm Tree. All the operators have changed their water saving apparatus in stages. The finding also shows that all the operators are not using a rainwater harvesting system. Only Andaman collects rainwater in jars for the guest to wash their feet's before entering the rooms. According to the two hotels operators rainwater harvesting system need special piping which is costly and need some renovation of the facilities.

Area E is on the community involvement. There are 100% participation of the operators on giving some donation and involving the community in saving the nature. Area F is regarding the indoor air quality management. There are 100% participation in the use of low VOC paints and products on the premises and all the operators followed the ASHRAE 62.1:2007 standard on the minimum requirement of indoor air quality

Area G is regarding sustainable site planning and management. Hotels in the city do not have much problem regarding the site management because of the small plinth area. Where else the two resorts which have bigger site required comprehensive management of the properties. The design of the both resorts blends with the environment, trees are preserved, vehicle are not allowed in the resorts, buggy battery operated, terrain are considered and villas are built on stilts.

In conclusion, the findings show that Andaman has the highest participation rate in green approaches compared to other operators. The participation is 84%. Other operator's participation is closer to each other in the range of 70%. The lowest participation is by Golden Palm Resort because this resort does not have green policy. The participation rate can be referred from figure 1. The findings show that different operators have followed different green approaches based on their management aims, cost availability, surrounding context and land size.



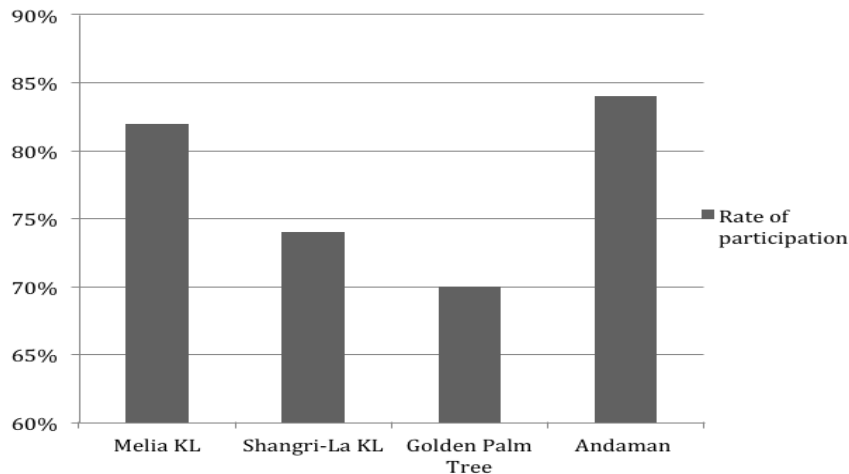


Fig. 1. Shows the rate of participation of the operators in green approaches

## 5. Conclusion

The green wave in the hospitality industry in Malaysia is something new. There are only few hoteliers claiming their self-green operators. The findings show that all the green hotels and resorts in Malaysia are chain affiliated. They have the support and financial funding from their parent company to become green operators.

From the findings the areas with the most participation are energy, waste and water. These areas save costs and limited resources. The areas of less participation are in indoor air quality, sustainable management of the site. These areas have less impact on the operational costs. Participation in new technologies such as renewable energy (solar panel) and a rainwater harvesting system is also less due to the cost and system availability. The findings also show that different operators have adopted different green approaches in the operations. The reasons are the management aims, cost availability, surrounding context land area. Later next research can focused on green approaches of small medium chalets operators in Malaysia. In conclusion Malaysia green hotels and resort industry is growing and hope there is a bright future for this industry.

## Acknowledgements

This research is funded by IIUM Research Grant (Endowment B). This research is a part of corresponding author's PhD study at the Universiti Teknologi, Shah Alam Malaysia.

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