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GREEN ACCOMMODATION FOR SUSTAINABLE TOURISM DEVELOPMENT IN MALAYSIA

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Abstract. The study identifies the initiatives of green accommodation in existing policies for achieving sustainable tourism development in Malaysia. It also analyzes the tourists' perception of green accommodation from sustainability perspectives. Non-probability convenience technique has been used for the sample selection and a total of 100 respondents are selected from the tourists by purposive sampling to identified tourists' perceptions. Malaysian policies have emphasized several green strategies in tourist accommodations, such as energy, water, and waste management, introduce renewable energy, build green, environment-friendly and energy conservation buildings, introduce green technologies, reduce greenhouse gas (GHG) emissions, and improve ecological services. The study shows the positive perception of tourists' towards green accommodation which encouraging sustainable tourism development in Malaysia. They agreed that this accommodation is environment-friendly, suitable for resource efficiency, use proper waste management techniques, encourage local products, create employment opportunities for local, promote local culture and traditions as well as ensure well-being for the local communities.

Keywords*: Accommodation, Emissions, Government, Malaysia, Sustainable Tourism.*

1. INTRODUCTION

Accommodation is one of the important elements in the tourism industry as well as the economy. It is the most energy concentrated component in the tourism industry for heating, cooling, lighting, cooking, cleaning, swimming pools, and other regular activities. The luxurious accommodations are using more energy to maintain daily needs. Studies have shown that energy use in tourism accommodations globally range between 25 and 284 MJ/guest per night (Peeters et al., 2010). In this regard, for example, luxury resorts on an East African island estimated to use up to 2,000 liters of water per tourist per day. This water usage is almost 70 times more than the average daily domestic consumption of local people (Gössling and Hall, 2006). With respect to the growth of accommodation related emissions, low-carbon accommodations become a key factor for sustainable tourism development in 2050 (UNEP and WTO, 2012). In Asia, green accommodations systems are increasing to meet up the tourist's demands for sustainable practices. A total of 73 hotels are registered with the U.S. Green Building Council (USGBC) and 13 under Leadership in Environmental Design (LEED) certification in Asia for ensuring themselves as providing green accommodations.

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These hotels are maintaining green accommodations principles, such as green building features, used water recycling system, solar panels for water heating, bamboo boiler for heating in the winter season, community participation, environment-friendly waste management system, creating job opportunities for local people and increase the awareness of local people on environmental issues (Sustainable Hotels, 2012). Without denying the importance of economic growth, the tourism industry has to be greener and sustainable to avoid environmentally degradation and to ensure its vibrant growth. Hence, there is a need to change unsustainable patterns of tourism practices such as excessive use of water consumption, discharge of untreated water, waste generation, damage of local biodiversity and ecosystem, and threats to local cultural traditions and built heritage.

Sustainable tourism is concerning with social, economic and environmental well-being matters. Tourism sustainability depends on natural resource preservation and environmental protection as well as local people's welfare (Bhuiyan et al., 20011a). Sustainable tourism becomes a priority tool for local planning and development to the policymakers and developers. It can reduce differences in terms of development between urban and rural areas, which ensure political well-beings for a country (Liu, 2006). According to the World Tourism Organization (WTO), sustainable tourism refers to tourism that meets the tourists' and local communities' present needs as well as maintaining and developing for the future (Hens 2006). According to McMinn (1997), the term "sustainable tourism" is related to particular elements of tourism such as sustainable ecology and the environment of a nation or a region. Moreover, it is viewed from the economic, social, cultural, and environmental dimensions. Again, sustainable tourism has been utilized as a community development tool and as alternative earning sources where people dependency have declined on primary industries (MacDonald and Jolliffe, 2003).

Green accommodations become familiar in the tourism industry due to sustainable energy consumption, reduce environmental pollution and increase benefits for local communities. From a survey result of World Economic Forum (WEF), 34% of tourists are willing to pay more to stay in environmentally-friendly accommodations and for sustainable green tourism activities. In 2008, Deloitte business traveler survey revealed that 90% of respondents from tourists expected their accommodations facilities should be implemented by environmental and green initiatives (Sustainable Hotels, 2012). The International Ecotourism Society (TIES) shows that increasing numbers of international tourists are willing to pay for local environmentally-friendly accommodations. Green accommodation gives emphasize on green building, water recycling facilities, use sustainable and renewable energy and proper waste management system. It can foster local culture and customs to the tourists which bring social welfare for society. Moreover, green accommodation can create employment and income generation opportunities for local people and ensure economic well-being for them (TIES, 2005).

According to Trip Advisor survey among the tourists worldwide in 2007, 38% of them had stayed at environment-friendly accommodation while 34% were willing to pay more to stay in these accommodations (Pollock, 2007). TIES (2005) showed that international tourists are

interested in the accommodations that are committed to conserve the local environment and social responsibility towards local people. Green practices in energy consumption can represent 1.5-2.8% lower expenses in green accommodations whereas conventional costs represent about 6% of annual turnover. Several studies showed that 6% investment in energy-efficient design and equipment can reduce electric use by 10% (Six Sences, 2009), water-efficient design and operation can reduce consumption by 30% (Newsom and Sierra, 2008) and accommodation's green strategy can ensure a 117% investment recovery for operation efficiency (Ringbeck, 2010).

Accommodation is an important factor for any type of tourism segmentation. Local small-scale accommodation is suitable for environment-friendly tourism development in an area. This accommodation can generate active participation for local people in the tourism industry (Bhuiyan et al., 2012). Local communities can foster and share their culture and customs with the tourists by green accommodation program. They help the accommodations for tourism development when this will ensure their social, economic and environmental benefits and active participation. Successful community involvement in accommodation can ensure sustainable tourism development in an area (Suansri, 1997). It achieves sustainable development and can improve the living conditions of local people without damaging the environment. The communities' involvement in accommodation increase their ownership and empowerment, preserve natural and cultural resources conservation, enhance socio-economic development and ensure tourists' experiences (Hiwasaki, 2006). The government can enhance green accommodation initiatives through business assistance, marketing, reducing administrative fees, technical support and financial allocation with favorable interest rates. Moreover, the formulation and implementation of relevant plans and policies also promote and enhance green accommodation for sustainable tourism development in a country. The stakeholders- governments, communities and business operators can be established to coordinate programs for the environment, energy, transport, finance, and other relevant areas to operate green accommodations (UNEP and WTO, 2012).

Tourism is the second largest foreign exchange earning sources of Malaysia after manufacturing. This industry plays an important role in source of income, employment opportunities and economic enhancement of the country (Bhuiyan et al., 20011b). In 2008, Malaysia has achieved 16th place in terms of tourism receipt, capturing about 2% of global market share. Moreover, 1.7 million employees have engaged in this industry in 2008, which was 16% of country's total employment (EPU, 2010). According to Tourism Planning Research Group, 28% of all tourism expenditure is captured by accommodation sector in Malaysia while craft artisans and local small businesses get 5% and 11% respectively (TPRG, 2009). Eleven hotels in Malaysia have been honored with the ASEAN Green Hotel Recognition Award' 2012 for three years at the ASEAN Tourism Forum held in Indonesia. This award announced on hotel operations based on environmentally-friendly activities and adopts energy preservation procedures for maintaining green accommodation's principles. Malaysian government give prioritized green procurement for green accommodation development in the country. The government efforts to achieve sustainable tourism development could be stimulated by promoting government green procurement which give preferences to green accommodation for any government official activities such as seminar,

exhibition etc. As government has huge purchasing power, the preferences will boost the green accommodation demand and could become market forces for the industries to change their nature of business in a greener manner. From this point of view, green accommodation is potential for tourism development as well as economic well-beings in Malaysia. The present study identifies the initiatives of green accommodation in existing policies for achieving sustainable tourism development in Malaysia. The study also analyzes the tourists' perception towards green accommodation in terms of sustainable perspectives

2. METHODS AND MATERIALS

The study used both primary and secondary sources to attain the objectives. For secondary sources, the study analyzed several policies of the Malaysian Government to discover the initiatives of green accommodations for sustainable tourism development. The relevant policies are National Policy on Climate Change (2009), National Green Technology Policy (2009), New Economic Model for Malaysia (2009), National Renewable Energy Policy and Action Plan (2008), National Policy on the Environment (2002) and National Policy on Biological Diversity (1998).

This study has been carried out in Nur Eco Resort Group, one of the largest and famous environment-friendly accommodation providers in the tourism sector of Malaysia. They are operating their resort in Selangor, Terengganu, and Perak in an environmentally conscious manner. These resorts are engaging with several tourism activities such as tree plantation, jungle tracking, water-based activities, fishing, and environmental awareness programs. The study collected the perception of tourists from their largest eco-resort 'Nur Laman Bestari' in Selangor.

The study follows a non-probability convenience sampling technique for the sample selection. A total of 100 respondents are selected from the tourists who stay in the resort by purposive sampling technique. The field survey has been completed in September 2016. The researchers have collected data by self and enumerators. This study used a structured questionnaire to determine the perception of tourists regarding sustainable green accommodation in Malaysia. The questionnaire is divided into two sections. Section- A includes the socio-demographic profile of respondents. Section-B includes eight statements on sustainability issues of green accommodation and uses a 5-point Likert-type scale ranging from 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4= agree, 5=strongly agree.

The study analyzed the existing policies of the Malaysian Government to identify the potentials of green accommodations based on policy themes and initiatives. The tourists' perception of sustainable green accommodations measures through the mean scores of their responses. The study used SPSS software to analyze the survey data.

3. RESULTS AND ANALYSIS

The study highlights the global emission scenario from tourism accommodations. Table-1 shows the global average estimated energy use and emissions of different types of accommodation for the year 2005. Among the accommodation's hotels, vacation homes and holiday villages are operating on large scale and consume a huge amount of energy per night

and create the highest volume emissions. Moreover, campsites and pensions are accountable for lower amount of energy use and emissions.

Table 1. Global Average Estimated Energy Use by The Different Type of Accommodation in 2005

Type of accommodation	Energy use per guest-night (MJ)	Emissions per guest-night (kg CO_2)
Hotels	130	20.6
Campsites	50	7.9
Pensions	25	4.0
Holiday villages	90	14.3
Vacation homes	100	15.9

Source: Gössling and Hall, 2006

Table 2 shows the emissions from tourism accommodations for the year 2005 from the analysis of the World Economic Forum. The global emissions from accommodations were about 284 Mt CO_2 for this year. Emissions from this sector will increase at a rate of 3.2% annually and reached about 728 Mt CO_2 by the year 2035. Europe was accountable for 21% emissions in 2005, although 50% of international tourists arrivals in this region. This scenario shows that Europe utilizes more efficient and cleaner energy sources in their accommodations. Moreover, Asia and the Pacific's region were contributing 29% of global emission for accommodation in 2005 in spite of lower international tourist arrivals compared to Europe. This is indicating that this region does not give enough emphasis on the use of alternative and cleaner energy sources in tourism accommodations.

Table 2. Emissions from tourism accommodations (Mt CO_2) in 2005

Region	Emissions (%)
North America	40%
Europe	21%
Asia and Pacific	29%
Middle East	6%
Africa	2%
Central, South America and Caribbean	2%

Source: World Economic Forum, 2009

Table 3 highlights the initiatives of Malaysian The government in existing policies on green accommodation. These policies have highlighted several themes such as low carbon economy, conservation, and management of the environment, control of pollution, reduction of greenhouse gas (GHG) emissions; ensure sustainability, awareness building, and green revolution (Table-3). All of these themes are related and essential requirements for green accommodation development in Malaysia.

Table 3. Green Accommodation Initiatives in The Policies of Malaysia

Policies	Themes	Initiatives
	Low carbon economy	• Identify options for energy security and waste management • Facilitate business through training and incentives
	Conservation of environment	• Technical assistance in water, energy and waste management • Develop renewable energy and energy efficiency • Encourage construction of green buildings and practice energy conservation in buildings • Develop green building index
	Management of the environment	• Encourage energy efficient technologies and mechanism • Introduce environmental education and training program
	Control of pollution	• Promote incentives for environment-friendly services • Invest in integrated environmental infrastructure and solid waste management • Prioritize in environment friendly technologies, waste minimization and prevention of pollution
National Renewable Energy Policy and Action Plan (NREPAP)	Greenhouse gas (GHG) emissions reduction	• Give focus to reduce GHG • Introduce special incentives such as group tax relief, expenditure relief and reduction of import duties for incorporate renewable energy technologies in new buildings
National Policy on Biological Diversity (NPBD)	Environmental stability	• Maintain and improve ecological services such as water quality and energy supply • Ensure the participation of local communities in sustainable use of biological resources
National Green Technology Policy (NGTP)	Resource and awareness	• Application of green technologies in energy utilization and supply • Introduce green technologies in construction and maintenance of buildings • Proper utilization and management of water resource • Ensure green technologies for waste water treatment, solid waste and sanitary landfill • Increase public awareness on green technologies

New Economic Model (NEM)	Green revolution	• Proper management of natural resources to preserve environment and reduce carbon emissions • Optimizing the use of renewable resources and expansion of alternative energy generation • Promote green technologies and encourage the construction of green buildings

Sources: NEM, 2009; NGTP, 2009; NPBD, 1998; NPCC, 2009; NPE, 2002; NREPAP, 2008

The study identifies the tourists' perception of green accommodation in terms of sustainability issues. The tourists' are giving their opinion as respondents while collecting data from the survey. Most of the respondents are businessman (41%) and job holders (34%), male (58%) and married (68%). Maximum of the respondents (52%) are university educated (complete or in study level) and are from Malay ethnicity. The demographic profile indicated that the respondents are educated and engaged in good occupations (job or business). They are conscious of environment-friendly operation and prepare green accommodation for their stay. Among the respondents, 25% of students indicated that green accommodation also accepted to them for their awareness and environment-friendly operation (Table 4).

Table 4. Demographic Profile of Respondents

Variable	Item	Frequency and Percentage (%)
Occupation	Job (Govt. and non-govt.)	34
	Business	41
	Student	25
Sex	Male	58
	Female	42
Marital Status	Married	68
	Single	32
Education	Secondary	16
	College	32
	University	52
Ethnicity	Malay	68
	Chinese	23
	Indian	9

Source: Survey data, 2016

Table 5. Tourists' Perception Towards Green accommodation in Malaysia

Statements	Mean value	S.D.
The accommodation maintains environment friendly operation system	4.05	0.81
Accommodation encourages waste reduce, reuse and recycle techniques	4.10	0.63
Use resource efficiency technologies and equipment	3.97	0.64
Accommodation is provided information about sustainable	4.25	0.63

use of facilities and resources		
Accommodation ensures well-beings for local community	4.17	0.72
This accommodation encourages local products and employees from local people	4.30	0.70
This accommodation promotes local culture and traditions	4.20	0.64
Accommodation increases awareness of people on environment	3.93	0.77

Source: Survey data, 2016

Table 5 represents the tourists' perception of green accommodation in Malaysia. The highest mean value is 4.30 for the statement of 'this accommodation encourages local products and employees' from local people'. The lowest value is 3.93 for the statement of 'accommodation increases awareness of people on the environment'. The other statements showed an acceptable mean score (> 3.96). This scenario is indicating that most of the respondents feel green accommodation is suitable for sustainable tourism development in Malaysia. This accommodation is environment-friendly, suitable for sustainable resource use, promotes local culture and tradition. The local people ensure their well-being and employment opportunities in green accommodation. Green accommodation encourages 3R techniques (reduce, reuse and recycle) in waste management. The lowest mean scores of the two statements indicated that these accommodations are not properly utilizing technologies and equipment for resource efficiency. Moreover, this accommodation was not able to create proper awareness of people on the environment.

4. DISCUSSION

The global average estimate shows that locally operated and small-scale accommodations such as campsites and pensions are accountable for lower amounts of energy use and emissions (Table-1). Another study revealed that international and domestic tourism responsible for emissions about 19 kg CO_2 and 11.5 kg CO_2 per guest-night respectively. In 2005, total emissions related to accommodation were estimated at 274 Mt CO_2 and 21% of overall emissions from the tourism sector. Accommodation will be accountable for about one-quarter of emissions from tourism in 2035 (UNWTO-UNEP-WMO, 2008). This scenario shows, green accommodation initiatives are essential for sustainable tourism development in an area. Asia and the Pacific region was the second largest contributor to emissions from accommodations in 2005 (Table-2). This is revealing that accommodations of this region are not practicing sustainability in their operations.

Malaysia is the top tourist arrivals country in the ASEAN region. Accommodations are the main emissions source in tourism activities here. From the evidence of global consequences, local and small-scale green accommodation initiatives are suitable for sustainable tourism development in Malaysia. The local communities will benefit from these accommodations by their involvement as well as contribute to lower emissions through the environment-friendly operation.

Green accommodation development is further strengthened through the implication of relevant policies in Malaysia. The national policies and strategies of Malaysia are supporting the initiatives to promote green accommodations for sustainable tourism development in the country. These policies have emphasized numerous strategies such as energy security, water,

energy, and waste management, introduce renewable energy, gain energy efficiency, build green, environment-friendly and energy conservation buildings, introduce green technologies, reduce greenhouse gas (GHG) emissions, and improve ecological services. These policies recommended for environmental education and training, public awareness, the participation of local communities, incentives and tax relief for environment-friendly operations (Table-3). However, the government has not formulated any separate policy for green accommodation in Malaysia. The specific policy should highlight the guidelines and policy implications for the establishment, operation, awareness, community involvement, and resource efficiency on green accommodation.

The study shows the perception of tourists' towards green accommodations in Malaysia. The descriptive analysis of tourists' perception has measured by the mean scores and standard deviations acquired from the eight statements. Most of the statements concerning this topic yielded a mean score in the high range from the positive perception of tourists' towards green accommodations. The tourists agreed that green accommodation has environment-friendly practices and suitable for sustainable resource management in Malaysia. This accommodation uses proper waste management techniques, equipment for resource efficiency in operation. This accommodation is economically sustainable for encouraging local products and creating employment opportunities for local people. From a social dimension, this accommodation is promoting local culture and traditions as well as ensuring well-being for the local communities. Moreover, two statements are concerning this topic yielded a mean score in the low range (< 3.98) from the perception of tourists' towards green accommodations. This is indicating that green accommodations are not using sufficient technologies and equipment for resource efficiency. They have not enough initiatives to create proper awareness of the environment among the people.

According to the respondents, there are several challenges needed to be addressed in Malaysia for green accommodation development. The tourists' are not fully aware of green accommodation in Malaysia. They haven't been provided enough information and consciousness for the benefits and importance of environment-friendly accommodation in tourism industry. The green accommodations have an absence of appropriate equipment for efficient use of water and energy. They are not properly managing waste in accommodation due to necessary equipment and technologies. The employees of accommodations have a lack of experience for environment-friendly operation.

5. CONCLUSION

Accommodation is one of the vital elements of sustainable tourism development in Malaysia. The Malaysian government has targeted that accommodation will contribute to a major portion of tourism earning in 2020. The government has embraced and emphasized on proper initiatives in green accommodation for sustainable tourism development in the country. Green accommodations will be attracting more tourists from home and abroad. The government can formulate effective strategies for green accommodations to maintain sustainability and enhance capacity building. Environmental awareness provides knowledge and experience to the tourists to protect the environment and encourage for meaning behavior towards the environment. The government can be provided financial and technological support to the accommodations for setting up the necessary equipment for sustainable operation. Training

programs will be increased efficiency and experiences of the employees for environment-friendly operation in accommodations.

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