DEVELOPMENT OF ECOTOURISM PRODUCTS IN KILIM GEOPARK
BASED ON TOURIST PERCEPTIONS

MASTURA JAAFAR¹*, ALEFF OMAR SHAH NORDIN², AZIZAN MARZUKI³ AND SHARDY ABDULLAH⁴

¹,³,⁴ School of Housing Building and Planning, Universiti Sains Malaysia, 11800 Minden, Penang, Malaysia. ² School of Distance Education, Universiti Sains Malaysia, 11800 Minden, Penang, Malaysia.

*Corresponding author: masturaj@usm.my

Abstract: Tourism development in Kilim Geopark had a significant impact on the growth of local businesses and has indirectly increased the living standards of the local community. The sustainability of tourism products is crucial to increase the number of tourists in the future and to retain the status of the Geopark. This paper aims to identify the level of tourist satisfaction with the tourism products offered at Kilim Geopark in terms of natural attraction, services, facilities, and product prices. Moreover, this paper discusses the extent of eco-tourism product development in the Kilim Geopark and how to maintain the current level of tourist satisfaction. Based on 341 completed questionnaires, this study reveals that the majority of tourists are interested in new ecotourism products offered at Kilim Geopark. However, significant differences between the levels of satisfaction arise concerning tourism products. Non-Malaysian tourists are perceived to be more satisfied compared to Malaysian tourists based on certain products and selected services. As an emerging tourist attraction, several measures should be considered to improve the competitiveness while maintaining the future development of ecotourism products in Kilim Geopark.

Keywords: Ecotourism, product development, tourism products and services, tourist perceptions, Kilim Geopark.

Introduction

In previous decades, tourism has emerged as one of the major industries that benefit the economy and local community development strategy. According to the World Travel and Tourism Council, tourism was the second largest industry in 2005 and accounted for 3.8 percent of the global gross domestic product (GDP) (Rosli & Azhar, 2007). The tourism industry represents a significant share in the GDP of most countries and is an important source of foreign exchange earnings (Hanafiah & Harun, 2010). The tourism industry plays a vital role in invigorating the economic growth of developed and developing countries (Chaiboonsri & Chaitip, 2008). Through the tourism industry, a country will be able to control the flow of currency and to increase income (Tatoglu, Erdal, Ozgur & Azakli, 2000; Hanafiah & Harun, 2010). Therefore, the development of tourism activities will help boost the economy.

In Malaysia, the tourism industry is continuously being developed to serve as a catalyst for the economic revival of Malaysia. The tourism industry is the fifth largest industry in Malaysia and continues to be at the forefront of economic development. In addition, the tourism industry contributed a total of RM65.44 billion (US$ 20 billion) to the Malaysia’s Gross Domestic Product in 2013. According to Mohammed, Mat Som, Jusoh, and Kong (2006), the tourism industry is an important economic generator that helps to create businesses, increase income, create job opportunities, improve living standards, reduce poverty, and promote rural development. In 2013, tourist arrivals in Malaysia increased by 2.76 %, or about 25.7 million visitors, while receipts increased by 7.98% or RM65.44 billion compared with the previous year (MOTAC, 2014). Realizing the importance of the tourism sector to the Malaysian economy and local community development, the Economic Transformation Program has identified tourism as one of the 12 National Key Economic Areas. With this program, the tourism sector aims to contribute RM103.6 billion to the GNI by 2020, which will be derived from the expected 36 million tourist arrivals (Malaysia, 2010).
In many countries, government agencies have used ecotourism to attract travelers worldwide (Schillinger, 1995). Generally, scholars have associated ecotourism with environment. For example, according to Ceballos-Lascurain (1996), ecotourism is an environmentally responsible and enlightening trip, that visits relatively undisturbed natural areas to appreciate nature and any accompanying cultural features from both past and present. Ecotourism promotes conservation, has low visitor impact, and allows for beneficially active socioeconomic involvement of local populations. Bjork (1997) and Litvin (1996) refer to key terms that are rich with untainted and unobstructed nature. Jaafar and Maideen (2012) highlight nature-based activities related to natural attractions and cultural features of a destination. In creating ecotourism activities, local community involvement should coordinate and benefit from tourism activity (Scheyvens, 1999).

Originally, the product development model is described as the process of creating a product from scratch (generating idea) until the product becomes available in the open market. Mattila (2011) states that, based on the holistic approach, tourism product development usually begins with the introduction of minor improvements to existing products. Subsequently, entrepreneurs must be creative and innovative in developing new tourism products to provide meaningful experiences to tourists. Taneva (2009) argues that tourism products must adhere to the specifications and requirements set earlier by clients to provide meaningful experiences that meet client expectations. Client expectations are of paramount importance because tourism sells nature-based products as well as experiences and satisfaction. Nowadays, tourists are aware of their rights to be involved in the process of creating meaningful experiences during their vacation, and providing inputs that are normally based on prior knowledge and experiences. Therefore, the service provider must identify and understand the needs of the clients (Mattila, 2011).

The Agriculture, Fishery, and Conservation Department (2010) define a geopark as a natural area with unique geological landscapes and important ecological, cultural, and historical resources (AFCD, 2010). The intent of geopark is not only to preserve geological heritage, but also to promote sustainable socio-economic and cultural development (UNESCO, 2012). McKeever (2009) emphasizes the engagement of a geopark to the local communities in all of its activities, while being respectful to the traditional ways of life to promote sustainable development in the geopark area. The establishment of geoparks is an innovation for the protection of natural and geological heritage, and plays an important role in the development of the tourism industry. Moreover, the creation of a geopark encompasses conservation as well as environmental protection (Langton, Rhea, & Palmer, 2005).

The paper addresses the tourists perception on ecotourism product development in a geopark site in Malaysia. The present research selected Kilim Geopark as a case study because of the importance of developing ecotourism products and maintaining the sustainable development of the said geopark. Kilim Geopark is among the more than 90 geopark sites in the world. The geopark has provided business opportunities for the local population. Environment based tourism activities, especially sightseeing via tour boats, has been in demand in the Kilim Geopark. However, extensive tourism activities will adversely affect the environment. Azman, Halim, Liu and Komoo (2011) highlight environmental issues as barriers to maintaining the sustainability of a tourism destination. Similarly, Watson and Watanabe (2011) identify the erosion of mangrove forests and the lack of hygienic practices along rivers as some environmental issues that arise from tourism activities. Apart from these problems, the increasing numbers of tourists visiting the site and the uncontrolled tourism activities would raise the carrying capacity issue, which will negatively affect the image of the Kilim Geopark in the future. Thus, assessing the tourist satisfaction level...
will be an important indicator to measure the sustainability of tourism activities offered at the Kilim Geopark.

Specifically, this paper aims to identify the level of tourist satisfaction with the tourism products offered at the Kilim Geopark in terms of activities offered, natural attractions, and services provided. In this study, the term “tourism product” has been extended to services offered to tourists during their visit to the destination. This paper discusses the extent of the development of an ecotourism product at the Kilim Geopark and how its long-term sustainability can be maintained based on the level of tourist satisfaction. The paper is organized as follows. First, we introduce the development of tourism products in the Kilim Geopark and other international perspectives. Subsequently, we analyze the data obtained through the survey we conducted. We expect that by understanding the perspectives of the tourists, the research findings will improve tourism-planning, decision making, and marketing strategy formulating at the Kilim Geopark. Unfortunately, there is still a dearth of study that discusses tourist satisfaction on tourism products and the impact of environmental challenges in a geopark site. For this reason, the Kilim Geopark has been chosen due to the sustainability issues it faces along with the examination of the tourist satisfaction to maintain the sustainability and to improve the tourism product offered.

**Background of Kilim Geopark**

Langkawi Geopark, which is the first geopark in Malaysia, is located in the northwestern corner of Peninsular Malaysia in the State of Kedah. In June 2007, the entire 99 islands of the Langkawi archipelago was recognized as part of the UNESCO Global Geopark Network. This recognition provided the needed international recognition for the Langkawi Islands. Generally, the whole archipelago was divided into three, namely, the Machinchang Cambrian Geoforest Park, the Kilim Karst Geoforest Park, and the Dayang Bunting Marble Geoforest Park. Kilim is included in Langkawi Geopark that was declared as a geopark area. The landscape in Kilim Geopark is unique because of the ancient limestone formation, wild life, mangrove forests, limestone caves, beaches, narrow valleys, tunnels, tropical trees, and distinct landscape. The Kilim community consists of 235 households. The land area of the Kilim village is about 500 acres (202 hectares). Traditionally, majority of the Kilim community earn their living as fishermen, farmers, and self-employed with low income.

Generally, any area can be considered a geopark on the condition that the area possesses several geoheritage characteristics and have significant geological landscapes. The idea of using the Geopark concept as a model for sustainable development is applied by using the Langkawi Global Geopark as an example (Komoo, Mokhtar & Aziz, 2010). When the rebranding of Langkawi took place in 2011, tourist arrivals in Langkawi reached 6 million, which represents a sharp increase from previous years. Kilim Karst also benefited from this rebranding when it recorded a high number of tourist arrivals over the past five years, from 78,145 in 2007 to 159,338 in 2011 (KCCS, 2012).

**Tourism Development in Kilim Geopark**

Tourism development in Kilim began with initiatives by the Kilim Community Cooperative Society (KCCS). Previously known as the Kilim Fishermen Association, this organization successfully convinced the Langkawi Development Authority (LADA) to provide basic infrastructure, including a jetty, to allow the community to launch tourism-related businesses. The cooperative acts as an intermediary with the local authorities with regard to issues related to tourism development in the area. KCCS supervises businesses in Kilim and encourages the locals to engage in entrepreneurship and to help improve the economic status of the community. The involvement of the local community in providing boating services to
cater to tourists first started in 1999, and has been carried out independently by a few boat owners. By 1999, the government led by LADA, developed the mangrove forests of Kilim for tourism purposes. Thus, KCCS was given the full responsibility of ensuring the sustainability of tourism products and activities in Kilim.

Recently, ecotourism in Langkawi has been introduced to the local community, with a focus on the significance of heritage resources, landscape, and geological formations. A geopark is a developmental concept that emphasizes a balance among three main components, namely, 1) protection and conservation, 2) tourism-related infrastructural development, and 3) socioeconomic development (Halim, Salleh, & Omar, 2011). Tourism was introduced through one unit under UNESCO in 1999 before the establishment of the Global Geopark Network in 2004, which involved the collaboration of more than 20 countries. Interestingly, in its effort to promote ecotourism, Malaysia has benefited from the UNESCO recognition of Langkawi the first geopark in Southeast Asia.

Kilim Geopark, an example of a pilot project to improve the livelihood of local communities, has shown early signs of success particularly in providing innovative employment opportunities for local communities. By early 2000, with the demand to provide boat services for tourists who want to explore the natural beauty of Kilim, some members of the fishing community abandoned their fishing activities and concentrated on the boat services or other related tourism activities (Azman et al., 2011). KCCS has worked together with local authorities in managing the natural resources of Kilim Geopark to ensure the carrying capacity of the environment as well as to improve the socioeconomic condition of the local communities. These activities are consistent with the Geopark component and can potentially strike a balance between conservation and development.

Kilim Geopark offers variety of ecotourism products. There are four types of tour packages offered in the Kilim Geopark and each tour package covers different places. Moreover, each tour package is different based on the tour duration that lasts from one, two, three, or four hours. Fees are charged per boat based on the duration and the places visited. Among the ecotourism places offered for visit in these tour package are the Crocodile Cave, Bat Cave, fishing trips, floating restaurant, open sea viewing, fish feeding, eagle feeding, mangrove sightseeing, floating fish farm, and others. Tourists would have opportunities to enjoy the pristine and unique nature through sightseeing, and at the same time gain knowledge of ecosystems, culture, and history of the Kilim Geopark.

Sustainable Development of Ecotourism Products

Ecotourism generally refers to the environmentally responsible, enlightening travel, and visits to relatively undisturbed natural areas to enjoy and appreciate nature (Bjork, 1997). Consequently, ecotourism promotes conservation and allows for the socioeconomic involvement of local populations with minimal environmental impact (Drumm & Moore, 2005; Joppe, 1999). The concept of ecotourism is derived from two ideas, namely, ecology and tourism. Ecology is the study of the relationship between living organisms and their natural or developed environment (Encarta, 2009), while tourism is the act of travelling to benefit from a particular service or activity that is unavailable in one’s home.

In fact, tourism is an activity in which authorities, tourists, and locals collaborate to enable tourists to study and to admire the beauty of nature and local culture while maintaining the sustainability of the area (Bjork, 1997). As such, every ecotourism program should consider the following factors, namely: 1) environmental impact, 2) impact on host cultures, 3) economic benefits for the host country, and 4) recreational satisfaction of the tourists. Several principles of ecotourism ensure environmental protection, provide first-
hand experiences, involve all parties (e.g., local communities, authorities, and tourists), promote partnership and responsibilities among parties, and provide long-term benefits to the resources, local community, and the industry (Wight, 1993).

Ecotourism provides opportunities for visitors to experience remarkable manifestations of nature and culture as well as to learn about the importance of biodiversity conservation and local cultures. At the same time, ecotourism generates income for conservation and economic benefits for communities in rural and remote areas (Cengiz, Akbulak, Caliskan & Kelkit, 2008; Lindberg, 1996; Drumm & Moore, 2005; Ross & Wall, 1999). Ecotourism contributes to conservation in many possible ways: 1) Ecotourism can generate funds for protected areas, 2) Ecotourism can generate employment (Stone & Wall, 2005) for surrounding communities, and thus provide economic incentives to support the protected areas, 3) Ecotourism can provide advance environmental education for visitors, 4) Ecotourism can provide justification for designating certain areas as protected and increase support for such areas. Finally, ecotourism programs aim to limit the negative impact of nature tourists (Drumm & Moore, 2005).

Most geoparks in the world are located in rural areas (Zouros & Martini, 2003). Thus, the establishment of geoparks can generate new job opportunities, economic activities, and additional sources of income for communities in the rural area. The establishment of the geopark presents opportunities to develop rural areas and to reduce the rate of unemployment and migration within the rural communities (Farsani, Coelho & Costa, 2011). Geoparks play an important role in the local economic development. Increasing the number of visiting tourists will indirectly contribute to the local economy because the money that tourists spend goes directly to local hands without triggering any significant leakage.

Realizing the importance of the establishment of geoparks, tourism development in the geopark site needs to accept principles of sustainability. The development of a geopark with tourism activities must be professionally managed and efficiently planned to prevent negative impact on the environment and tourist satisfaction. Uncontrolled development and unbalance use of the resources in the geopark site will affect the local society, economy, and culture (Azman et al., 2011). For example, the Hong Kong Geopark has been managed with the aims to protect the natural environment, to educate the public on earth sciences, and to promote sustainable socioeconomic development through geo-tourism (Hong Kong Geopark, 2013). In relation to sustainability and conservation, geoparks act for the benefit of local communities such as transferring geo-knowledge and exchange of knowledge from the professionals to the tourists and the local community (Farsani, Coelho & Costa, 2013).

Perceptions of Tourism Development

Tourist perceptions are important to successful destination marketing because they influence the choice of destination, and the consumption of goods and services (Ahmed, 1991). According to Laws (1995), most tourists have their own experiences with other destinations, and their perceptions are influenced by comparisons among facilities, attractions, and services provided. International researchers portray tourism as comprising products rather than services despite the classification of tourism as a service industry (Carlos, Rosell, Haanpaa, Kylanen & Markuksela, 2007; Osmund & Sunday, 2010). Alternatively, the term “service” should be used to describe product development within a specific service industry (Osmund & Sunday, 2010).

Nevertheless, Matilla (2011) opines that distinguishing between tourism products and services can be difficult. To date, no definite definitions can best describe tourism products. Eraqi (2006) defines a tourism product as a service or a process that facilitates tourism and promotes activities that are performed by individuals beyond their familiar environment.
In addition, tourism products comprise natural and cultural resources, facilities, infrastructure, accommodation, and restaurants. From a marketing perspective, tourism products include any physical objects, services, places, organizations, or ideas that are open to the market and are influential in satisfying the demands of clients (Smith, 2001; Chaiboonsri & Chaitip, 2008).

One of the essential features of a tourism product is its quality, which must be measured to determine its price. Quality is an important factor because it provides an appropriate product that is equivalent to the fixed price. Quality is related to client satisfaction with tourism products. The quality of tourism products can only be determined by gauging client experiences and whether the product has fulfilled their expectations or not. Clients have different expectations that are normally based on prior experiences and knowledge of the prices of services (Matilla, 2011).

There are a variety of approaches to the explanation of customer satisfaction based on product and services. Jihad and Majeda (2012) describe customer satisfaction as a psychological concept that involves feelings and the pleasure resulting from an appealing product or service provided. Customer satisfaction is related to a complete assessment of the performance of products or services (Bartikowski & Llosa, 2004), which refers to certain characteristics of a product or service in innumerable industries (Albayrak, Caber & Aksoy, 2010; Choi, 2005; Herrick & McDonald, 1992). To provide the best services to clients, service providers are under constant pressure to provide individualized services that meet client expectations (Osmund & Sunday, 2010).

In the tourism industry, tourist satisfaction is considered one of the prime variables to sustain competitive business because satisfaction affects the choice of tourists in terms of destination, product consumption, and services (Kozak & Rimmington, 2000). Chi, Qing and Qu (2008) state that satisfaction attributes include attractions, lodging, dining, shopping, accessibility, activities, events, and environment. Tourist satisfaction can be measured by the general satisfaction of attributes, such as attractions, accommodation, accessibility, amenities, and activities, provided. According to Gallarza and Saura (2006), satisfaction can also be measured by efficiency, service quality, social value, play, aesthetics, perceived monetary cost, perceived risk, time, and perceived value.

Xu (2010) argues that tourists encounter a wide range of tourism products in various destinations. Researchers believe that the variety of products offered at different tourism destinations contributes to various memorable experiences for different clients (Albayrak et al., 2010). Tourism product management is a system of managing skills and activities that are used to systematize tourism in a specific tourism destination. In line with this, Chaiboonsri and Chaitip (2008) explain that tourism product management must deal with the following factors: a) attractions, b) amenities, c) accessibility, d) image, and e) price of the product or service.

Methodology

The Surveying Process

Data collection was performed at Kampung Kilim Jetty, in which the questionnaire was distributed to the respondents in person through face-to-face surveys. To access the geopark area, only two paths are commonly used namely, the Kilim Jetty and the Tanjung Rhu Jetty. However, the Kilim Jetty was chosen for the survey because more tourists use the route of the Kilim Jetty than that of the Tanjung Rhu Jetty. Given the limited time to collect information, the high number of tourists at Kilim Jetty is needed to obtain more respondents. A total of 12 students from University Sains Malaysia were appointed as interviewers. Before conducting the survey, the interviewers were briefed in detail to ensure that
they understand the objectives of the study and the questions. In addition, the interviewers were required to identify the target respondents to ensure that the survey does not violate research ethics and avoid bias from the questionnaire respond. Apart from that, identifying the right respondent is important before conducting the survey to avoid the invalid information.

Questionnaires were distributed to visitors via random sampling. The target respondents in this research were the visitors of the Kilim Geopark, which include domestic and international tourists. All visitors at the Kilim Jetty are eligible to be selected as respondents in this study. The survey was conducted throughout March 2012. March was chosen as the month for conducting the survey on the basis of the average number of tourists in Kilim Geopark. Moreover, a school holiday falls in March, which results in increased number of local tourists and thus reduces bias in respondent selection and achieves a balance between domestic and international respondents. The number of international tourists in Langkawi and Kilim Geoparks is higher than that of the local tourists. However, during the survey period, only a total of 341 tourists completed the questionnaires.

Instrument and Data Analysis

A quantitative method was used in this research. This method involved a questionnaire survey to explore the tourist’s perspectives on ecotourism product development in Kilim Geopark. The questionnaire is divided into four sections, namely, Respondent Demographic, Respondent Tendency, Respondent Satisfaction, and Visitor Attitude. A three-point Likert scale was used to measure the tourists’ satisfaction with the activities and services offered at Kilim Geopark. The choices were represented by the following levels: least satisfied, satisfied, and most satisfied. The three-point Likert scale has been used by many previous researchers, such as Jacoby and Matell (1971); Federici, Micangeli, Ruspantini, Borgianni, Corradi, Pasqualotto and Olivetti Belarsineli (2005); Van Overveld, de Jong, Peters and Schouten (2011); and Kafyulilo, Fisser and Voogt (2013). Due to the time constraints of the tourist to complete the questionnaire, the binary answer format (three-point Likert scale) has been used for more easier respondents to complete the questionnaire. Dolnicar and Grün (2007) also augured that binary answer format were completed faster than multi-category answer formats. Data collected from the complete questionnaire were analyzed by using Statistical Package for the Social Sciences (SPSS) version 20. Descriptive statistics analysis was performed to map the demographic profiles of the tourists and to measure their satisfaction level. The satisfaction levels were categorized by using factor analysis, and the highest mean score indicated the highest satisfaction level. Inferential analysis was conducted to compare the satisfaction level between Malaysian and non-Malaysian tourists.

Results and Discussion

Profile of Respondent

Table 1 depicts the profile of the respondents. Out of 341 respondents, 47.5 percent were male and 52.5 percent were female. The majority of the respondents belong to the following age groups: 21 years old to 30 years old (37.2 percent), 31 years old to 40 years old (22.3 percent), 41 years old to 50 years old (18.8 percent) and 51 years old or above (17.3 percent). In terms of educational background, most respondents had formal education (98.5 percent), whereas only a small number had no formal education (1.5 percent). As for employment status, majority of the respondents are in the private sector (62.4 percent), followed by the government sector (17.6 percent), students (9.1 percent) and others (10.8 percent). For marital status, majority of the respondents are married (61.9 percent) and the rest are single (32.6 percent). For marital status, majority of the respondents are married (61.9 percent) and the rest are single (32.6 percent). For marital status, majority of the respondents are married (61.9 percent) and the rest are single (32.6 percent). The nationality of the respondents indicates that majority of them are locals (45.5 percent) and 55.2% of the respondents are foreigners.

Table 2 shows the results of tourist satisfaction with the ecotourism activities in Kilim Geopark. “Mangrove sightseeing” has the highest mean rank score (2.41), whereas “floating fish farm” and “bat cave” were ranked as second and third most satisfying activities among tourists, respectively. “Fishing trip”, “crocodile cave” and “visit to floating restaurant” received very poor satisfaction levels among visitors.

Factor analysis was being used in order to identify the underlying factors based of 18 items in Kilim Geopark. Table 3 shows the results of factor analysis by maximum likelihood extraction method for normal data and subsequent varimax rotations. Two factors were determined to have an eigenvalue greater than one. The loadings of items on factor 1 ranged between 0.627 and 0.825 and that on factor 2 ranged between 0.587 and 0.755. In addition, the Cronbach’s Alpha for each factor is higher than 0.9 and is highly acceptable. Factor 1 can be categorized as “services,” and factor 2 can be categorized as “natural attraction.”

Table 4 shows the level of tourist satisfaction with the natural attraction offered in Kilim Geopark as determined by the highest mean value. “Visual of natural attraction” garnered the highest score (mean of 2.46), followed by “uncrowded and unspoiled environment” (mean=2.40) and “appealing and good condition” (mean=2.38). Conversely, the lowest satisfaction level was determined by the lowest mean value. Prices are the main concern of visitors, as indicated by the low mean value of “reasonable prices” (mean=2.33) and “cheap recreational activities” (mean=2.29). For services, “willingness to assist tourist” (mean=2.48), “responding to tourist questions” (mean=2.42), “providing accurate information,” and “providing timely and punctual services” (both with mean=2.40) are among the top factors satisfying tourists. However, the operator failed to satisfy customers in terms

of “giving personnel attention to tourist” (mean=2.34) and in terms of “neat appearance of staff” (mean=2.32).

Table 5 shows the differences between perception from local and international tourists.

On the basis of the mean value of activities, non-Malaysian tourists were satisfied more with “mangrove sightseeing”, “floating fish farm”, “food served at floating restaurant”, “eagle feeding”, “fish feeding” and “open sea” viewing activities.
Table 4: Customer satisfaction with the attractions and services in Kilim Geopark

<table>
<thead>
<tr>
<th>Kilim Geopark attractions</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheap recreational activities</td>
<td>2.29</td>
<td>.626</td>
<td>6</td>
</tr>
<tr>
<td>Reasonable prices</td>
<td>2.33</td>
<td>.613</td>
<td>5</td>
</tr>
<tr>
<td>Not crowded and unspoiled environment</td>
<td>2.40</td>
<td>.643</td>
<td>2</td>
</tr>
<tr>
<td>Information centre with relevant information about the park</td>
<td>2.34</td>
<td>.645</td>
<td>4</td>
</tr>
<tr>
<td>Visual of natural attraction</td>
<td>2.46</td>
<td>.636</td>
<td>1</td>
</tr>
<tr>
<td>Appealing and good condition</td>
<td>2.38</td>
<td>.634</td>
<td>3</td>
</tr>
<tr>
<td>Services offered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neat appearance of staff</td>
<td>2.32</td>
<td>.644</td>
<td>8</td>
</tr>
<tr>
<td>Prompt services to tourist</td>
<td>2.39</td>
<td>.651</td>
<td>4</td>
</tr>
<tr>
<td>Providing accurate information</td>
<td>2.40</td>
<td>.633</td>
<td>3</td>
</tr>
<tr>
<td>Providing timely and punctual services</td>
<td>2.40</td>
<td>.660</td>
<td>3</td>
</tr>
<tr>
<td>Willingness to assist tourist</td>
<td>2.45</td>
<td>.650</td>
<td>1</td>
</tr>
<tr>
<td>Responding to the tourists questions</td>
<td>2.41</td>
<td>.652</td>
<td>2</td>
</tr>
<tr>
<td>Providing additional information about Kilim Geopark</td>
<td>2.38</td>
<td>.646</td>
<td>5</td>
</tr>
<tr>
<td>Convenient operating hour</td>
<td>2.36</td>
<td>.623</td>
<td>6</td>
</tr>
<tr>
<td>Giving personal attention to tourist</td>
<td>2.34</td>
<td>.676</td>
<td>7</td>
</tr>
<tr>
<td>Understanding the special needs of tourists</td>
<td>2.36</td>
<td>.642</td>
<td>6</td>
</tr>
<tr>
<td>Adequate safety facilities</td>
<td>2.40</td>
<td>.606</td>
<td>3</td>
</tr>
<tr>
<td>Knowledge for answering tourists’ questions</td>
<td>2.41</td>
<td>.650</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 5: The T-test analysis of different group on tourist on activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Mean value for Malaysian Tourists</th>
<th>Mean value for Non-Malaysian Tourists</th>
<th>Independent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mangrove sightseeing</td>
<td>2.20</td>
<td>2.60</td>
<td>-6.074</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Floating fish farm</td>
<td>2.21</td>
<td>2.51</td>
<td>-4.388</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Bat cave</td>
<td>2.29</td>
<td>2.43</td>
<td>-1.875</td>
<td>0.062</td>
</tr>
<tr>
<td>Crocodile cave</td>
<td>2.17</td>
<td>2.20</td>
<td>-1.416</td>
<td>0.678</td>
</tr>
<tr>
<td>Visit to floating restaurant</td>
<td>2.05</td>
<td>2.31</td>
<td>-2.971</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Eagle feeding</td>
<td>2.20</td>
<td>2.47</td>
<td>-3.710</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Fish feeding</td>
<td>2.18</td>
<td>2.44</td>
<td>-3.213</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Open sea viewing</td>
<td>2.18</td>
<td>2.53</td>
<td>-4.440</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Fishing trip</td>
<td>2.21</td>
<td>2.19</td>
<td>0.263</td>
<td>0.793</td>
</tr>
</tbody>
</table>

* <0.05
** <0.01
than the Malaysian tourists were (significant at \( p<0.01 \)). For tourist satisfaction on the natural attraction, the Malaysian and non-Malaysian tourists have significantly different levels of satisfaction at \( p<0.01 \) for “reasonable price”, “uncrowded and unspoiled environment”, “information center with relevant information about the park” and “visual of natural attraction”. The factor “appealing and good condition” is significant at \( p<0.05 \). For services as indicated in Table 6, non-Malaysian tourists have higher levels of satisfaction compared with Malaysian tourists (at \( p<0.01 \)) in terms of “neat appearance of staff”, providing timely and punctual services”, “responding to the tourist questions”, “convenient operating hour”, “giving personnel attention to tourist”, “understanding the special needs of tourist” and “knowledge for answering tourists’ questions”. “Providing accurate information”, “providing additional information about Kilim Geopark” and “adequate safety facilities” had moderate significant levels of differences (\( p<0.05 \)).

Table 6: The results of T-test to differentiate between Malaysian and Non-Malaysian tourists’ satisfaction about services

<table>
<thead>
<tr>
<th>Services</th>
<th>Mean value for Malaysian Tourists</th>
<th>Mean value for Non-Malaysian Tourists</th>
<th>Independent T-Test</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural attraction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheap recreational activities</td>
<td>2.23</td>
<td>2.36</td>
<td>-1.753</td>
<td>0.08</td>
</tr>
<tr>
<td>Reasonable prices</td>
<td>2.22</td>
<td>2.42</td>
<td>-2.824</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Not crowded and unspoiled environment</td>
<td>2.26</td>
<td>2.51</td>
<td>-3.335</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Information centre with relevant information about the park</td>
<td>2.22</td>
<td>2.44</td>
<td>-2.943</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Visual of natural attraction</td>
<td>2.28</td>
<td>2.60</td>
<td>-4.460</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Appealing and good condition</td>
<td>2.27</td>
<td>2.46</td>
<td>-2.572</td>
<td>&lt;0.05*</td>
</tr>
<tr>
<td><strong>Services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neat appearance of staff</td>
<td>2.19</td>
<td>2.43</td>
<td>-3.234</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Prompt services to tourist</td>
<td>2.33</td>
<td>2.44</td>
<td>-1.934</td>
<td>0.164</td>
</tr>
<tr>
<td>Providing accurate information</td>
<td>2.30</td>
<td>2.48</td>
<td>-2.495</td>
<td>&lt;0.05*</td>
</tr>
<tr>
<td>Providing timely and punctual services</td>
<td>2.27</td>
<td>2.51</td>
<td>-3.153</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Willingness to assist tourist</td>
<td>2.38</td>
<td>2.51</td>
<td>-1.828</td>
<td>0.07</td>
</tr>
<tr>
<td>Responding to the tourists’ questions</td>
<td>2.28</td>
<td>2.53</td>
<td>-3.487</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Providing additional information about Kilim Geopark</td>
<td>2.28</td>
<td>2.46</td>
<td>-2.400</td>
<td>&lt;0.05*</td>
</tr>
<tr>
<td>Convenient operating hour</td>
<td>2.24</td>
<td>2.46</td>
<td>-3.010</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Giving personal attention to tourist</td>
<td>2.23</td>
<td>2.43</td>
<td>-2.577</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Understanding the special needs of tourists</td>
<td>2.23</td>
<td>2.47</td>
<td>-3.157</td>
<td>&lt;0.01**</td>
</tr>
<tr>
<td>Adequate safety facilities</td>
<td>2.30</td>
<td>2.48</td>
<td>-2.557</td>
<td>&lt;0.05*</td>
</tr>
<tr>
<td>Knowledge for answering tourists’ questions</td>
<td>2.29</td>
<td>2.52</td>
<td>-3.159</td>
<td>&lt;0.01**</td>
</tr>
</tbody>
</table>

* \( <0.05 \)

** \( <0.01 \)
For the geopark site to be officially recognized by UNESCO, KCCS has to maintain the sustainability of the mangroves. The attractiveness of the natural environment has been promoted by KCCS for the development of tourism businesses in Kilim. Several remarkable activities, including mangrove sightseeing, eagle feeding, fishing trip, and tours in several exciting places (e.g., floating restaurant, fish farm, bat cave, and crocodile cave), have been conducted throughout Kilim Geopark and are managed by the local community. Jaafar and Maideen (2012) raise concerns over the extensive use of certain areas, which results in difficulties in balancing conservation and tourism activities. According to Stephen, Ybarra, Martinez, Schwarzwald, and Tur-Kaspa (1998), striking a balance between financial goals and environmental–social objectives is important to ensure the sustainable development of the tourism industry. Thus, the current paper explores the level of customer satisfaction in using products, including other requirements that indicate the tourists’ perception of the different services at Kilim Geopark.

The growing number of tourists who visit Kilim every year demonstrates the continued satisfaction with and patronage on the tourism product and services offered by the KCCS. However, the increase in the number of tourists will adversely affect the environment and sustainability of the tourist destination if tourism activities are not controlled and maintained efficiently (Briassoulis, 2002). Apart from various elements of tourism-related products and services identified in literature, such as natural and cultural resources, facilities, infrastructure, accommodation, and restaurants (Eraqi, 2006), as well as other elements of tourism products from the marketing perspective (Smith, 2001; Chaiboonsri & Chaitip, 2008), the collected data are limited only to the services offered at Kilim Geopark.

Based on the finding of this research, the most satisfying activity is “mangrove sightseeing”, which received the highest mean score. “Mangrove sightseeing” has been offered in package together with other related activities, such as “floating fish farm,” “bat cave,” “open sea viewing,” “eagle feeding,” and “fish feeding,” which were among the top five satisfying activities offered by KCCS. This result implies that the natural ecotourism activities offered in the package seems to be the most satisfying. The uniqueness of the mangrove forest and its associated activities could be offered only in Kilim Geopark. However, tourists have different satisfaction levels with different activities. Although the activities are offered as part of the same package, the tourists’ levels of enjoyment and satisfaction may still vary.

Overall, the initiatives taken by the KCCS are perceived positively. Currently, the combination of natural attraction, the isolated and unspoiled environment, and appealing and good condition of the environment has been maximized by KCCS in its attempt to offer the best services to tourists. After four years of being recognized by UNESCO, the KCCS has assumed the responsibility of maintaining the natural attractiveness of Kilim. The excellent services add value to the product in attracting local and international tourists. Furthermore, KCCS has successfully developed its marketing ability with focus on assisting tourists such responding to tourist questions, providing timely and punctual services, giving personnel attention to tourist, willingness to assist tourist, and accurate information were among the top five factors leading to customer satisfaction. Satisfied tourists are most likely to; (1) provide positive feedback and have the highest possibility to become regular customers, and (2) have a tendency to promote the destination to other people. Thus, the positive image of the tourist destination itself will be developed while increasing the destination’s marketability.

Malaysian and non-Malaysian tourists have different perceptions on level of satisfaction. Overall, non-Malaysian tourists have higher satisfaction levels with the activities and services offered compared with Malaysian
tourists. The most significant differences lie on unique ecotourism activities in Kilim Geopark, such as mangrove sightseeing, floating fish farm, floating restaurant, eagle and fish feeding, and open sea. For services, non-Malaysian tourists also have higher satisfaction levels with the environment and natural attractions, as well as the prices and information provided. Non-Malaysian tourists felt that KCCS has offered staff with good appearance, who responds to tourists’ questions, and who understands the needs of tourists. The operating hours and timely services of KCCS have encouraged non-Malaysian tourists to visit Kilim Geopark. The higher satisfaction level of non-Malaysians has influence the increasing number of international visitors in Kilim each year.

The high and increasing number of tourists visiting Kilim will lead to issues on maintaining the sustainability of Kilim Geopark. Currently, Kilim Geopark faces many environmental issues, such as riverbank erosion, growing amount of garbage in the river, oil spillage, and shallowness of the riverbed, because of tourism activities. These environmental issues have undesirable effects on the ecosystem. The elements of sustainability development in tourism activities should be considered to ensure long-term sustainability. To achieve sustainable development, all parties, including individuals, local communities, tourists, and stakeholders, play an important role as an agent to change (Sen, 2013). The growth of the tourism sector creates a positive effect on society; however, the environment should also be considered. Gu, Tang, Qiao, Bossard, and Deng (2013) have highlighted the environmental effect of tourism on Jiuzhaigou. Jiuzhaigou is one of the most visited tourist destinations in China and is endowed with the spectacular scenery of turquoise water lakes and marvelous waterfalls. Nevertheless, increasing the number of tourists by 130 times resulted in extreme environmental effects and conflicts between conservation of the area’s natural beauty and local economic development. To ensure sustainable tourism development, stakeholders in Jiuzhaigou determine the carrying capacity of the destination to control the daily number of visitors. The carrying capacity is the limit set on the number of visitors admitted to a destination during a given period (Logar, 2010). This concept consists of environmental, ecological, social, cultural, and economic factors. This concept is often taken as a measure of the sustainability of a destination (Sathiendrakumar, 1998; Simon, Narangajavana & Marques, 2004).

This paper widens our understanding of the tourists’ level of satisfaction with the tourism products offered at Kilim Geopark. As argued by Murphy, Pritchard, and Smith (2000) and Albayrak et al., (2010), a tourism destination is a collection of individual products and experiences that are combined to develop a complete experience for visitors. The effort of the service providers to fulfill the tourists’ requirements can also provide a meaningful experience to these tourists (Matilla, 2011). On the basis of our results, the products and services in Kilim could fulfill the respondent’s requirements in terms of cleanliness, beauty, safety, and environmental friendliness, which support the findings of Chaiboonsri and Chaitip (2008) and Swanson and Horridge (2004). Tourists are satisfied with tour or boat operators who know how to assist tourists, are able to answer their questions, and can provide timely and punctual services.

However, some improvements are still necessary to enhance the satisfaction levels of the respondents. For instance, KCCS needs to reconsider its prices, enhance the knowledge of their tour or boat operators, and improve the staff’s appearance and their on-site safety facilities. Moreover, the local community can maximize the opportunity to venture into businesses under the management of KCCS, with Kilim as a newly emerging tourist spot. Depending on local attractiveness, local business operators must also improve their service from time to time. In addition, although international visitors may not be too concerned with the prices of the services, local visitors may feel otherwise. With an international geopark
attraction, KCCS should improve their services while exploring new attractive tourist spots in the area. Nevertheless, KCCS must also focus on sustainability, given that increasing boating services to meet higher visitor demand can affect the environment. Indeed, considering the carrying capacity would be an important measure for the sustainability of future businesses operated by the locals.

The carrying capacity concept can also be applied in Kilim Geopark to minimize the environmental effect by setting a limit on boat operations and by controlling the number of tourists per day or per annum. The application of the carrying capacity concept is expected to solve the environmental effect of tourism activities on Kilim Geopark. A daily numerical limit based on adequate environmental monitoring and well-designed scientific research will help determine the daily number of visitors (Gu et al., 2013). However, commitment from all stakeholders is needed to ensure that all of the tourism policies are implemented (Mair & Jago, 2010). As an international tourism destination, Kilim Geopark has been able to attract tourists and offer high standard of services to customers.

**Conclusion**

This study provides significant insights for various stakeholders, including tourists, government agencies, local communities, and businesses that operate in internationally recognized geoparks. The tourism sector is continuously growing worldwide, particularly in Langkawi, Malaysia. Currently, the rebranding of Langkawi as a “Geopark Island” has pushed tourism development to its optimum carrying capacity. With its various ecotourism attractions, Langkawi now attracts both foreign and local tourists. This study aims to determine the satisfaction of tourists with the tourism products and services offered at Kilim Geopark. The results reveal that tourists generally prefer the package offered by KCCS. This package received the highest satisfaction level compared with other types of activities.

In terms of natural attraction, tourists are most satisfied with the visual of natural attractions and other related environment attractions during their tour.

Nevertheless, the results and analysis of this study have to be viewed in light of the following limitations. First, this study is based on a sample of tourists who have visited and experienced the activities and services offered at Kilim Geopark. Thus, their assessment of the products offered may be limited. Furthermore, the small size of this study is restrictive, and the generalizability of the results is limited to a particular population in a specific country. Nevertheless, our findings are highly significant for KCCS because they provide insights into marketing and service improvement measures. This study not only provides recommendations for KCCS but also suggests that the government must improve the facilities in Kilim. However, regardless whether ecotourism or nature-based tourism products are developed, the local community, government, and private sector have to cooperate to preserve the environment to ensure the viability of small businesses. Thus, this study provides meaningful documentation on the tourism products offered at Kilim Geopark, Langkawi, Malaysia. As such, KCCS and other stakeholders must focus on tourist feedback for further tourism development in Kilim.

**Acknowledgement**

This project was funded by a research grant from the Ministry of Higher Education of Malaysia under the Long Term Research Grant Scheme 2011 [LRGS Grant No. JPT.S(BPKI)2000/09/01/015Jld.4 (67)].

**References**


Encarta, M. S. (2009). *Redmond, WA.*


