

Tourism Activities and its Impact on Environmental Sustainability in Coastal Areas

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Abstract: Tourism is one of the most important industries in the economy and it has grown not only in Malaysia but also worldwide. In Malaysia, the statistics in 2009 showed tourists' arrivals was over 23.6 million people in which their presence contributes to the economy. However, this sector generates both positive and negative impacts. This study was conducted to identify factors that encourage returning visitors and visitors' perception of the impact of tourism on environmental sustainability of coastal areas. The study was conducted at Pantai Cahaya Bulan (PCB) in Kota Bharu, Kelantan, Malaysia. A total of 40 visitors were selected as respondents in the survey and questionnaires were used as instruments. The results showed that tourism activities do have an impact on PCB. One the positive impact is tourism activity increases the local socio-economic whereas the negative impact, it affects on the environmental sustainability such as cleanliness of the beach.

Key words: Entrepreneurial activities, tourism activities, environmental impact, PCB, Malaysia

INTRODUCTION

Tourism is an activity which promises a profitable chain of economic opportunities to a country. It is the second largest sector which contributes to the Gross Domestic Product (GDP) of Malaysia. Thus, it is not surprising that tourism is the main target industry that was given importance in the Eight Malaysia Plan (8MP) to Tenth Malaysia Plan (10MP). Planning and development of tourism activities should always be sensitive to global tourism demand while at the same time take into consideration to create opportunities for productive economic. In 2000, about 10.2 million tourists visited Malaysia and contributed RM 18.81 billion to the national income while in 2005, the number of tourists rose to 16.4 million. The latest statistics showed that tourist arrivals to Malaysia in 2009 was 23.6 million (Ministry of Tourism Malaysia 2010) and Malaysia is the third largest tourist destination in East Asia after China and Hong Kong. Furthermore, a study by Hanafiah and Harun (2010) indicates that despite of regional economic crisis, Malaysian government can still rely on tourism industry as a means of sustaining the economy through international tourists.

According to Mathieson and Wall (1982), tourism is defined as temporary movement of people to destination outside of the workplace and the usual place of residence,

the activities that they do while staying at the destination and the facilities provided to meet their needs. Population growth and development of new recreational and tourism areas have shifted the focus of the society towards the coastal areas and its environment. Coastal areas are began to be explored and developed, for the purpose of tourism, fisheries, aquaculture and industrial. However, with these rapid developments, the coastal areas have received a direct effect such as coastal erosion, pollution and habitat destruction.

Problem statement: Development of a tourism area has created a demand for facilities and services including water, electricity, telecommunications, accommodation, transportation, retail business, support facilities, provision of sewerage and solid waste disposal. To meet these demands a lot of land had to be sacrificed. Infrastructure development involves uncontrolled land exploration, thus causes disruption to the ecology such as destruction of habitat for flora and fauna, water pollution, air pollution and changes in soil nutrients. Uncontrolled development can destroy areas which are rich in biodiversity.

Ibrahim and Ahmad adds that if planning and development of tourism areas and tourism activities are not detailed properly and controlled carefully, it can cause a decline in the quality of the environment such as

deterioration in the quality of water, air, noise and natural resources. A study by Sukemi and Hamid on coastal zone management of Langkawi Island found that the lack of organization of development of coastal areas has resulted in part of the island's coastline erosion which is quite serious, especially in Kuala Teriang.

Due to the increase in population and the increasing number of tourist arrivals as well rapid tourism development activities have given an impact to the environmental sustainability, thus causing the sea water pollution, coastal erosion and deposition which would eventually require a lot of expenses for the collection and disposal of solid waste. Newsome and Moore (2004) found that the environmental impact caused by tourism in protected areas and non-organized recreation activities includes traffic, uneven development, pollution and wildlife disturbance. Both of these elements cannot be separated because of a relationship between one another, in which if combined, serves as a medium to offer people the opportunity to appreciate the priceless natural heritage. But, human greed for exploration and manipulation in the name of tourism, indirectly threaten the harmony and tranquility of the community of nature.

Literature review: Development of tourists areas are essential in attracting tourists; therefore, development in these areas are unavoidable. According to Lew and McKercher (2006), good and systematic transportation links are factors attracting tourists to a destination, factors of time and their knowledge about places. Besides that, a study by Che Hussin on the selection of tourist destination they are based on beautiful beaches easy and convenient for a picnic and a stroll, availabilities of facilities such as accommodation, food stalls, recreational activities, public toilets, shower and dressing rooms and parking. All these indicates that besides the nature itself, other supporting factors such as facilities, accommodation and transportation are essential in attracting tourists.

However, according to Ibrahim and Ahmad, the entry of large number of tourists to nature areas could damage the natural resources in the areas. The presence of tourists in an area of tourism, create demand for infrastructure such as water, electricity, telecommunications, accommodation and so on. To meet these demands, a lot of land have to be sacrificed. Constructions of these facilities involve uncontrolled exploration of land, resulting in ecological disruption such as the destruction of flora and fauna habitats, water pollution and changes in soil nutrients.

As stated by Ibrahim and Ahmad, unplanned development of tourist areas contributes to degradation

in environmental quality such as deterioration of water quality, air, noise and damage to natural sources. Air pollution is caused by exploration of land, motor vehicles and open burning. It consists of fumes, dust and poisonous gases which affects the health of tourists and locals as well as flora and fauna in the long run. Water pollution occurs from improper treatment of waste disposal directly into the drainage system. According to Hashim and Yusri Che Ngah, water pollution in coastal waters are due to pollution in rivers through agricultural activities, industrial and domestic sewage from human activities. Many coastal areas in Malaysia such as Sabak Beach, Bisikan Bayu Beach, Batu Buruk Beach, Bagan Lalang Beach and Port Dickson are contaminated with the problem of domestic sewage and waste disposal. This condition causes discomfort to the visitors and the local community.

Water pollution is caused by construction activities of hotels and disposal of waste from the hotels. This has happened in Batu Feringghi, Penang. Pollution of the air from the smell caused by waste disposal into the sea and the landscape changes has occurred in many coastal areas which are resulted from construction of the hotels whereby the development has changed the original view of the coast.

A study by Che Hussin on the perception of visitors on the environment and coastal management in PCB found that 73% of respondents think the beach was experiencing pollution due to contamination through entrepreneurial activities and failure in implementing efficient coastal care. Thus, the issue that can be observed here is how can the development be balanced and what is the perception of tourists about the impact of tourism towards the environment. It is essential to find these information from tourists as they are the users of facilities and infrastructure provided in such areas and besides that they are also demand for the tourist destination to be remain as natural as it can be. Conflicts arise in the reasons tourists choose a tourist destination, either the availability of infrastructure and facilities or the perseverance of the nature.

A study by Goh and Yusoff (2010) concludes that the key driver to successfully implementing sustainable principles of tourism at destination level relies on the institutions being assigned in the management. By analyzing the nature of goods and the nature of public and private sector, Kinabalu Park reveals first, the relatively inability of public sector in managing private goods. Nonetheless, the monopoly status of the private sector has ruined the initial objective set for the introduction of privatization in the park.

Purpose of study: This study aims to identify factors that encourage returning visitors and visitors' perception of the impact of tourism on socio-economic and environmental sustainability of coastal areas. To achieve the purpose of the study, two objectives of the study was constructed:

- To identify the profile of visitors and the factors encouraging visitors to the Pantai Cahaya Bulan
- To identify visitors' perceptions of the impact of tourism towards socio-economic activities of the people and towards the environment in the coastal areas

MATERIALS AND METHODS

This study is a quantitative study, using survey method and questionnaire as instrument to collect data. The use of questionnaires are popular among researchers, especially when it is intended to measure understanding of behaviors such as attitudes, perceptions, perceptions, emotions, feelings, interests, beliefs, values and satisfaction.

Samples: Visitors to PCB coast varies each year and no amounts of certain number of visitors are recorded. However, for the purpose of this study, a total of 40 visitors were chosen as samples through convenience sampling method. As to unavailability of data on the population, researcher has quoted Koting (1990) in determining the sample size whereby the sample size of 30 and above should be encouraged due to the assumption of normal distribution that is usually met when the sample size is >30. Therefore 40 samples were selected as respondents and it fits the statement given by Koting (1990).

Instrument: Instrument used in this study is questionnaire. It was adapted and modified from the research instrument of Che Jamin Abdul Hamid and Sukemi and Hamid which is divided into three parts. Part A obtains information on respondents' profile. Part B is to identify the factors which leads visitors to visit which consists of these three aspects, safety and comfort, reasonable cost and cleanliness/facilities availability. Part C is to identify the perceptions of visitors to the current physical condition of PCB.

Table 1: Interpretation of mean score for factors leading towards tourist visiting PCB

Mean score	Levels
1.000-1.804	Very low
1.805-2.604	Low
2.605-3.404	Average
3.405-4.204	High
4.205-5.000	Very high

Jackson (2003)

Data analysis: This study uses descriptive statistics in interpreting respondents' demographic and personal background information as well as to identify factors which lead respondents to visit PCB. Items were constructed in the form of statements, measured by using a five point Likert scale, ranged from 1-5 as adapted from Jackson (2003) shown in Table 1.

RESULTS AND DISCUSSION

Visitors profile: Descriptive analysis in the form of frequency and percentage were used to describe the profile of the respondents. Table 2 shows the number of respondents which were 40, consisting of 17 males (42.5%) and 23 females (57.5%). Of the total visitors who visited PCB, Malays were the majority (82.5%) while Indians comprised 7.5 and 10% were Chinese.

Generally, PCB can be categorized as a tourist destination for middle-income group because 15 respondents (37.5%) earned less than RM 1,500, 13 (32.5%) earned between RM 1,501-2,500, 6 respondents (15.0%) earned between RM2,501-5,000 and only 3 (7.5%) were earning >RM5,001. The majority of visitors, 21 respondents (52.5%) came to PCB with the intention of vacation and holiday, 14 (35.0%) came to rest, 1 person (2.5%) to enjoy local food known as colek and 4 (10.0%), came to attend meetings and official work.

Factors which attracts tourists to PCB: The first objective of this study is to identify the factors which encourage visitors to visit the PCB. Table 3 shows the mean score and standard deviation of the respondents' perception of the factors that has led them to PCB. Each

Table 2: Visitors' profile

Description	Frequency	Percentage
Sex		
Male	17	42.5
Female	23	57.5
Race		
Malay	33	82.5
Chinese	4	10.0
Indian	3	7.5
Income		
<RM1500	15	37.5
RM 1501-2500	13	32.5
RM2501-5000	6	15.0
>RM5001	3	7.5
Purpose		
Vacation/tourism	21	52.5
Rest/relaxing	14	35.0
Trying local food colek	1	2.5
Work/meeting	4	10.0

Table 3: Factors leading to tourists visits

Factors leading to visits	Mean±SD	Rank
Safety and comfort	3.50±0.580	1
Cost	3.50±0.580	1
Facilities	3.37±0.426	2
Overall mean	3.46±0.529	-

mean score is located between 3.37-3.50. This study shows that overall visitors perception to all the factors are at high level with an average mean score and standard deviation of Mean = 3.46, SD = 0.52. Based on this mean value, the interpretation that can be drawn here is that visitors consider all the three factors of safety and comfort factors, reasonable cost factor as well as availability of facilities are factors that drive visitors to PCB.

The findings of the study found that factors of safety and comfort as well as cost are major factors which leads visitors choose PCB as a holiday destination with the highest mean score of 3.50 and a standard deviation of 0.58. Majority of visitors come to the PCB for a holiday. Safety and comfort factors include a safe beach environment which provides good accommodations and services, complete and comfortable as well as having wide selection of food and souvenirs, made of this factor as the main factor for visitors to visit PCB. The findings are in consistent with a study by Hashim and Yusri Che Ngah which had similar findings which is major factor for tourist to visit Pangkor Island is for comfort, guaranteed security and reasonable vacation cost.

The second factor which encourages tourists to visit PCB is due to the facilities provided such as garbage collection, public toilets, prayers room, recreation facilities and playgrounds. The findings are in consistent with findings from studies by Che Hussin and Che Jamin Abdul Hamid whereby their study also noted that the beauty and comfort of the beach, the facilities provided play an important role in attracting tourists to visit tourist destinations. However, it contradicts with the findings by Lew and McKercher (2006) whom explained that the main factors of tourists to come to a certain tourist destination is because of good and systematic transport links and the allocation of time as well their knowledge of the place they visit. It is also contradicts with the findings by Chui *et al.* (2010) whom explained that overall services cape was fair with maintaining cleanliness and hygienic environment as the main contention among tourists at Taman negara.

Visitors' perception of the impact of tourism towards coastal areas: The second objective of this study is to identify visitors' perception of the impact of tourism towards the environment in the coastal areas. Table 4 shows the findings related to perceptions of the respondents on the impact of entrepreneurship activities to the environmental sustainability. Data obtained indicate that overall, tourism activities have a negative impact on environmental sustainability. This is evidenced by the average mean score obtained, Mean = 3.48 with

Table 4: Populations' perception on the impact of tourism activities towards the environment

Items	Mean±SD	Rank
Rubbish/Trash pollution	4.13±0.757	1
Water Pollution	3.72±0.933	2
Noise Pollution	2.98±0.862	4

standard deviation, SD = 0.821. Pollution caused by litter, rubbish or trash has the highest impact with the mean score of 4.13 and a standard deviation of 0.757, followed by water pollution, air pollution and finally noise pollution. Studies have shown that, all these attitude stems from travelers who like to throw rubbish such as plastics from food and drinks, even if rubbish bins have been provided.

According to Ibrahim and Ahmad, tourism activities and tourism development can lead to the generation of waste such as solid waste which consists of garbage and industrial as well as liquid waste of domestic sewage and wastewater. Unmanaged waste disposal can create a dirty and foul smell which damages the natural landscape. Page *et al.* (2001) states that Darwish Coast of the United Kingdom also experienced the same problem. Although, this beach has become as a conservation for its natural resources such as flora and fauna, there are problems in coastal management such as garbage disposal that is not in order and damaged public properties. This occurs as a result of tourism activities. As for water, air and noise pollution, they are associated with the development of tourist areas that are not well planned. According to Sukemi and Hamid, deterioration of water quality, air, noise are due to lack of control in the development of tourist centers.

CONCLUSION

Cahaya Bulan Beach (PCB) is a popular beach tourist destination in Malaysia. Visitors who visit PCB emphasized on the aspects of safety and comfort, reasonable cost and availability of facilities at the beach. In this regard and infrastructure facilities provided there meet the needs of the visitors but to remain consistent with the increasing number of tourists arrivals, continuous maintenance needs to be done to ensure that the facilities remain in perfect condition.

The rapid growth of tourism industry in PCB has contributed to economic growth through the generation of income for the population and increase employment opportunities (Pholphirul and Bhatiasavi, 2012). Residents have the opportunity to diversify their income by venturing into entrepreneur activities. However, the fast pace of the tourism industry in PCB has also contributed to environmental degradation such as erosion, sedimentation, pollution, garbage waste pollution, water

pollution, noise and air pollution. Thus, to remain perfect and to be able to accommodate consistent increase of tourists, all parties must cooperate to protect and conserve the environment for the interest of the present and future generations.

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REFERENCES

- Chui, C.T.B., F.A. Rahim, F.H. Hassan, R. Musa, J.M. Yusof and R.H. Hashim, 2010. Exploring tourist experience scape and service scape at Taman Negara (National Park Malaysia). *Int. J. Trade Econ. Fin.*, 1: 28-31.
- Goh, H.C. and M.M. Yusoff, 2010. Sustaining tourism development in protected areas. A case of Kinabalu Park. *Int. J. Trade Econ. Finance*, 1: 179-183.
- Hanafiah, M.H.M. and M.F. M. Harun, 2010. Tourism demand in Malaysia: A cross-sectional pooltime series analysis. *Int. J. Trade Econ. Finance*, 1: 80-83.
- Jackson, S.L., 2003. *Research Methods and Statistics: A Critical Thinking Approach*. Thomson Wadsworth, Belmont, CA., USA.
- Koting, M.M., 1990. *Research Statistic Method*. DBP, Kuala Lumpur, Malaysia.
- Lew, A. and B. McKercher, 2006. Modelling tourist movements: A local destination analysis. *Ann. Tourism Res.*, 33: 403-423.
- Mathieson, A. and G. Wall, 1982. *Tourism Economic Social and Physical Impacts*. Longman, London, UK.
- Newsome, D. and S.A. Moore, 2004. *Natural Area Tourism: Ecology, Impacts and Management*. Cromwell Press, Canada.
- Page, S.J., P. Brunt, G. Busby and J. Connell, 2001. *Tourism: A Modern Synthesis*. Thomson Learning, London.
- Pholphirul, P. and V. Bhatiaevi, 2012. Challenges and obstacles of small and medium enterprises under a creative economy: The case of Thailand. *Int. Bus. Manage.*, 6: 356-368.