

## **SUSTAINABILITY OF TOURISM MANAGEMENT: MANAGING WASTE OF TOURISM INDUSTRY IN KELANTAN**

**Noorulfarahiah Binti Ismail<sup>1</sup>**  
**Dr. Hasif Rafidee Bin Hasbollah<sup>2</sup>**

<sup>1</sup> [noorulfarahiahismail@gmail.com](mailto:noorulfarahiahismail@gmail.com),

<sup>2</sup> [rafidee@umk.edu.my](mailto:rafidee@umk.edu.my)

**Accepted date:** 1 April 2107, **Published date:** 4 August 2017

### **To cite this document:**

Ismail, N., & Hasbollah, H. R. (2017). Sustainability of tourism management: Managing waste of tourism industry in Kelantan. *Journal of Tourism, Hospitality and Environment Management (JTthem)*, 2(4), 59-71.

---

**Abstract:** *This paper will focus on the sustainability tourism management in the waste management aspect in Kelantan. Kelantan is used as the main subject place because of the lack of study in managing waste. Sustainable tourism and waste management are explored in this paper. Through the Malaysia Local Agenda 21, the sustainable development is the whole responsibility of Malaysian in order to make it happen. The best practice in waste management for accommodation and camping site are also discussed in this paper.*

**Keywords:** *sustainability tourism, waste management*

---

### **Introduction**

According to the report on the official Tourism Malaysia website on September 2016, after the slowdown of tourist arrivals in 2015, the first half of 2016 is indicating sign of recovery with latest figures showing more tourist arrival with 3.7% compared to the same period in 2015. The total 13 million (13,032,775)

Tourists received by the country in the first half 2016 compared to 12.5 million (12,567,300) tourist in 2015. Even though the country recorded positive growth in the revenue, yet the massive influx of tourist in the country also can contribute to the environmental impact due to over consumption of natural resources and waste generation (PATA, 2002). The preservation should be taken seriously by the government or the tourism board in order to protect the environment and wildlife because of their value as a tourism resource (Ahmed, 2016). The community also should play their responsibility to make sure that our environment will always protected and prevent the waste issue from occurring.

The waste generation from the after effect of the tourism activity should be given more focus as the tourism industry is important to the country revenue and it should stay positive and

give less negative effect to the country. Hence, the purpose of this paper is to discuss the managing waste generation from the after effect of the tourism activity in order to gain the sustainability tourism development in Kelantan. This paper also will focus on the managing the waste from the accommodation and campsite (outdoor) management practices. According to the report by Utusan in August 2016, the insensitive about the cleanliness issue is a synonym term for the Kelantan citizen. It is reported that, Kelantan is always entangle with the hygiene and cleanliness issue and it will affect the people perception about Malaysia and this is why this paper will focus on Kelantan State.

## **Problem Statement**

Through the past decades, the tourism industry contributes vital economic to the communities (Yu, Charles Chancellor, & Tian Cole, 2011) by providing natural tourism destination to those visitors whose seeking for the new place to relax and rest (Lin & Yeh, 2013). The camping activity which is outdoor tourism usually called the nature tourism since the visitors seek for the natural setting. These natural areas are visited for certain activities such as mountain biking, kayaking, four wheel driving, hiking, climbing, camping and others (Zakaria, Taff, Yasim, & Dasril). These activities may affect the natural environment. For example the camping activities that usually take place near the trail or lake which can affect interruption of animal water source. The animals may feel threaten by the human presence and they do not wish to go there again (Zakaria et al.). Other than that, the visitors also make noise such as pots clanging, loud talking, singing, play outdoor games that might scare the animals away. In addition, the individual engaging in recreational activities can cause pollution, litter, as well as gas emission and oil leaks that can compromise wildlife (Hanes, 2010). These interruptions will lead to the natural environmental degradation.

Furthermore, the physical impact left by the campers or visitor will affect the natural environment especially the campfires that incorrectly used by the visitors. The uncontrolled usage of fuel could lead to the forest burning (Zakaria & Hasbullah, 2007). The river is one of the tourism resources which many interesting activities can be done since the river is based on water activity (Ab Rahim & Rahimah, 2013). The rivers characteristic providing spectaculars attraction such as the river settings, the recreational opportunities, and waterfront lanscapes lead to the river tourism activities (Prideaux & Cooper, 2009). Due to the increasing number of tourist and visitor demand for the natural tourism, the natural environment are affect by the rapid tourism development activities such as water pollution, coastal erosion and deposition (Othman, Mohamed, & Aziz, 2012)

According to Othman et al. (2012), the development of the tourism industry lead to the demand of the facilities and services, water and electricity, telecommunications, accommodations, transportations, support facilities, provision of sewage and solid waste disposal. In order to achieve these demand, an enormous lands need to be used (Johan & Mohamad, 2008). Due to the construction of the accommodation, the habitats of the floral and fauna are destructed, the water are pollute and the changing soil nutrients.

Since the accommodation is one of the facilities that provided to serve the tourists and visitors, there are increasing demand on energy supply, the burden on waste management and the pollution on water and soil which become the negative effect towards the environment in the hospitality sector and tourism industry(Kasim, 2006). Hotel is one of the accomodation

components which produce massive number of activities through their service and operation that can impact the global resources (Kirk, 1995).

## **Purpose of the Study**

The main purpose of the study is to identify the aspect of sustainable tourism focusing on the management of the waste in the hospitality (accommodation) and camping site. To achieve this purpose of the study, the two objectives of the study were constructed which are;

- To investigate the awareness of the hotel developers (accommodation) towards the waste issue regarding their waste management
- To investigate the awareness of the district councils responsibility towards the waste management.

## **Literature review**

### ***Sustainable Tourism***

Sustainability tourism can be define as maintaining the essential ecological process while make optimal use of environmental resources in fact, also helping to conserve the natural resources and the biodiversity (Denman, 2003). In order to gain the sustainability tourism, the aspect such as balancing the environmental, economical and socio-cultural should be achieved. The sustainable tourism need to consider the tourist and the visitor option while taking regard the current and future economical, social and environment impacts (PATA, 2002). The tourism industry is include in twelve priority sectors for integrating ASEAN countries by 2015 and it is due to the developed ASEAN Tourism Strategic Plan 2011-2015 which responsible in stimulating the sustainable tourism development.

Malaysia is one of the twelve countries in the world that accepts the importance of preserving its social, environmental and cultural wealth heritage. There are many policies and acts which were formulated by the Malaysian Government (2015) that are favored to the environmental issues. For examples the Environmental Quality Order, 1987; National Parks Act, The Forestry Act, 1984, and the Protection of Wildlife Act 1972. These policies used as a guideline to develop a realistic sustainable tourism (PATA, 2002). The good implementation of sustainable tourism can guarantee the balancing in every aspects of natural environment, socioeconomy and community as well as managing the proper ways of the waste generation.

### ***Malaysia Environmental Policy and Legislation***

In order to protect the environment of the country and preserve the natural heritage, Malaysia Government has been taken various actions including the amendment of the Environmental Quality Act 1974 (EQA 1974) and this act shall apply to the whole of Malaysia. According to this act, the environment means:

*“the physical factors of the surroundings of the human beings including land, water, atmosphere, climate, sound, odour, taste, the biological factors of animals and plants and the social factors of aesthetics”.*

The EQA 1974 is an enabling piece of legislation for preventing, abating and controlling pollution, and enhancing the environment, or for other related purposes. Section 21 of the EQA 1974 about the power of specify condition of emission, discharge, etc stated that,

*“the Minister, after consultation with the Council, may by regulations specify the acceptable conditions for the emission, discharge or deposit of environmentally hazardous substance, pollutants or waste or the emission of noise into any area, segment or element of the environment and may set aside any area, segment or element of the environment within which the emission, discharge or deposit is prohibited or restricted”.*

After EQA 1974, the other Malaysia amendment act in order to preserve and protect the natural heritage and also the environment are the Environmental Quality (Amendment) Act 1985, Environmental Quality (Amendment) Act 1996, Environmental Quality (Amendment) Act 1998, Environmental Quality (Amendment) Act 2001, Environmental Quality (Amendment) Act 2007, and the latest Environmental Quality (Amendment) Act 2012. There are also regulations regarding environment including Environmental Quality (Clean Air) Regulations 2014, and Environmental Quality (Scheduled Wastes) (Amendment) Regulations 2007.

These acts and regulation are made in order to make sure that every organizations, private sectors, government or non-government should abide these whole acts and regulation before they make their decisions in everything. The responsibility from the community are the great help in order to make sure that our environment, our atmosphere, our natural heritage and our water preserve well from any kind of harms.

### ***Local agenda 21***

In June 1992, the significant outcomes of the Earth Summit at Rio de Janeiro about the global action plan towards development for 21<sup>st</sup> Century resulting the establishment of the Agenda 21. This agenda is one of the comprehensive strategies to cope with the sustainable development issues, the roles and responsibility towards sustainable development, the strategies and action plans based on local sustainable development issues and to implement the agenda in the form of sustainable development projects (Grubb, 1993).

### ***Malaysia local Agenda 21***

Malaysia is one of the countries that support the agenda 21 programme towards the sustainable development for 21 century. In the context of sustainable tourism, the district councils and municipalities are the main leader to implement the stage of the sustainable tourism development agenda (Amran, Wahid, Siti-Nabiha, & Abustan, 2008). According to the Malaysia Local Agenda 21, this agenda programme are focused on the cooperation and partnership between the district councils, community and the non-government sector to build comfortable environment, safe and harmony besides creating a healthy society which sensitive towards the environmental, social and economic issues. In the chapter 28 of Agenda 21, it is stated that the district councils all over the world should carry out their duty by doing the conference with their society, local organization and private sector to reach to agreement about “one local agenda 21” for the community.

The Agenda 21 can be summarized into three components of strategy and action plan as follows:

- *“Establishing effective structures for multi-stakeholder participation, both in setting the direction for tourism in the community and in working together to develop and manage it.*
- *Identifying a strategy for sustainable tourism within the context of a wider sustainable development strategy that reflects stakeholders views and allows tourism management to be integrated with other management functions in the destination.*
- *Identifying and implementing a set of actions, in line with the strategy, that address the economic, social and environmental sustainability of tourism in the area.”*

Cited from Tourism and local agenda 21, (Denman, 2003).

According to Denman (2003) by UNEP, through various case studies, there are three types of destination that showed up most strongly as having tourism strategies linked to Local Agenda 21:

- *“Island: on some islands tourism dominates the economy and may even be the sole source of income and employment. Islands are often environmentally vulnerable, facing problems and resources supply and management (such as drinking water and pollution control) and a concentration of tourism in limited space. An imbalance in the number of tourists and permanent residents may create tension.*
- *Historic towns receiving relatively high tourist numbers: The Local Agenda 21 conducted by these towns were often found to cover all aspects of sustainable development, with the relative attention given to tourism varying from place to place.*
- *Establishing tourist resorts: most of these were in coastal areas. In many resorts the importance of sound tourism destination management is increasingly recognised by the local authority, often because of past problems with uncontrolled or harmful development.”*

Therefore, the need for the local Agenda 21 for sustainable tourism is really important as it ensures that the tourism planning and development address the key issues relating to the economic, social, and environmental impact of tourism in the long and short term. The Agenda 21 also strengthens the position of the authority as an organization that takes sustainable tourism seriously, with national and international support, and helps the destination to attract the attention of visitors and tour operators keen to visit or work with sustainable destinations (Denman, 2003).

## State of Kelantan

The State of Kelantan is located in the East Coast of Peninsular Malaysia. Kelantan is one of the states that neighbouring to Thailand and the Sungai Golok is the international border that separating between Kelantan and Thailand (Marzuki, Hussin, Mohamed, Othman, & Som, 2011). The natural environment and cultural heritage in Kelantan influenced the development of the tourism industry to generate local economy. The increasing number of domestic tourist as well as international tourist in Kelantan improve the development of local tourism industry (Marzuki et al., 2011).

Figure 1.0: The Kelantan Map



Source: <https://openclipart.org/detail/262040/kelantan-new-electoral-map>

Figure 1.1: The Kelantan Domestic and International Receipt



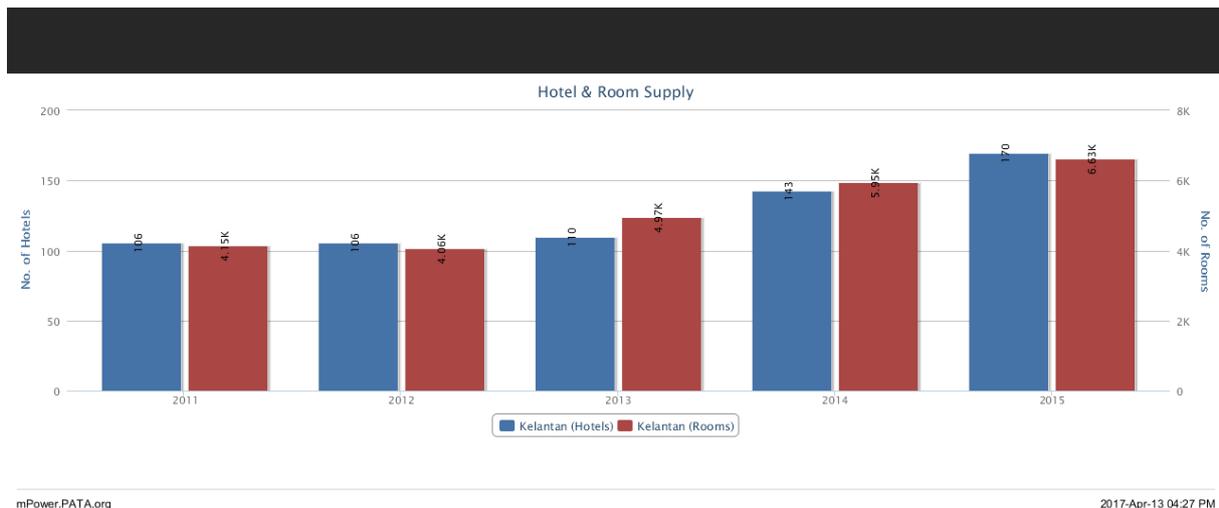
mPower.PATA.org

2017-Apr-14 12:18 AM

Source: [mytourismdata.tourism.gov.my](http://mytourismdata.tourism.gov.my)

According to the figure 1.1, it is stated that the number of tourist and guest from the year of 2011 until 2015 in Kelantan keep increasing especially the domestic guest. The increasing number of tourist and guest based on the statistic figure verify the growth of local tourism industry in Kelantan. The data below showed the hotel and room supply in Kelantan from the year of 2011 until 2015. The data showed that every year, the hotel and the room supply are increase from 106 to 170 hotels and 4.15k to 6.63k room supply.

**Figure 1.2: Hotel Room and Supply in Kelantan**



mPower.PATA.org

2017-Apr-13 04:27 PM

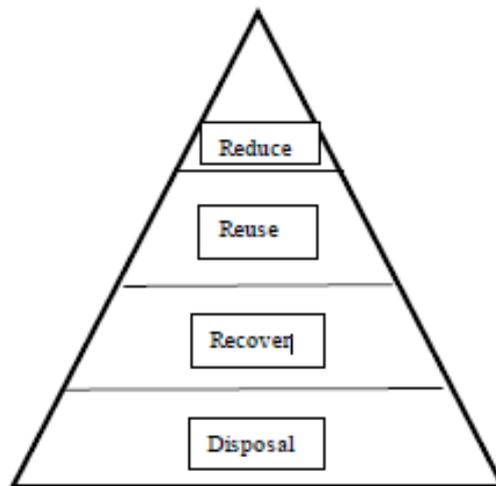
Source: Tourism Malaysia (mytourismdata.tourism.gov.my)

### ***Waste Management***

The waste management issue is not a new issue in Malaysia, especially Kelantan. Just like the other developing countries, Malaysia is facing the massive generation of waste and also additional problems with the disposal of waste (Lau, 2004). Kelantan is said to have the lower municipal solid waste is due demographic factors and facilities (Manaf, Samah, & Zukki, 2009). The number of waste generation is influenced by many factors including industrial, manufacture, economical and other internal development in the country. The Environment (EPA, 1990) defines waste as “any substance which constitutes scrap metal or an affluent or any unwanted substance arising from the application of a process or any substance which requires to be disposed of as being broken, worn out, contaminated or otherwise spoiled”.

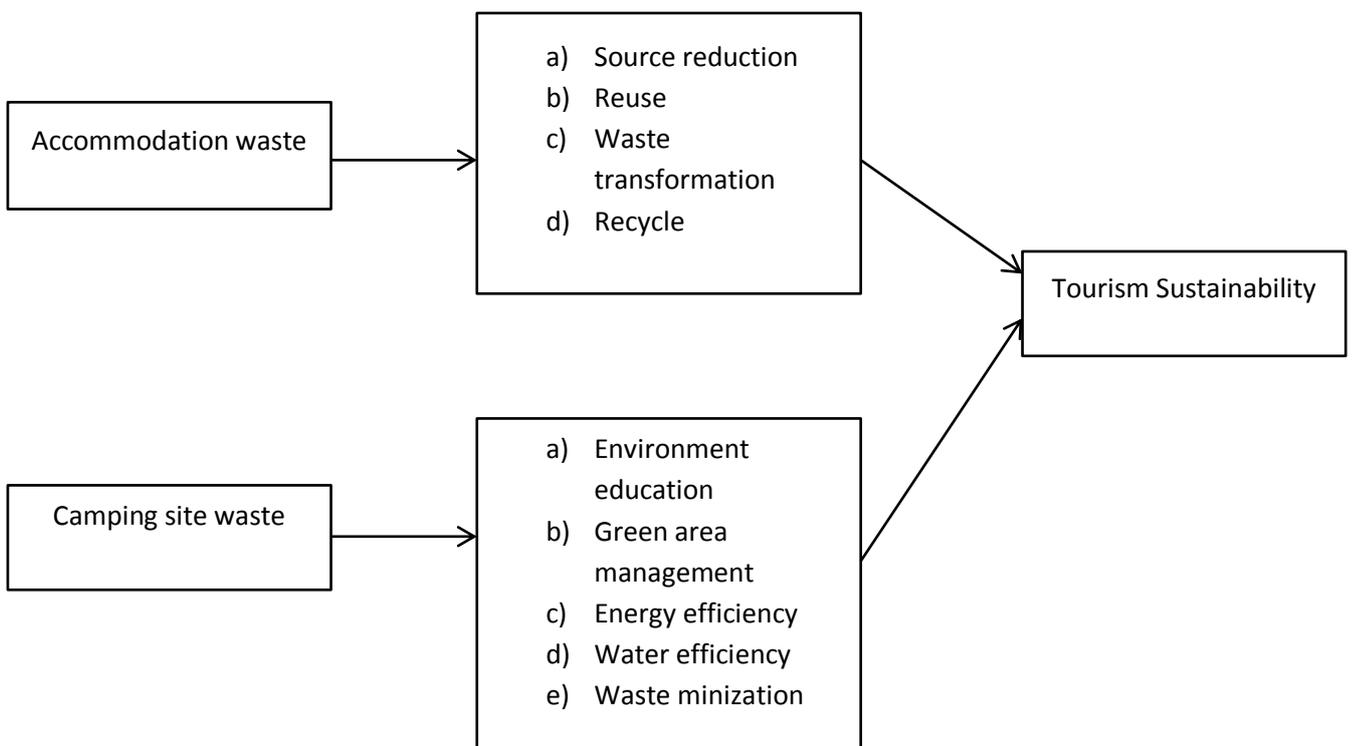
The waste hierarchy for the strategy on waste was given by European Union (Han, Hsu, & Sheu) to provide the best environmental options which have least impact on environment, and supports sustainable waste management (Webb, 2002). The figure showed the shape of the waste hierarchy regarding the reducing the waste until dispose the waste.

Figure 1.3: The Waste Hierarchy by European Union (Han et al.)



Source: waste not wants not [12]

### Conceptual Framework



## Best Practices in Waste Management

### *Accommodation*

The characteristic of the waste from the accommodation to household waste is similar such as the diverse mix of materials including organic and hazardous material that can give rise to significant environmental impacts upon disposal (EEA, 2010). The packaging waste especially plastic and metals with high embodied energy often come from the accommodation and the restaurants (Eurostat, 2010). Usually, the tourism waste often varies seasonally and is generated at the sensitive littering area which put the pressure on waste management facilities during peak season and damaging high nature value resources. For example, the plastic waste in the sea and ocean threaten the whales, sea turtles and dolphin.

The waste management fall into four broad categories as below: (Styles, 2013)

1. **Reduce/ source reduction:** create as little waste possible by not producing it to begin with-implement green procurement, do not over-order, and select products with little packaging or returnable packaging.
2. **Reuse:** consider where certain items can be reused, sold or donated to others that can be use them
3. **Waste transformation:** sort out the waste and see if any of the waste can be transforming such as convert solid food waste to liquid waste.
4. **Recycle:** send sorted waste for recycling such as cupboard, glass, plastic and paper.

### *Camping Site*

The camping is the outdoor activity which can lead to natural environment impact. According to the Oxford University Press 2013, camping can be defined as an outdoor activity which usually takes place in the nature. The camping people often used two or more spaces for rents and caravans in an area of land (Locke, 2008). The tourists usually provide their own accommodation facilities, such as tents and caravans including cooking amenities and others. But some other camping site provides some additional services such as toilets facilities, sauna facilities and kitchen facilities (Cooper, 2008)

The impact of the camping is related to the transport to and from campsite, also the visitor disturbance of local biodiversity area (Cooper, 2008). The tourist may release the air pollution, GHG<sup>1</sup> emissions and energy from the transport (motor), cooking gas, and waste during their camping. Therefore, the best practices should be implementing at the campsite such as below:

1. **Environment education:** the tourist should be given the information and activities on local biodiversity control and protection, and also provision of local low carbon transport options like bicycle and electrical vehicles.
2. **Green area management:** the activity such as plant native species and install low impact lighting will help build the green area.
3. **Energy efficiency:** by installing efficient, automated low-energy lighting systems and use heat pumps and renewable energy is the best option to save the energy.

---

<sup>1</sup> The atmospheric **gases** that contribute to the **greenhouse** that effect by absorbing infrared radiation produced by solar warming of the Earth's surface. They include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (NO<sub>2</sub>), and water vapour.

4. **Water efficiency:** using the reuse grey water<sup>2</sup> for toilet flushing and install efficient kitchen and laundry equipment will help to minimum the use of water.
5. **Waste minimization:** by separate all waste generated by campsite operation into recyclable fractions and provide facilities for collection and convenient separation of guest waste will make the waste is easy to manage and minimize it.

## Methodology

The methodology used in the study is the combination of the primary and the secondary data collection. For the primary data, the semi-structured interview is conducted with a few local hotel managers, the officer from the local ministry of tourism and hospitality and also local representative district councils around Kelantan. The collected data allow the researcher to correlate the concept of the sustainable tourism and the role of the local hotel manager, the local ministry of tourism and hospitality and also the local district councils in Kelantan. This study used qualitative method research to collect the data among the subject of the study. The semi structured questionnaires are used since the responses from the participants' are vary and it contains both open-ended and closed ended questionnaires.

Some of the interview questionnaire is different according to the subject of the sample. For the local hotel managers, the overall questionnaires are about the awareness of the current waste issues, the waste practice in the hotel management, the responsible towards the environment, and also the recommendations for a better change. Meanwhile, the overall questionnaires for the officer of local ministry of tourism and hospitality mostly about the current situation awareness, the sense of responsibility, the problem solution towards the problem, another initiative, planning practices and also what kind of principles use to make sure the sustainability of the tourism in the future. For the local representative district councils, the whole questionnaires are about the awareness of the current situation, the responsibility towards the situation, the initiative to cope with the problems and also the short term and long term planning.

The collected data then are analysed through full cycle phase of analysis which are compiling, disassembling, reassembling, interpreting and concluding. Other than that, the data also are analysed using the computer Assisted Qualitative Data Analysis Software (CAQDAS) Nvivo7.

## Findings

This qualitative research aims to gain the understanding of the role and responsible, the effort, the response and also the future plan of the local hotel manager, local ministry of tourism and hospitality and also local district councils to cope with the waste management issues and how they plan to preserve and protect the environment in order to gain the sustainable tourism. The results shows that all of the respondents are aware of the current issues regarding the waste management and effect towards the environment.

The respondents also agree that they play an important role towards the current issues and they have the responsibility to correct and change for a better result. Through this results,

---

<sup>2</sup> Grey water is relatively clean waste water from baths, sinks, washing machines and other kitchen appliances.

it shows that every organizations have their own part in contributing the current problems and they should working together to solve the problems.

## **Discussion**

Managing the right way of the waste can help development of the tourism industry for the country. The tourism industry in Malaysia is a develop industry which can gain more revenue to the country. Therefore, the sustainable tourism should be perfect and implement very well so that it will give the positive impact to the country. The natural environment should be preserve well and it is our responsible to take care and avoid any activities that can harm the environment. By implementing the basic rules and practices of the sustainable tourism and also the cooperation with other organization, our country sure can free waste issue. The waste issue only bring reputation to the country. The Ministry of Tourism should aggressively take any actions in order to continue the sustainable tourism in Malaysia.

## **Conclusion**

As a conclusion, the sustainable tourism should be able to bring the profit and also be able to protect and maintain the resource of the tourism in order to keep the industry going for a long time. The issue such as waste must be overcome as soon as possible, so that it is not getting worse and affect the image of the country. The cooperation from the community, government, non-government organization and other parties are be able to resolve this kind of issue and focus more towards the development of the tourism industry.

## References

- Ab Rahim, N., & Rahimah, N. N. (2013). *Economic valuation of integrated solid waste management in Kota Bharu, Kelantan*. Universiti Putra Malaysia.
- Ahmed, M. (2016). SUSTAINABLE TOURISM DEVELOPMENT IN BANGLADESH.
- Amran, A., Wahid, A., Siti-Nabiha, A., & Abustan, I. (2008). Towards a sustainable tourism management in Malaysia. *Lex ET Scientia International Journal (LESIJ)*(XV-2), 301-312.
- Denman, R. (2003). *Tourism and local agenda 21: The role of local authorities in sustainable tourism*: United Nations Publications.
- Grubb, M. (1993). *The Earth Summit agreements: a guide and assessment; an analysis of the Rio'92 UN Conference on Environment and Development*: Earthscan and the Energy and Environmental Programme of the Royal Institute of International Affairs.
- Han, H., Hsu, L.-T. J., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism management*, 31(3), 325-334.
- Hanes, M. (2010). *Top 3 Effects of Recreation on the Environment*. Retrieved from <http://www.brighthub.com/environment/green-living/articles/64400.aspx>
- Johan, A., & Mohamad, Z. (2008). Penubuhan Geotaman Langkawi: Kesan Kepada Industri Pelancongan Langkawi. *Universiti Utara Malaysia*.
- Kasim, A. (2006). The need for business environmental and social responsibility in the tourism industry. *International journal of hospitality & tourism administration*, 7(1), 1-22.
- Kirk, D. (1995). Environmental management in hotels. *International Journal of Contemporary Hospitality Management*, 7(6), 3-8.
- Lau, V. L. (2004). *Case study on the management of waste materials in Malaysia*. Paper presented at the Forum Geokol.
- Lin, L.-Z., & Yeh, H.-R. (2013). Analysis of tour values to develop enablers using an interpretive hierarchy-based model in Taiwan. *Tourism management*, 34, 133-144.
- Manaf, L. A., Samah, M. A. A., & Zukki, N. I. M. (2009). Municipal solid waste management in Malaysia: Practices and challenges. *Waste management*, 29(11), 2902-2906.
- Marzuki, A., Hussin, A. A., Mohamed, B., Othman, A. G., & Som, A. P. M. (2011). Assessment of nature-based tourism in South Kelantan, Malaysia. *Tourismos*, 6(1).
- Othman, N., Mohamed, S., & Aziz, F. K. (2012). Tourism activities and its impact on environmental sustainability in coastal areas. *International Business Management*, 6(6), 629-633.
- Prideaux, B., & Cooper, M. (2009). *River tourism*: Cabi.
- Yu, C.-P., Charles Chancellor, H., & Tian Cole, S. (2011). Examining the effects of tourism impacts on resident quality of life: evidence from rural midwestern communities in USA. *International Journal of Tourism Sciences*, 11(2), 161-186.
- Zakaria, J., & Hasbullah, N. (2007). *Pelancongan rekreasi berasaskan cabaran dan biodiversiti: Isu dan konflik*. Paper presented at the International conference of social and humanities, Universiti Kebangsaan Malaysia Bangi.
- Zakaria, J., Taff, M. A. M., Yasim, M. M., & Dasril, B. Impact of Outdoor Recreation on Environment.
- Cooper, C. F. (2008). *Tourism Principles and Practice*. Harlow, England: Prentice Hall Financial Times.
- EEA. (2010). European Environment. *State and Outlook 2010*.

- EPA. (1990). *Manual for Waste Minimization Opportunity Assessment*. US: US Environmental Protection Agency.
- Eurostat. (2010). Environment statistics and accounts in Europe. *Eurostat, 2010*.
- Locke, D. (2008). *Guide to the wiring regulation*. West Sussex, England: John Wiley and Sons Ltd.
- PATA, A. a. (2002). APEC/PATA Code for Sustainable Tourism, . *APEC TWG an Fiftieth PATA Conference*. Malaysia.
- R, R. (2016). *Malaysia's Jan-Jun 2016 Tourist Arrival Grow 3.7%*. Malaysia: <http://www.tourism.gov>.
- Styles, D. S. (2013). *Best Environmental Management Practice in the Tourism Sector*. Viitattu: European Union.
- Webb, C. (2002). *Waste Not Want Not!* U.K: UK Government Strategy Unit.

### **Website References**

- Rozalina, R (2016, September 8). Malaysia's Jan-Jun 2016 Tourist Arrival Grow 3.7%. Retrived from <http://www.tourism.gov.my/media/view/malaysia-s-jan-june-2016-tourist-arrivals-grow-3-7>
- Zamri, I. (2016, August 30). Kebersihan Terus Menjadi Masalah di Kota Bharu. Retrive from <http://www.utusan.com.my/berita/wilayah/kebersihan-terus-menjadi-masalah-di-kota-bharu-1.376332>