

# CARRYING CAPACITY FRAMEWORK IN REDUCING THE WASTE PRODUCED UN TOURISM AREA

**Abstract:** Too many tourists on site means there will be more waste generated in the tourism site, directly or indirectly. Adding to that, the lack of waste management strategies in tourism area will lead to undesirable environmental quality. This will give bad perceptions towards the future tourist and later on will impact the tourism industry itself. Hence, the implementation of carrying capacity concept is an effort to preserve the tourism area as a sustainable tourist destination as well as maintaining its natural value. Based on existing researches, it clearly shows the success of the carrying capacity concept. However, the government and related agencies must have seen this issue further ahead. Therefore, the aim of this study is to identify the lacking of current policies and action plans by the government in managing tourism sites. This research focuses on analyzing the legal material and its action plan. A combination of descriptive and analytical approach will be done. The output of this paper is the analysis of the current policies and plans and how the gaps can be filled in order to promote sustainable tourism in Pulau Perhentian. This paper will give an added value to promote sustainable tourism in Malaysia hospitality services industry

**Keywords:** Carrying Capacity, Sustainable Tourism, Tourist Arrival, Waste Minimalization.

## 1. Introduction

Pulau Perhentian is a group of two islands located in the state of Terengganu and is about 11 nautical miles (21 kilometers) off the east coast of Malaysia in the South China Sea. Pulau Perhentian consists of two main islands, which are Pulau Perhentian Kecil and Pulau Perhentian Besar. Both islands have been gazetted as Marine Parks in 1994. According to the tourist arrival statistic by Department Of Marine Park, (2016) there is an increasing trend from 123,159 in 2005 to 244,762 in 2015. The boom in tourist arrivals means more developments will be done as to fulfill the demand (Mc Intosh, Goeldner & Ritchie, 2000). However, during site observation, uncontrolled and haphazard development with little consideration for aesthetics seems to lead the islands towards deterioration. The government agencies must have foreseen this issue earlier and come up with their guidelines and policies. Nevertheless, it seems like the issues are getting worst by the day. So the aim of this study is to identify the lacking of current policies and plans by the government in managing tourism sites specifically Pulau Perhentian. This comprehensive review will cater all relevant plans and policies at the national, regional, state and local level. The list of the plans and policies that have been reviewed is shown in Table 1.

Table 1: List of Plans and Policies Reviewed

National	Strategic Review of Malaysia's Tourism Industry Policy and Implementation (MTIPI) Review of the National Ecotourism Plan 2013
Regional	East Coast Regional Master Plan (ECER)
State	Terengganu Strategic Plan (2011 – 2015) Rancangan Tempatan Daerah Besut 2020 Rancangan Kawasan Khas Kuala Besut

## 2. Methodology

The study adopted a primary survey approach to obtain data. It focuses on the legal materials obtained from the respective agencies websites and reports. From the materials, the combination of descriptive and analytical method will be done. Besides that, the site observation done in August 2016 was to verify whether the policies and plans are being executed on site.

## 3. Plan And Policies

### 3.1 Strategic Review of Malaysia's Tourism Industry Policy and Implementation.

The Strategic Review of Malaysia's Tourism Industry Policy and Implementation was produced by the Ministry of Tourism Malaysia in 2013. This is a comprehensive review of the existing government policies and plans that are related to the tourism industry in Malaysia. The aim of this study is to consolidate existing policies of the tourism industry towards achieving the 36:168 (36 million tourists and RM168 billion receipts by 2020) target set by the Tourism NKEA under the ETP.

The study proposes a shift in approaches towards high yield tourism. One of the major recommendations is to transform traditional market segmentation into one that is populated by a mass of special interest niches. Pulau Perhentian, as a marine ecotourism destination, could look to attract many special interest tourists instead of a few mainstream market sources.

The Strategic Review study proposed product development strategies for each type of tourism products available in Malaysia. One of the key issues that it addressed is the fragmented development of tourism products. Thirteen product development strategies (PDS) were proposed. Strategy PDS 4, PDS 6 and PDS 10 are strategies that are relevant to Pulau Perhentian.

### **3.1.1 Product Development Strategy (PDS)**

- PDS1: Overall Product Development Strategy
- PDS 2 Youth and Educational Tourism
- PDS 3 Agri, Rural and Community-Based Tourism
- **PDS 4 Coastal And Island Tourism**
- PDS 5 Culture and Heritage Tourism
- **PDS 6 Ecotourism**
- PDS 7 Sports Tourism
- PDS 8 Medical Tourism
- PDS 9 Health and Wellness Tourism
- **PDS 10 Special Interest Tourism**
- PDS 11 Shopping Tourism
- PDS 12 Event Tourism
- PDS 13 MICE/Business Tourism

In the PDS 4, the action plans are to ensure the coastal and island tourism are on par with the international ecolabel and sustainability certification. The purpose of certification is to improve the level of sustainability on these islands through best practices as well as codes of conduct for tourists, hosts, and operators. Each established tourism island could also create its own distinct tourist image based on its unique selling point. Alternatively, the industry could develop its a home-grown certification programme for established tourism islands.

Meanwhile, in PDS 6, tourist experience and embracing sustainability certification are the top priority in order to attract high yield ecotourists. This can be achieved by making improvements in the interpretation and quality of guiding, introduction of programmes and schemes for repeat customers and various improvements to facilities, services and management.

PDS 10 focuses on special interest tourism by increasing its coverage, professionalism and integration with other tourism sub sectors. For instance, special focus should be given to the inherent strengths of Malaysia's dive sites. These diving sites should employ the Sabah diving model in Peninsular Malaysia and embark on the accreditation of dive shops at major dive tourism spots.

### **3.1.2 Enabler Recommendation**

The Strategic Review also proposed enabler policies to support the continuous growth and development of the tourism industry towards achieving the 36:168 target by the year 2020. A total of twelve (12) key enablers have been identified, they are:

- **Governance**
- Accessibility and Connectivity
- Taxi Service
- Rail Service
- **Infrastructure**

- Public transport
- **Human resource**
- Destination Management
- Accommodation
- **Marketing & Promotion**
- **Safety**
- Business environment

The enablers will facilitate the transformation of the tourism industry towards high yield tourism, and complement product development strategies. The highlighted enablers show the recommendation that is relevant to Pulau Perhentian.

From the governance aspect, the policy is to strengthen the tourism governance through an integrated approach that emphasises public-private partnerships. It can be achieved by the establishment of an island development board to develop and manage tourism islands.

Infrastructure wise, design of tourist jetties will be enhanced to international standard in terms of comfort, aesthetics, and safety. To ensure that happens smoothly, MOTOUR is appointed as a member of the technical committee for reviewing and approving tourism jetty projects. Besides that, they have to prepare a comprehensive project brief on the design of tourist jetties which covers aesthetics, safety & security as well as facilities & amenities. They also need to enhance the role of mainland jetties as staging/departure point to island destinations by providing complete tourism facilities during the transit.

In human resource, among the policy is to establish partnerships between training institutions and economic corridors to improve the quality of tourism and hospitality graduates. more tie-ups between hotels/resorts on tourism islands and training institutions in supplying manpower on a contractual basis are expected. Another policy relating to the human resource is to give early exposure of Malaysian youths towards the tourism and hospitality career. Apprenticeship programmes that enable island youths to participate in the tourism industry from a young age should be introduced.

Sustainability certification is crucial in the destination management policy. The actions plans for this policy are to develop a home grown sustainability certification programme comparable with existing international eco labels such as Green Globe or Green Leaf. Besides that, knowing that these certification is costing some amount, the agencies could help by subsidizing the associated costs for small-scale tourism operators in remote areas and the offshore islands.

From the marketing and promotion segment, the policy is to increase targeted marketing according to the needs of specific niche markets. Action plans that will be executed are to enhance specialisation in tourism Malaysia according to niche markets. Appropriate and innovative promotion tools will be used to reach out to niche markets. Lastly is to offer a customised tourist experience according to niche markets as opposed to a generic experience.

Giving priority to the safety of tourists through international certification for high risk tourism activities, as well as to conduct regular checks and inspections on tour vehicles are the main concerns in the safety policy. Tourism activities meant are such as diving, adventure and sports tourism. Scheduled and thorough safety checks and inspections on tourist vehicles such as tour coaches, express buses, taxis and ferries will be conducted. tourist safety will be the top priority in the development of any tourism infrastructure such as jetties, airports and train stations.

### **3.2 Review of the National Ecotourism Plan 2013**

The 2013 Review of the National Ecotourism Plan (NEP2013) is a comprehensive review of the earlier National Ecotourism Plan 1996 (NEP1996). The aim of this study is to revise and enhance the current National Ecotourism Plan as a comprehensive document to facilitate the Ministry of Tourism and Culture Malaysia and other relevant departments both at Federal and State levels in planning, developing and managing national ecotourism sites all over Malaysia. In establishing Malaysia as a Global Biodiversity Hub and renowned sustainable ecotourism destination, the NEP2013 review looked at the success and shortcomings in the implementation of the NEP1996.

From the 50 national ecotourism sites that have been listed, 10 of the sites have recorded remarkable points based on the audit. Mount Kinabalu leads the list followed by Gunung Mulu

National Park. Two Peninsular ecotourism sites leading in the list are Taman Negara National Park and Terengganu Marine Park.

The 10 best sites are to be given top priority for protection, ecotourism product promotion and site development. These 10 best sites are the best showcases of the country's biodiversity and cultural richness to the world in line with the country's vision as a Global Biodiversity Hub and renowned sustainable ecotourism destination. The action plan is divided into 2 categories; physical initiatives and management initiatives.

#### **i. Physical Project Initiatives:**

- Upgrade basic infrastructure and utilities for Pulau Perhentian, Pulau Redang and Pulau Kapas.
- Careful consideration of water supply, electricity and waste disposal facilities.
- Develop and enforce ecolabel criteria for tourism products such as food, accommodation, etc. in order to decrease the main environmental impacts over the entire island.
- Impose carrying capacity.
- Upgrade visitor centre and basic facilities.
- Above ground bio-sewerage tank system.
- Trail development in hilly areas.

#### **ii. Management Initiatives:**

- Enforce carrying capacity at Pulau Perhentian.
- Achieve sustainable island status with Green Globe certificate. (2011-2015).
- Encouragement of local community participation and training programmes in the tourism industry i.e. local guides and homestays.
- Train local staff and guides.
- Financial and logistics support to ecolabel homestay operation and development.
- Environmental Management plan – include zoning of activities, the creation of low intensity use and no-go zones, careful consideration of water supply and vegetation.
- Implementation of SIP by ECERDC.
- Steering towards MMBH accreditation.

### **3.3 East Coast Regional Master Plan(ECER)**

The ECER Master Plan aims to develop tourism through sustainable development to enhance offerings and attract high value tourism. Seven development themes have been identified, focusing on the strengths of the East Coast, which are coastal and island tourism, cultural tourism and ecotourism. In order to achieve the vision of sustainable tourism development, 10 strategy initiatives were identified. they are:

- Focus on Urban Tourism as High-Yield Product.
- Consolidation of cultural tourism as an unique selling point.
- **Redirect tourism development towards mainland coastal zone.**
- Bundling of nature and culture based tourism attractions to create competitive advantage.
- **Reducing the development pressure on the offshore islands and increase yield by adopting the principles of sustainable island tourism.**
- Using tourism as a catalyst for poverty reduction and the preservation of cultural heritage.
- Creating hallmark events for the ECER.
- Fostering tourism investment and development in the hinterland areas.
- Establishing Kuala Rompin as an international centre for sports fishing.
- Promoting cross border tourism to maximize tourist gateway capture.

Overall, the ECER Master Plan direction of tourism development on the islands is towards sustainable tourism which increases both the ecological and economic competitiveness of the islands. This report outlines two strategic initiatives for tourism development in Pulau Perhentian and also in Kuala Besut. For strategic initiatives number 3, they are planning to the upgrading of Kuala Besut as the gateway to

Pulau Perhentian. It comprises of physical, human resources, business and financial support development.

**i. Physical Development:**

- Improving the traffic system, parking facilities and pedestrian walkways within the jetty area.
- Improving the quality and efficiency of sea transportation to the offshore islands.
- Enhancing tourist facilities such as public toilets, shower facilities, restaurants, shops, visitor information centre, signposting, money changers, ATM's, etc.
- Transforming the coastal stretch between Bukit Kluang-Dendong into high-end coastal resort development.
- Designating Kg. Raja as a cultural village showcasing traditional Malay wood-carving.

**ii. Human Resources Development:**

- Training for boat operators, boatmen and jetty personnel

**iii. Business and Financial Support:**

- Financial support and access to micro credit facilities for local entrepreneurs to upgrade their boats, etc.

While for the strategic initiative 6, the aim is to strengthen the competitiveness of island tourism through the implementation of the principles of sustainable tourism. The project development requirement consists of:

- Upgrading jetty.
- Green Globe Sustainability Certification .
- Training of rangers, boatmen, hotel operators and entrepreneurs.
- Micro credit/ revolving fund for local operators to upgrade their existing septic tanks, chalets, restaurants and passenger boats.
  - Special Tourism Fund.
  - Tourism Infrastructure Funds.
- Sufficient Manpower requirement.
  - Enforcement Rangers.
  - Equipment.
- Medical Facilities.
- Visitor Information Centre.

**3.4 Terengganu Strategic Plan (2011-2015)**

The Terengganu Strategic Plan 2011 – 2015 is a state development plan which contains a section on tourism. The vision for tourism in the state is to turn Terengganu into the main tourism destination in Malaysia as well as a new source of economic growth.

The plan sets out 3 goals for the state and targets tourism as the main contributor to Terengganu's economy by 2015. The plan aims to increase tourist arrivals by 20 percent per year and to increase the average length of stay (ALOS) of international tourists from 4.3 days to 6 days by 2015.

The main tourism themes that have been identified by the state are **ecotourism**, tourism, agrotourism, culture tourism, histo-tourism, sports tourism, health tourism and rural tourism. However, the strategies are too broad and no specific strategies have been formulated for Pulau Perhentian.

**3.5 Rancangan Tempatan Daerah Besut 2020 (RTD Besut 2020)**

RTD Besut aims to develop Besut District as a centre for Terengganu State Northern Region with the themes of tourism development, agriculture and higher education. The 3 development themes are:

**i. Sustainable land uses development**

Kuala Besut will be uplift as a major tourism centre in the district as well as the main gateway to Pulau Perhentian. Besides that, a good practice in environmental management is being considered too.

The aspect of water quality and development control will be improvised such as scheduled water quality monitoring program and strict enforcement to avoid water contamination on the island. While from the solid waste management aspect, more rubbish bins will be provided. Among the tourism development control program is the controlled solid waste disposal system by resort operators and tourists, environmental awareness programmes, cleanliness programmes and enforcement of guidelines for resort development.

**ii. Strengthen the economy**

Tourism development of supporting facilities on Pulau Perhentian will be in place. It includes providing supporting facilities such as camping site, open square, Visitor information centre, food outlet, public toilet and souvenir outlet for the public beach at Teluk Keke. Pedestrian pathways (on islands) will be upgraded to cemented pathways, attached with hand rails, soft landscape, street lights, gazebos and benches.

**iii. High quality of life**

Infrastructure will be upgraded to achieve a high quality of life. These infrastructures include the installation of mini ‘Hi-Kleen’ for sewage treatment system. It is one of the efficient sewage treatment for resorts and residential units. Another plan is to have a transfer station in Pulau Perhentian Kecil as a transit site for solid waste before being transferred to the mainland common trench across the South China Sea is proposed for utility cables from the mainland to Perhentian Kecil. Public transportation system are to be upgraded too for example having a second tier terminal in Kuala Besut, Tembila (UDM) and Kg. Raja as an integrated terminal for bus and taxi services. Aside from that, boat services to the islands and commuter bus services are in the improvement plan too.

**3.6 Rancangan Kawasan Khas Kuala Besut**

RKK Kuala Besut has summarized the development concept to be focused on economic growth as a driver and physical development as an enabler. The concepts and strategies of the plan are directed towards the vision “Improving the image of Kuala Besut as a centre for tourism and services through the development of a quality physical environment for the needs of the local population”.

For the economic drivers concept; tourism, food based industries and fisheries are the 3 aspects that have been given priorities. The strategies for the tourism aspects are to improve accommodation facilities, to Improve telecommunications and ICT, to provide financial services, to exploit the potential of tourism products and lastly to Improve tourism information centre. The details of the strategies are to have an efficient signage system, the extension of TIC operational hours, providing direct public transportation route to RKK area, and the extension of taxi service times to 9.00 p.m. Boat services are also to operate on time and according to schedule. Besides that, free Wi-Fi services will be provided at strategic locations as well as the provision of centralised car park specifically for visitors to Pulau Perhentian. From the marketing and promotion aspect, tourism calendars will be distributed to key players, with the addition of tourism packages and annual activity calendar such as riverine and sea sports. Development of an entrepreneurship and hospitality training centre are in the action plan list too where management, food preparation, accommodation, finance and product marketing training will be executed.

While for the population needs a concept, environmental quality, economic opportunities and basic facilities is the main concern. The action plan to achieve a desirable environmental quality is by improving the quality of the environment around Kuala Besut and surrounding villages.

**4. Summary of Findings**

The inputs from all policy plans are regulated in table 2, making it clearer to identify which aspect have not been consider.

Table 2: Summary of Findings

	National level		Regional level	State level	
	NEP	MTIPI	ECER	RTD BESUT	RKK KUALA

					BESUT
<b>1. Upgrading Kuala Besut as the gateway to Pulau Perhentian</b>	X	X	/	/	/
<b>2. Infrastructure and Utilities</b>					
• Upgrading Jetty	X	/	/	/	/
• Visitor Information Centre	/	/	/	/	/
• Basic facilities (toilet, shops, etc.)	/	/	/	/	X
• Waste disposal management	/	/	X	/	X
• Sewage System	/	/	/	/	X
• Water supply and electricity	/	/	X	/	X
• Medical facilities	X	/	/	X	X
• Pedestrian walkways	X	/	/	/	X
<b>3. Transportation</b>					
Sea Transportation		/	/	/	/
<b>4. Environmental Management</b>					
• Water Quality monitoring	X	/	X	/	X
• Awareness programme	X	/	X	/	X
<b>5. Human Resources Development and Safety</b>					
• Training	/	/	/	/	/
• safety	/	/	/	/	X
• Microcredit/revolving fund	/	/	/	/	/
• Encouragement of local communities participation	/	/	X	/	/
<b>6. Accreditation: Green Globe, MyTQA, MMBH, etc.</b>	/	/	/	/	X
<b>7. Carrying capacity</b>	/	/	X	/	X
<b>8. Governance</b>	/	/	X	/	X

From the table, it is clear that most aspect is covered by at least 2 policies, for instance, the medical facilities, water quality monitoring and awareness programme. Carrying capacity on the other hand is being touched by NEP, MTIPI,RTD BESUT. This shows that the policy makers are already aware of the condition of the marine park and wanted to have some restrictions in tourism activity at this sensitive area. These plans are mostly yet to be implemented as the author confirms this during the site visit. However, it is not to worry as long as we know the readiness of the policy makers in restricting tourism activities for the benefit of tourism in the future.

Generally, the policies are inline with Maqasid al-Shari`ah which means the goals and objectives of Islamic law. It is widely known to protect 5 main elements which are; to protect religion, to protect life, to protect intellectual, to protect the dignity and to protect wealth. In this situation, the policies and guidelines imposed to protect the tourism sites and the users are for the benefit of everyone which is associated with the second objectives of maqasid, to protect life.

This study also has found that there are some overlapping plans between the policies. However, it is acceptable as long as all the crucial aspects in making Pulau Perhentian a sustainable tourist destination is covered. Since all plans being outlined are yet to be implemented, it is not too late that the implementing agency will be clear on their scopes and deliver their service excellently. With the effective coordination of stakeholders, action plans and policies, Pulau Perhentian will be in better

conditions in terms of the existing management plans, master plan and also the policy implementation. This study is significantly valuable for the policy makers as they can directly tackle any issue in the future.

## **5. Conclusion**

Policies related to Pulau Perhentian are crucial for the development of physical, social, and economic factors. The intention for this policies analysis is to ensure Pulau Perhentian a sustainable tourist destination as well as to keep it at Islamic quality standard. Adherent to these guidelines is equal to the concept of *Sad Ad Dharai*, which means blocking the means to evil. Evil here is meant for the uncontrolled development, improper sewage treatment system, and the social problems brought about by outsiders. This study is hoped to assist policy makers with future development of regulatory.

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