Prospects Of Tourism In Malaysia: A Situational Study Focusing On Socio-Cultural And Environmental Aspects

A. H. M. Zehadul Karim*, Hazizan Md. Noon, Noor Azlan Mohd Noor and Pute Rahimah Makol-Abdul
Department of Sociology and Anthropology, International Islamic University Malaysia, Gombak, Kuala Lumpur, MALAYSIA

Malaysia is perhaps one of the most unique countries of the world, being strategically situated on the gate-way location of global routes with a wonderful eco-environmental setting. Being a pluralistic society, it inherits its own traditional culture with harmonious integration of the diverse ethnic groups living in a very peaceful and politically stable situation. With all its economic potentials, Malaysia has recently emerged as a newly-developed nation with a huge infrastructural growth in its industrial and manufacturing sectors. Due to these developments and other eloquent features, people from abroad become largely attracted to this land and thus, they frequently arrive here as visitors and tourists. As recently as in the year 2005, it is reported that at least 16.7 million international tourists from outside visited Malaysia bringing about 30 billion ringgit in terms of foreign currency in this country (see Badruddin et.al. 2007). At present, tourism may be regarded as the largest service-oriented industry in Malaysia contributing a great economic share in the national GDP and provides employment to a bulk of the population in the country. It brings civic pride and social prestige for Malaysia by making a kind of international linkages in global context. It takes Malaysian culture abroad and people from outside can get the touch of the unique Muslim heritage in Malaysian context. Based on this positive assumption, this proposed research will generate information in regard to knowing about the present situation of tourism in Malaysian context. Side by side, it is also recognized that tourism often damages eco-environments of a particular region of the country, which are over-used by the tourists. The natural habitats are dislocated, and also there occurs enormous social impacts on local values and community culture. From that perspective the paper is designed to deal with the issue of tourism in Malaysia from both positive and negative perspectives; and thus it will generate a discourse to conceptualize a rational framework for Malaysian tourism.

Key words: tourism, Malaysia, issues, prospects, socio-cultural and environmental aspects

*Email: ahmzkarim@yahoo.com

Regional Carrying Capacity (RCC) Issues Langkawi Islands, Kedah

Azizul Ahmad*, Norizawati Mohd Ayob and Aziz Abdul Majid
Geography Section, School of Humanities, Universiti Sains Malaysia, Penang, MALAYSIA

There are four categories of the island is Development Island, Resort Island, Marine Park Island & Island that be protected and island not populated. In addition, there are 42 islands marine park in Malaysia. The concept of carrying capacity suggest that each destination has a maximum level to absorb development and tourism activities. This maximum level if by passed causing a saturation of infrastructure use and create anxiety for visitors and locals. Tourism carrying capacity is divided into major components of the physical, social and economic. Therefore Langkawi Islands are rich in geological and biological diversity treasures (geo heritage and legacy bio) and socio-cultural heritage four main races like Malay, Chinese, Indian and Siamese. Issues and problems research to see carrying capacity is divided into seven namely (i) barriers and constraints (limits) in terms of space, (ii) congestion and disruption to local residents, (iii) natural areas are highly sensitive to any changes that done on it, (iv) reduction of environmental quality such as water quality deterioration air and noise and damage to resources, (v) the problem of solid waste / liquid, (vi) natural resources, and (vii) sustainability.

Key words: tourism, sustainable tourism, carrying capacity, regional carrying capacity, Langkawi Islands

Introduction

Island resort mean that island has the potential to be developed as a center of international and domestic tourism as island resort gazetted by the state authorities (JPBD, 1996). Malaysia has many attractive islands scattered from East to West Peninsular Malaysia to Borneo states of Sabah and Sarawak. Table 1.1 shows, islands in Malaysia can divided into three main categories. It has been outlined in the Report of the National Marine Park of Malaysia: Policy and Concepts 1989 issued the Department of Fisheries Malaysia. However, another category of uninhabited islands where the islands are not included in any of the three categories outlined by the Department of Fisheries Malaysia (JPBD, 2011a). There are four categories of the island is Development Island, Resort Island, Marine Park Island & Island that be protected and island not populated (JPBD, 2005; JPBD, 2011a). In addition, there are 42 islands marine park in Malaysia.

*Email: azizulahmad@gmail.com

Table 1: Category Island In Malaysia

No.	Island Category	Criteria	Example
1	Development Island	▪ Having a total area of more than 90 km. square and population of more than 20,000 people. ▪ It is important islands of the 'impetus' or driver of the economy and have a variety of plans to enhance local economic development and nation	Penang, Labuan and Langkawi Island
2	Island Resort	▪ Islands where most of the local economic base dependent on tourism. ▪ Well-known in domestic and overseas tourism destinations. ▪ Having natural resources and tourist attractions such as the impact of history, heritage and other tourism products	Langkawi, Penang, Pangkor, Ketam, Besar, Sibu, Redang, Sipadan, Tioman Island and etc.
3	Marine Park Island And Island That Be Protected	▪ Marine parks are gazetted island 'Establishment of Marine Parks Malaysia Order 1994' issued by the Fisheries Department for the purpose of preservation and tourism. The limit development of the marine park is 2 nautical miles (3.2 km) to the sea from the minimum level full tide (low water mark). ▪ Protected islands were classified under 'Fisheries (Prohibited Areas) Regulations 1994'. For this island, collecting shells, snails and corals is prohibited.	Marine Park Island are Payar Island (Langkawi), Kapas Island (Terengganu), Seri Buat Island (Pahang), Tiger Island (Johor) and Kuruman Island (Labuan). Island Island that be protected are: Nyireh and Tenggol Island in Terengganu, Talang-Talang Besar, Talang-Talang Kecil Island and Satang Besar Island in Sarawak.
4	Island With No Inhabited	▪ Island is an uninhabited island, rock, coral reefs and so on. Until February 2011, a total of 236 of the 642 islands are islands in waters not yet have a name and immediate action needs to be done to name the islands. ▪ Statistics from the Department of Survey and Mapping, Malaysia has 878 islands and 510 geographical entities offshore.	rocks, shoals, reefs, ridges, patches and grooves.

(Source: JPBD, 2005; JPBD, 2011a).

Carrying Capacity Concept

In short, the concept of carrying capacity suggest that each destination has a maximum level to absorb development and tourism activities. This maximum level if by passed causing a saturation of infrastructure use and create anxiety for visitors and locals. Tourism carrying capacity is divided into major components of the physical, social and economic (Badaruddin & Nikmatul, 2007). For the purpose of carrying capacity study on Langkawi Islands, convergence is only given to two types of carrying capacity of the physical carrying capacity and ecological carrying capacity (JPBD, 2006). Therefore, the study of the ability of carrying capacity for the Langkawi Islands should be in place before development strategy can be provided to ensure that the proposed activities are sustainable and appropriate development to be developed (JPDB, 2011a).

Although the method of carrying capacity analysis (CCA) using GIS has been used successfully around the world, but it was not applied in particular Langkawi Island, Malaysia. Badaruddin & Nikmatul (2007) proposed the development of recreation and tourism, planners should be aware of the capacity of a destination or site. However, efforts to set the limit of an area is not a simple matter. It is heavily influenced by the physical characteristics of an area. Carrying capacity varies from one place to another, depending on a number of factors based on Baud-Bovy & Lawson (1998) as:

- The sensitivity of the environment and the local way of life and social customs;
- Quality desired travel experience that prompted her tourist destination was;
- Interest earned from the tourism sector and the extent to which it involves the participation of the population;
- The facilities and services provided and the extent to which this infrastructure can meet the requirements.

It should be prepared to provide a carrying capacity (or limits of acceptable use) of the protected area to avoid impact on natural/cultural resources (Eagles et. al, 2001). There are various general concept of carrying capacity studied by researchers unravel. The concept is as follows:

Tivy (1972); Baud-Bovy & Lawson (1998)

> "Number of user-unit use-periods that a recreational site can provide (each year) without permanent biological and physical deterioration of the site ability to support recreation and without appreciably impairing the quality of the recreation experience"

Zubrow (1975)

> "Carrying capacity is the maximum size of a population which can be maintained indefinitely within an area. The non-specialist conceives of carrying capacity as the maximum amount of organisms or biomass that the land can support"

Getz (1982); JPDB (2011a)

> "This concept also suggests actions that should be taken to reduce or limit the negative side effects. Overall, an important element in the definition carrying capacity is:
>
> i. the assumption of limits;
> ii. or thresholds, beyond which additional growth;

iii. or change cannot be supported; and
iv. or is considered undesirable."

World Tourism Organization (WTO, 1983)

a) Levels can be maintained without causing damage to the physical environment and without causing problems in social and economic to the locals.
b) The degree of balance between preservation and development.
c) The number of visitors in accordance with the image of tourism products and the type of environment and the visitor experience desired.

According to Kumar *et. al,* (1998), Carrying capacity of a region may be loosely defined as the intrinsic capacity of a region to assimilate various categories of degradation and pollution such that it does not affect the sustainability of the region while Yu, (2000); Yu & Mao (2002) and Chen *et. al,* (2010), extended the concept of carrying capacity and used representative economic indicators to evaluate regional carrying capacity (RCC).

Langkawi Islands

Langkawi Islands located in the northern part of Peninsular Malaysia between latitudes 6° 10' N - 6° 30' N and longitude 99° 35' E - 100° E (longitude). Distance from Kuala Perlis about 30 km and from Kuala Kedah is about 51.5 km (Langkawi District Council, 1990; JPBD, 2006). Langkawi Islands (Figure 3.1) has 104 small islands including three inhabited islands such as Langkawi Island, Tuba Island and Dayang Bunting Island. However, only 99 islands are always visible and always make Langkawi more known 'Langkawi 99 Magical Island' (LADA, 2001). Langkawi Islands are rich in geological and biological diversity treasures (geo heritage and legacy bio) and socio-cultural heritage. There were four main races like Malay, Chinese, Indian and Siamese (Halimaton Saadiah *et. al,* 2011). Other islands are inhabited namely the Bumbon Island, Rebak Besar Island, Timun Island, Langgun Island and Tanjung Dendang Island very small in size and are still in their natural state except for the Singa Besar Island and Beras Basah Island that have been developed for tourism which made their wildlife park and tourist accommodation (Langkawi District Council, 1990; Nizamuddin *et. al,* 2006). The of Langkawi Island is an area of 47,848.36 hectares (478.4836km^2) and is divided into six parishes of Kuah, Padang Mat Sirat, Air Hangat, Bohor, Ulu Melaka and Kedawang. About two-thirds of the island is covered by hills and highlands. The main settlements were Kuah Town, Padang Matsirat and Padang Lalang (Langkawi District Council, 1990). Langkawi Islands declared tax-free status (Duty Free Island) acquired on 1st January 1987 in projecting its image as a famous tourist destination throughout the country and internationally as intended by the government is an advantage. It's been a particularly distinctive attraction to tourists who love shopping while touring. The main focus of shopping activity available is in the business district of Pandak Mayah, Bandar Kuah and Pokok Asam. Status Langkawi Islands has been recognized as the Langkawi Geopark by UNESCO on 1st June 2007. It also led to an increase in demand for development and the need to plan and ensure the orderly development of Langkawi (Langkawi District Council, 1990; JPBD, 2006; Habibah & Hamza, 2008; JPBD, 2011b).

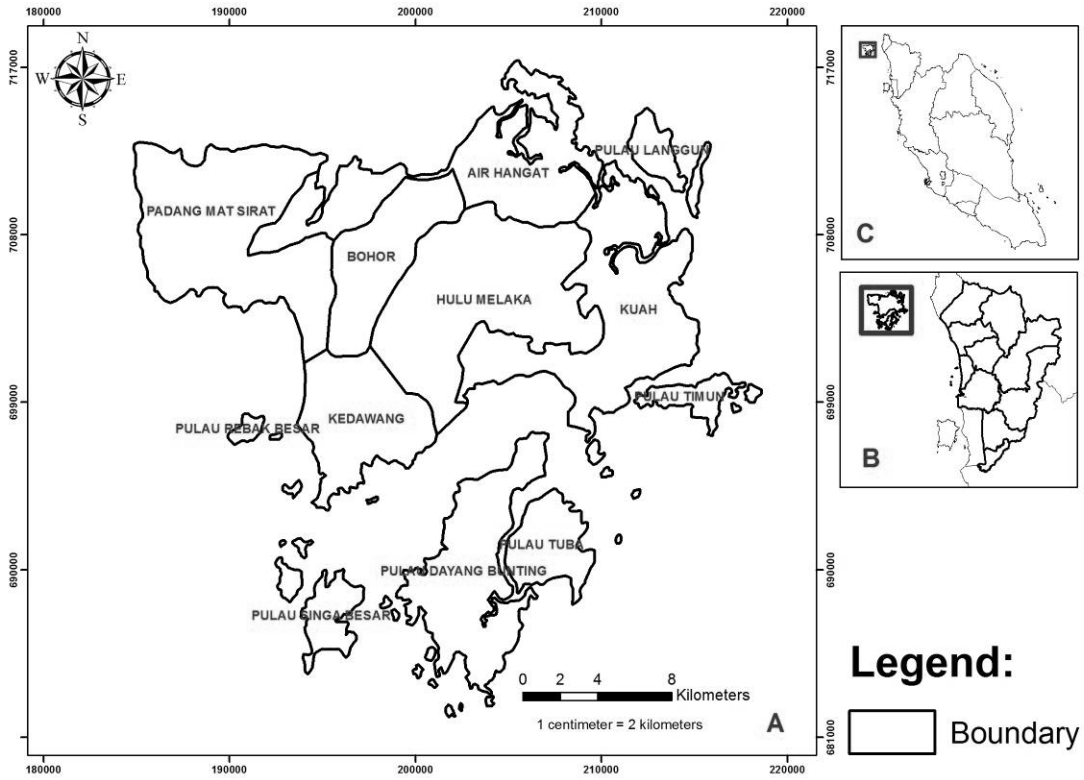

Figure 1: Langkawi Islands (A), The State of Kedah (B) and Peninsular Malaysia (C)

Issues and Problems Research Regional Carrying Capacity (RCC) In Langkawi Islands

Issues and problems research to see carrying capacity is divided into seven namely (i) barriers and constraints (limits) in terms of space, (ii) congestion and disruption to local residents, (iii) natural areas are highly sensitive to any changes that done on it, (iv) reduction of environmental quality such as water quality deterioration air and noise and damage to resources, (v) the problem of solid waste / liquid, (vi) natural resources, and (vii) sustainability.

Barriers and Constraints (Limits) in Terms of Space

Islands have barriers and limitations of resources (limits) in terms of space and the need to ensure a healthy environment. Through the preservation of natural resources so that careful consideration should be given to the opening and clearing of land for development purposes (Parpairis, 1998, 2001 & 2004). Island has the resources that can be used for various activities of the tourism as the island has become one of the best tourist destinations. The increase in tourist arrivals and population of the islands in Malaysia such as Langkawi (Figure 2) encourage the development of new facilities such as tourist resorts and infrastructure (LADA, 2011). Increasing number of tourists creates a negative impact on natural resources which leads to damage to the physical and ecological systems.

As a result of increased tourist, issues such as congestion, pollution and the quality and quantity of parking facilities that must be addressed (Eagles *et. al,* 2001). This is because the supply of resources (water, land, minerals and forests) are limited to meet human needs (Johan Afendi & Mohamad Zaki, 2008). In addition, most of the potential land is Malay Reserve Land that will affect the development process should

be developed by investors from outside because of the need to meet all the set (JPBD, 2005). If the density of population in an ecosystem than RCC, ecosystems can be damaged due to the burden and excessive overuse ecosystem can change to a different ecosystem that is understood as ecological discontinuities (Yue *et. al,* 2008).

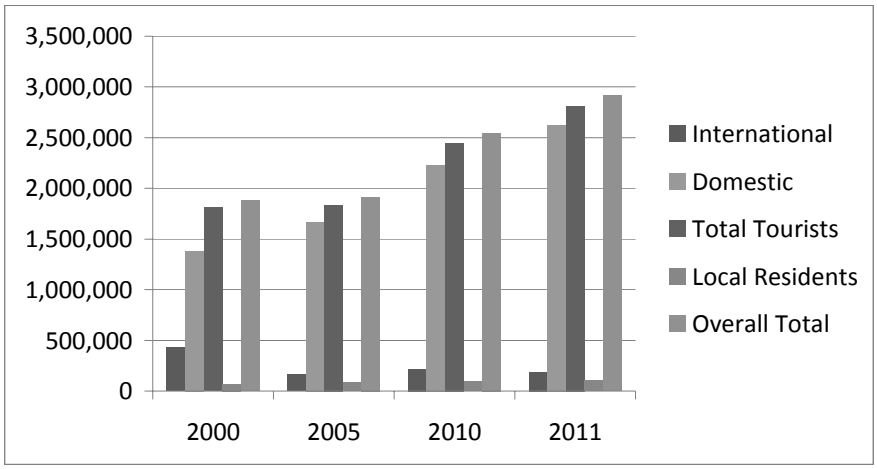

Figure 2: Comparison Of International Tourist, Domestic, Local Residents, Total Tourists And Overall Total In Years 2000, 2005, 2010 And 2011
Source: LADA, 2000, 2011; Pejabat Daerah Langkawi, 2011; MPLBP, 2011

Congestion and Disruption to Local Residents

Tourist arrivals to a destination based on cultural heritage and aimed to find out how everyday life of a community. However, the inclusion of the number of tourists that are uncontrollable and often cause local residents had to entertain guests who come all the time. This causes them to lose ambiance (privacy) in carrying out their daily activities in which every act they become tourist consumption (UNEP, 1997; Johan Afendi & Mohamad Zaki, 2007). Environmental quality management always been a priority of the management to ensure that the environment and wild life and remain intact. Unfortunately, the presence of tourists who often creates environmental damage such as garbage disposal problems and damage to plants. Recognizing this fact, there is the management to take steps to limit the number of tourists who can visit an area at any given time. However, some areas are more likely ecotourism emphasizes profits regardless of the impact on the environment (Badaruddin, 2008).

Natural Areas Are Highly Sensitive to Any Changes That Done On It

Unplanned development will cause environmental impacts, such as rising temperatures, pollution of water, air and noise. A sudden loss of green areas as a result of timber harvesting and forest reserve areas are also among the issues of development have often argued and presented. These issues simply and solely involves environmentally sensitive areas (Ahris *et. al,* 2006). The increasing number of motor vehicles such as cars and boats can lead to high air pollutant in tourist areas (Molders *et. al,* 2010; Mohd Talib *et. al,* 2010). Environmental problems, especially air and water pollution has become more pronounced and now regarded as a key issue to city planners and decision-makers (Oh *et. al,* 2005). The influx of tourists to natural areas with large amounts can damage your resources and the influx of tourists to the area creates a demand for facilities and services include supply, water, electricity,

telecommunications, accommodation, transportation, retail, facilities support, provision of sewerage and solid waste disposal. The advent of mass tourism with uncontrolled activities cause damage nature trails found in the forest. Effects arising is erosion, disturbance to flora and fauna habitat and waste disposal everywhere (UNEP, 1997; Johan Afendi & Mohamad Zaki, 2007).

Reduction of Environmental Quality Such As Water, Air, Noise Quality Deterioration and Damage To The Resources

As a result of unplanned growth in the region has led to environmental problems related to land, water, air, noise and public life (Kumar *et. al,* 1998). Water pollution caused by clearing of land for development and disposal of untreated waste into the drainage system. Water resources should be maintained to ensure that it is adequate and safe for use by future generations (Mazlin *et. al,* 2005). Water Resources Carrying Capacity (WRCC) is a major problem to prevent the crisis of water resources and maintain sustainable development throughout the river basin (Liu *et. al,* 2009). The increase was highly significant motor vehicle in addition to the rapid industrial development increased levels of air pollutants in the environment (Latif & Othman, 1999; Awang *et. al,* 2000; Kho *et. al,* 2007; Mohd Talib *et. al,* 2010). According Afroz *et. al,* (2003) and Mohd Talib *et. al,* (2010), a motor vehicle is a major source of air pollution in Malaysia, contributing to the increase in air pollutants such as sulfur dioxide, nitrogen oxides, carbon monoxide, ozone and suspended particles. Tourism activities have resulted in an increasing number of vehicles and cause pollution problems and affect natural ecosystems in specifying place in some areas (Wang & Miko, 1997, Luis Hernández, 2004; Yu, 2008; Mohd Talib *et. al,* 2010).

The high increase in the number of tourists, especially during the school holidays which resulted in the increase of motor vehicle use are significant. In addition, a number of other activities such as the cement industry and the influence of air from outside the area also affect the status of air quality in Langkawi. Langkawi is also a tourist island has been affected by haze due to its close with Sumatra, Indonesia, which often suffer from the problem of open burning (Juneng *et. al,* 2009; Anwar *et. al,* 2010; Mohd Talib *et. al,* 2010). The issue of air pollution is one of the important issues and is often associated with the development and improvement of a factor in the area of Malaysia (Mohd Talib *et. al,* 2010). Air pollution caused by clearing of land, motor vehicles and open burning. Noise pollution caused by plant and machinery during the construction activities, noise from motor vehicles and tourists. Disruption to the visual means attractive scenery (beach, mountains, lowlands) hindered structure such as a building or structure, telecommunication tower and power transmission lines. As a result, tourists can not enjoy a nice view due to the obstruction of these structures (UNEP, 1997; Johan Afendi & Mohamad Zaki, 2007).

The Problem of Solid Waste / Liquid

Generating of waste resulting from the activities of tourists and tourism development. It consists of solid waste (trash and waste construction industry) and liquid waste (sewage and domestic waste water). Waste disposal and managed to create an environment that is dirty, smelly and ruining the natural landscape (UNEP, 1997; Johan Afendi & Mohamad Zaki, 2007). Littering usually come from residential,

recreation, public facilities, commercial centers, industrial areas, landfills and agricultural activities (Rohaniza Idris, 2009).

Natural Resources

Changes in land use affect the abundant natural resources and ecological processes such as ecological imbalance, an increase in the level of pollution, surface runoff, erosion, and changes in soil resistance to environmental effects (Fu *et. al,* 2000; Hacisalihoglu, 2007; Verma *et. al,* 2009). Increase the intensity of land use can cause erosion and soil compaction through changes in the physical properties and chemical properties (Qygard *et. al,* 1999; Islam & Weil, 2000; Chen *et. al,* 2001; Caravaca *et. al,* 2002.; Literacy , 2005; Wang *et. al,* 2006; Misir *et. al,* 2007; Verma *et. al,* 2009). As human demands increase, the sustainable use of land becomes more important. Better land management involves identifying land use change, understand the current land use patterns or characteristics and evaluate the economic and ecological benefits and costs arising from the practice of land use and to find the best alternative for each area (Wu *et. al,* 2001;. Verma *et. al,* 2009).

Quarry activities have affected the role of permanent forest reserve areas at Gunung Raya as a major watershed in the island of Langkawi and this activity must be controlled (JPBD, 2005). Old fossils hundreds of millions of years in the area Kilim, Batu Asah, Bukit Tekuh dan Singa Besar Island can suffer damage from the rapid pace of development activity, particularly around the quarry. Opening pervasive quarry without any specific planning and zoning has resulted in a negative impact on the quality and environmental impact. A total of 66% of the study area consists of the geology of rocks and rock fossiliferous, hilly terrain (above 150 meters), the limestone areas, forest reserves and mangrove areas identified as environmentally sensitive areas and often receive threats (JPBD, 2005).

Sustainability

According to Mohamad Zaki *et. al,* (2012), sustainability as a source of development and management philosophy should be practiced and implemented at all levels of policy and practice related to tourism from the local level through to the global level. Sustainable development is the best alternative in practice and adapted in the development of tourism. In this context, sustainable tourism management for physical and natural environment needs to be more focus than in the past and must exist simultaneously alongside objectives of economic, socio-cultural, security, local and national health. To ensure the smooth development more sustainable tourism in Langkawi, carrying capacity study is highly recommended. The main constraints to be considered if the development of tourism to be sustainable is the collection and treatment of waste water, lack of parking, road and rail transportation, marine water quality, water resources, solid waste disposal and management, and last but not least is dissatisfaction with the local community and tourists tourism (Jurincic, 2005).

Local Resident And Tourist Density Arrivals To Langkawi Year 2000, 2005, 2010 And 2011

If looked carefully Figure 5.1-5.5, the increase of local resident and tourist density arrivals to Langkawi Island year 2000, 2005, 2010 and 2011 is so significant in those years. Base on the Figure 3-7, the legend show that 1 Dot = 2,000 person. However,

an international tourist experience rather decrease significantly based on Figure 5.2 compared to Figure 5.1, the local tourists increased from year to year. We should ask ourselves how this could have happened?.

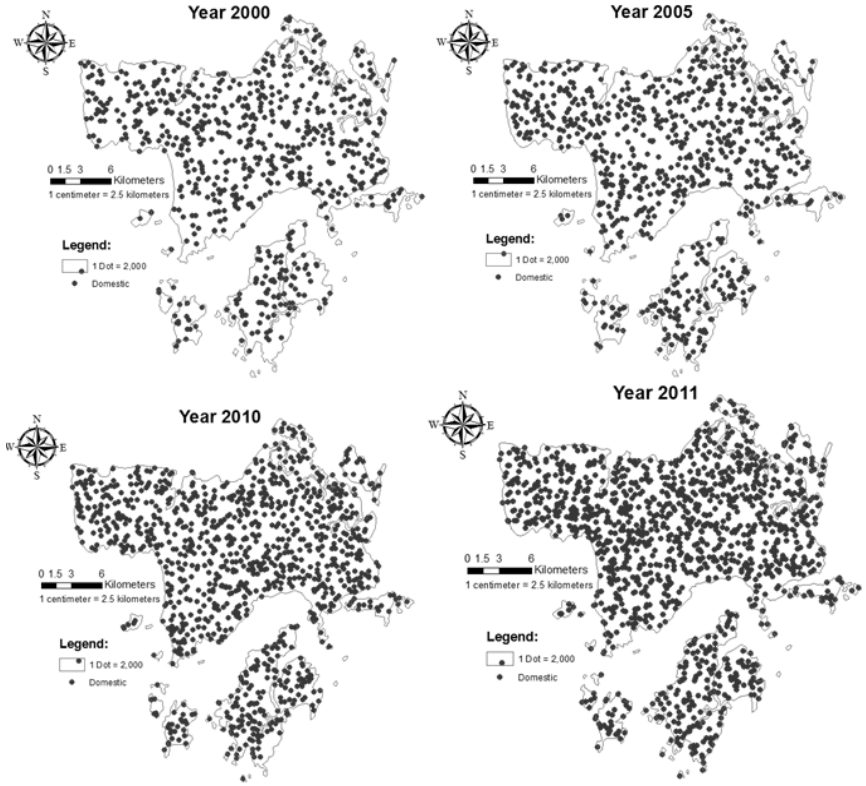

Figure 3: Domestic Tourist In Langkawi 2000, 2005, 2010 And 2011

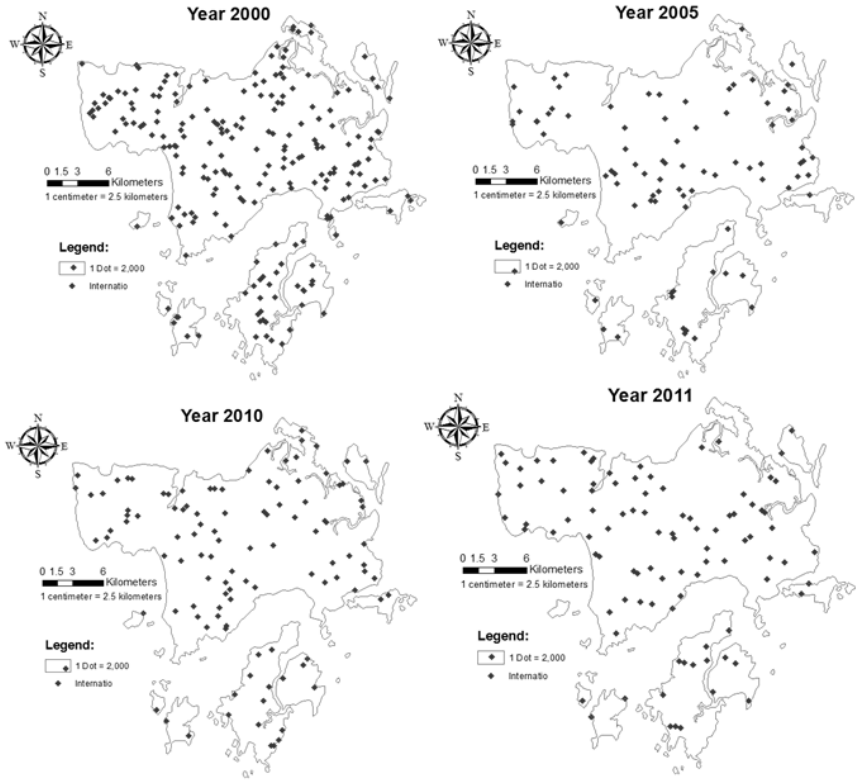

Figure 4: International Tourist In Langkawi 2000, 2005, 2010 And 2011

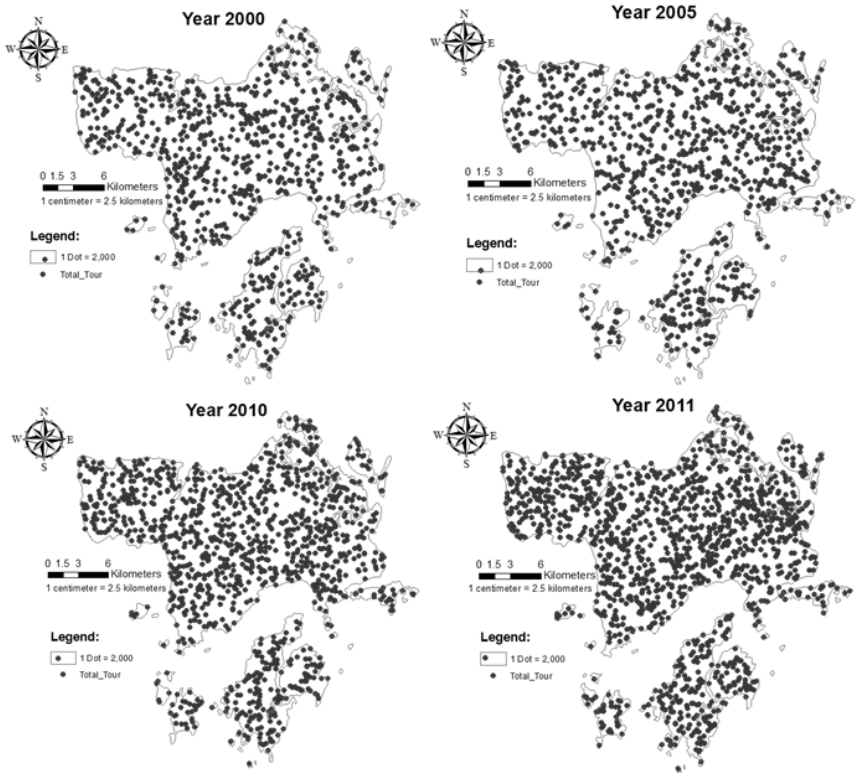

Figure 5: Total Tourist Arrived In Langkawi 2000, 2005, 2010 And 2011

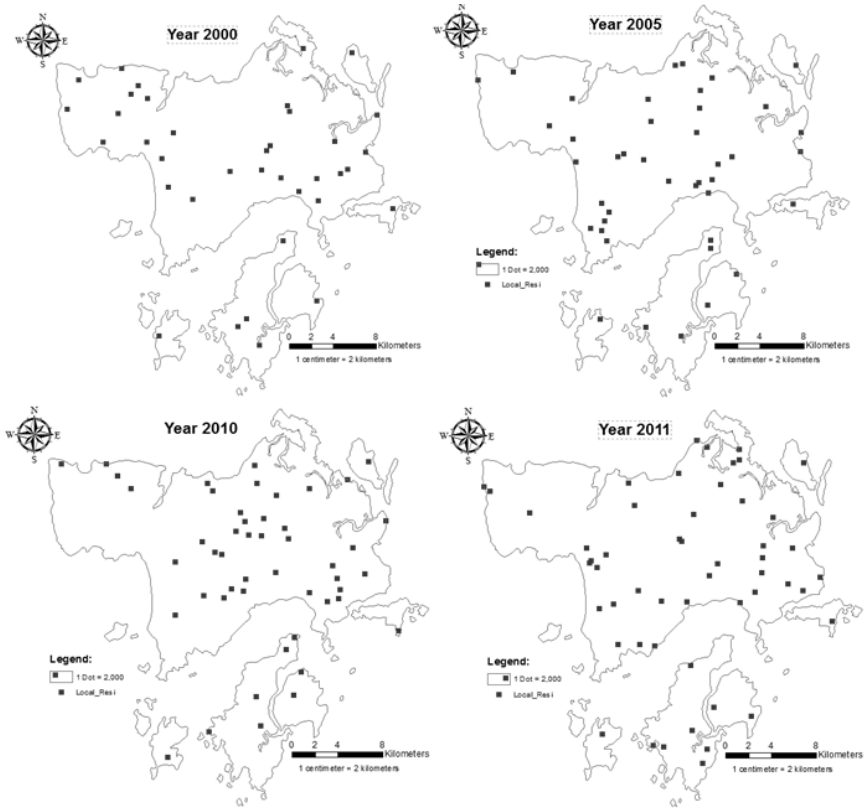

Figure 6: Local Resident In Langkawi 2000, 2005, 2010 And 2011

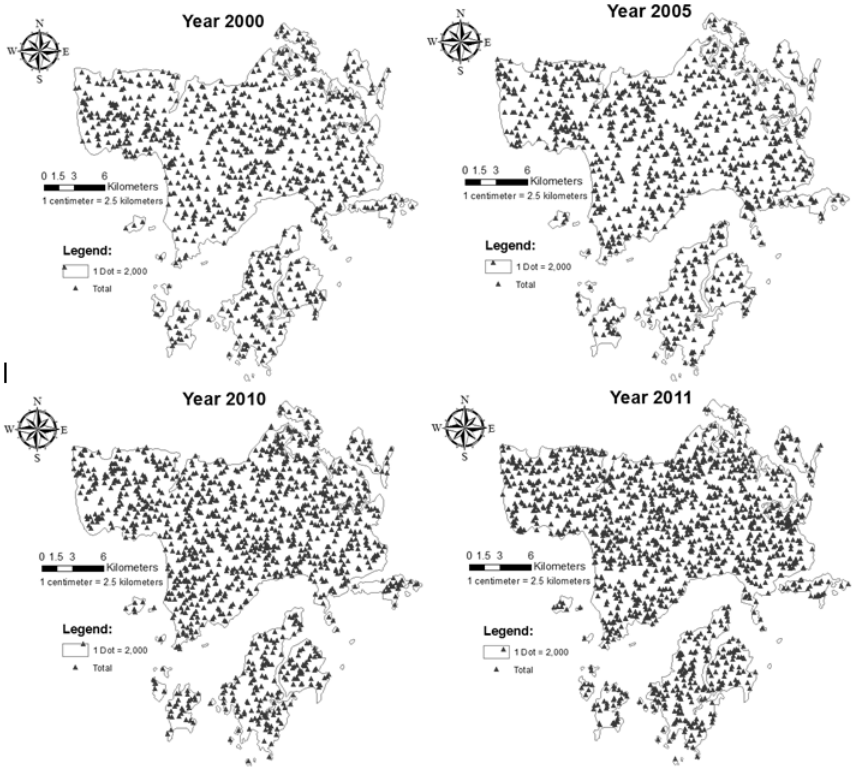

Figure 7: Total In Langkawi 2000, 2005, 2010 And 2011

Conclusions and Future Recommendations

In conclusion, tourist number which exceeded value RCC, make tourists feel congested and not satisfied. These conditions also cause environmental degradation such as pollution or reduce resources as the main attraction (such as wildlife, forests or others habitat such as beach, river, sea, etc.). To ensure the island remains for eco-tourism and continue to contribute to the country economy, management must determine the exact value of the RCC. This estimate must be made as accurately as possible and involve all parties especially tour operators, local communities, authorities and NGO. This method will ensure that our environmental preservation. The study also revealed that the remote sensing data and GIS based resource assessment and characterization will be great assistance in understanding the relationship between physical parameters and socio-economic situation in RCC (Reddy *et. al,* 2011).

Data requirements and parameters for each place is important to get a more accurate RCC. For example, quality of life index, remote sensing data (TM, SPOT5, IKONOS), topographic maps, metric hydro data, water level, groundwater use, data population, social economic status, land use zones and the basic needs of water ecology (Liu *et. al,* 2009). In addition, other data required such as Shuttle Radar Topography Mission (SRTM) data for elevation, Moderate-Resolution Imaging Spectroradiometer (MODIS) data for rain / humidity, Tropical Rainfall Measuring Mission (TRMM) for temperature data and Normalized Difference Vegetation Index (NDVI) is used to measure green biomass (Tucker, 1979) at study area. This data is important to get a right result from the analysis. In addition, we can also predict future RCC if using the appropriate analysis.

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