

ASSESSMENT OF NATURE-BASED TOURISM IN SOUTH KELANTAN, MALAYSIA

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Nature-based tourism is an important part of the global tourism industry, and its components and features vary considerably from one destination to another. In Malaysia, location, quality and quantity of natural resources, and their infrastructure have not been well documented in the past. Thus, this paper attempts to assess the potential of natural tourism destinations in South Kelantan, by selecting fifteen destinations such as waterfalls and caves as case studies. Based on GIS application, 23 indicators for tourism destination assessment were investigated using observation and checklist techniques. The destinations were further classified based on physical features, infrastructure and accessibility. The results showed that 3 destinations were in the first category, 11 in the second category and only one destination in the third category. This study found that GIS application is effective in providing higher quality of information for natural tourism destination, which is an essential tool for decision making process.

Keywords: *assessment, nature tourism, GIS, South Kelantan, Malaysia.*

JEL Classification: *L83, M1, O1*

INTRODUCTION

Tourism has grown rapidly to become one of the world's foremost economic phenomena. The World Tourism Organization estimates that

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international tourist arrivals in 2020 will reach to 1.6 billion worldwide and tourism receipts will exceed more than US\$2 trillion (WTO, 2000). According to the International Ecotourism Society (2000), about 60% of international tourists can be considered as nature-based tourists. A study done by the World Resources Institute also claims that this type of tourism is increasing at an annual rate of 10% to 30% and will continue to play an important role in international tourism (Reingold, 1993).

The term nature-based tourism is generally applied to tourism activities depending on the use of natural resources which remain in a relatively undeveloped state, including scenery, topography, waterways, vegetation, wildlife, and cultural heritage (Ceballos-Lascurain, 1996). Millions of people travel to see and experience natural environments each year, and the scale of such movements leads, inevitably, to some disturbance or damage to visited sites. While such damage is attributable directly or indirectly to tourists and their activities, it is often unclear whether their actual behaviour is responsible for the major negative impacts on nature and related activities such as the construction and development of infrastructure and facilities (Deng et al., 2002). Nevertheless, it is tourists who are usually identified as causing destruction, particularly in developing countries. This begs the question as to whether this tourism type is compatible with the natural environment and whether it can assist in the resolution of problems associated with the exploitation of such resources.

NATURAL TOURISM DESTINATION ASSESSMENT

Despite the critical role played by the quality of the destination experience in determining whether tourists are satisfied and whether their expectations have been met, most nature-based studies focus on tourist demand rather than on destinations. As this form of tourism continues to grow, areas such as national parks will be placed under increasing pressure. If their managers are to function effectively, it is essential that protected and natural areas are evaluated and rated with a view to communicating the principles of sustainable development and to ensuring an appropriate match between tourists' expectations and experiences (Deng et al., 2002). The European 'blue flag' rating system, using this symbol to endorse high quality assets, is an example of such an approach. Beaches, for example, which constitute an asset central to destinations and tourist experiences, are identified

by a particular symbol when they have been evaluated as safe and clean (Moore and Carter, 1991). It is quite conceivable that resort destinations and for that matter some countries will be rated in respect to environmental safety standards. Environmental safety is, however, only one aspect of the management of protected and natural areas and a more comprehensive evaluation and rating system will be needed if such destinations are to fulfil and retain their potential. The development of a formal evaluation and rating system for protected and natural areas is worthwhile for several reasons.

First, tourists will often visit more than one destination during a trip. They will typically experience a range of natural and cultural environments (Dodds & Butler, 2010). The World Tourism Organization has noted that in practice only a small proportion of tourists travel to exclusively experience nature or culture. Despite the upsurge in awareness and interest, avid eco-tourists will remain a small market segment, which has been described as 'hard' eco-tourists (Blamey, 1995). Ornithologists, botanists or geologists are likely candidates for the 'hard' eco-tourist category when they pursue their passion, whereas sightseers or photographers would more commonly fall under the category of 'soft' eco-tourists. Resort tourists who opt to spend a day visiting and learning about a reef or rainforest habitat would typically fall into the 'soft' category. Taking this view to its logical conclusion, all mass tourists are potential nature-based ones and may be categorized as such when spending a period as short as a day or even a few hours in an ecotourism area. For such groups who may not consider themselves as such, the evaluation and rating of national parks provides an opportunity to become informed about the importance of sustainable development through the enhancement of their awareness and understanding of the destination.

A second reason is that nature-based tourism is dependent upon the quality of the environment, more than is the case with other forms (Boyd, Chard and Butler, 1996). Scenically appealing environments often incorporate aspects such as local community, roads and tracks, visitor facilities and attractions, both major and peripheral (Richins & Scarinci, 2009). Where destinations are well managed and tourists are knowledgeable and aware, these elements complement the natural attributes and contribute to satisfaction. If they were provided with an evaluation and rating for each of the elements encountered in such areas, they might be better equipped to assess protected and natural areas just as they are able to anticipate what may be expected from hotels by virtue of their category or star rating.

The third reason is that the importance of pricing as a park's management issue is growing. As Buckley (1998:20) has pointed out, *'management costs for national parks will increase because of increasing tourism visitation rates. Park entrance fees and commercial operator permit fees will increase as park managers endeavour to recover their costs'*. There is a strong argument in favour of relating price levels more closely with the level of experience encountered in protected and natural areas (Dritsaki, 2009). Tourists accept this connection in the case of five-star hotels which charge more than three-star hotels. The application of the commercial rationale is certainly more controversial in the case of natural resources. But as the volume of visitation increases, the parallel with other tourism facilities will become increasingly evident (Deng et al., 2002).

As to the program evaluation process, it may comprise four steps: determining goals, specifying objectives, operational program, and measuring program effectiveness (Theobald, 1979). Lundgren and Farrell (1985) propose that such evaluation is a process of determining value by comparing results with objectives and of judging how well they have been met in both a qualitative and quantitative sense. Evaluation involves input, process, output and feedback. According to Mitchell (1989), Moss and Nickling (1980), Bishop and Gimblett (2000), natural tourism destination could be assessed based on attraction or panoramic view by using three landscape assessment approaches:

- Landscape survey involving an expert team to identify a good aerial view based on site analysis, topography and other information.
- Landscape inventory to identify and record natural features.
- Using Geographical Information System (GIS).

In general, all approaches are important and practical in assessing natural tourism destination. However, due to several limitations in the length of study with a small research grant, this study has deliberately determined to apply GIS application in tourism destination assessment process in South Kelantan, Malaysia. As stated by Milam and Jones (1995), GIS approach could potentially speed up data analysis process and reduce the length of the study. In fact, GIS could improve and increase the quality of final product (Burrough, 1986).

NATURAL TOURISM DESTINATION IN MALAYSIA

Malaysia, in general, has 54 protected areas of more than 1,000 hectares, totalling 1,485 million hectares or about 4.5 per cent of the

country's land surface. They include 28 strict nature reserves (inaccessible to tourism activity), 16 national parks or their state-level equivalents, nine managed nature reserves or wildlife sanctuaries and one protected landscape. Recent statistics reveal that nature-based activities are the fastest growing tourism product in Malaysia, and it is estimated that 10% of Malaysia's tourism revenue in 2000 originated from ecotourism.

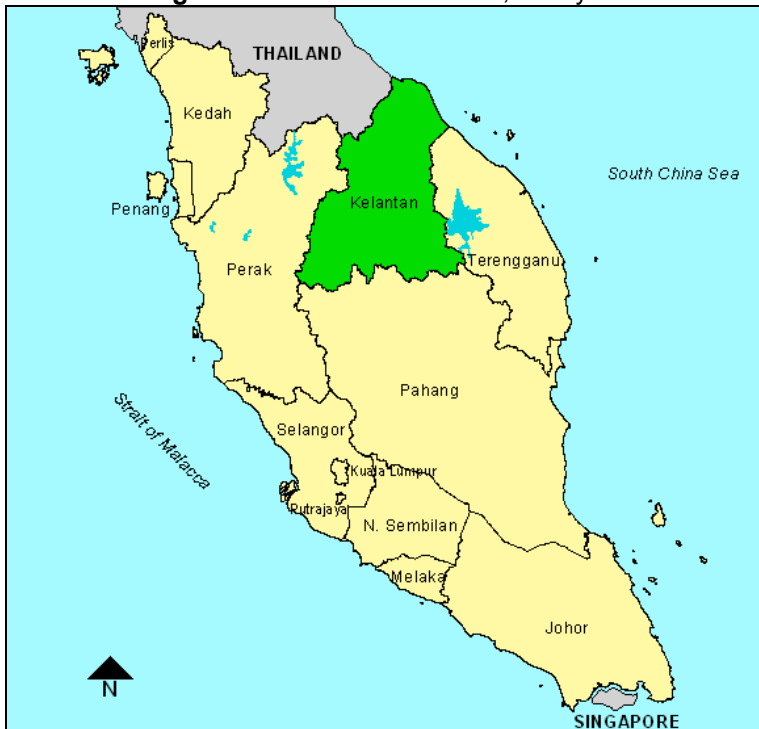
The National Ecotourism Plan (NEP) was drafted in 1996 to assist the federal and state governments in developing Malaysia's ecotourism potential. The Plan identifies 52 project suggestions, relating to 48 areas and four suggestions that are not site-specific. About 20 sites in Peninsular Malaysia, Sabah and Sarawak account for the vast majority of ecotourism by foreign and domestic tourists. The Plan is intended to serve both as an appropriate instrument within the overall sustainable development of Malaysia and the economy as a whole, and as an effective tool for conservation of natural and cultural heritage of the country.

Due to proximity of most ecotourism sites to rural areas, the Rural Tourism Master Plan was subsequently drafted in 2001 to complement strategies in NEP. Prior to the NEP, the Malaysia Tourism Policy study identified ecotourism as an ancillary form of tourism, but the study did not define its relationship with other types of tourism. The policy study however was misleading in its recommendation that development policies in the natural environment were directed at accessibility, resource preservation and conservation to minimise adverse environmental impacts and it placed an undue emphasis upon infrastructure and impact reduction rather than enhancement of natural environment as a positive feedback mechanism. Therefore, this study focuses on natural destination assessment in the context of nature-based tourism to identify the existing standard of every natural tourism destination in South Kelantan.

THE CASE OF SOUTH KELANTAN, MALAYSIA

The State of Kelantan situated in the East Coast of Peninsular Malaysia, neighboring with Thailand in the North and the States of Perak, Terengganu and Pahang in the West and South (Figure 1). With most of the physical area in the state is still untouched, Kelantan is famous for its natural environments and cultural heritage which have influenced the development of the tourism industry to generate local economy. In line with the national policy, tourism development in Kelantan is also progressing rapidly with an increase of domestic tourist arrivals as well as international tourists.

Figure 1 Location of Kelantan, Malaysia



Based on the State Government data, tourist arrivals increased from 201,000 in 1984 to 1.2 million in 1995 and 4.27 million in 2004 (Statistik Kerajaan Negeri Kelantan, 2007). An income from the tourism industry to the State Government was around 8% per year during that period. Therefore, based on the potential of South Kelantan to be developed as natural tourism destination, 15 destinations (Figure 2) were selected for natural assessment as follows:

1. Taman Negara-Kuala Koh, Gua Musang.
2. Gunung Stong, Jeli.
3. Gua Gunung Reng, Jeli.
4. Gua Madu, Gua Musang.
5. Gua Cha, Gua Musang.
6. Gua Ikan, Kuala Krai.
7. Lata Renyok, Jeli.

8. Lata Berangin, Kuala Krai.
9. Lata Rek, Kuala Krai.
10. Lata Hujan, Tanah Merah.
11. Taman Etnobotani, Gua Musang.
12. Dataran Renok Baru, Gua Musang.
13. Empangan Pergau, Jeli.
14. Kolam Air Panas, Jeli.
15. Air Terjun Panggung Lalat, Gua Musang.

Figure 2 Study area, South of Kelantan



RESEARCH METHODOLOGY

This study has applied both checklist and Geographical Information System (GIS) approach during data collection and analysis as follows:

Checklist Approach

A checklist approach supported with Likert Scale measurement based on a study done by Priskin (2001) was adopted for this study. The assessment indicators based on the literature have been expanded to assess the natural tourism destinations in South Kelantan. All 15 natural tourism destinations in South Kelantan were evaluated and classified based on indicators of the three main categories namely: 1. Physical features, 2. Infrastructures, and; 3. Accessibility.

1. Assessment on Physical Features

Eleven indicators related to physical features are selected for further assessment include; 1.Current physical condition, 2.Topography, 3.Development potential, 4.Size of river, 5.Water's quality, 6.Size of waterfall, 7.Waterfall's quality, 8.Size of cave 9.Cave's quality, 10.Forest reserve's category, 11.Plants' quality.

2. Assessment on Infrastructure

About ten indicators related to infrastructure are included in assessment process which comprise; 1.Accommodation, 2.Food's stall, 3.Information center, 4.Public toilet, 5.Prayer room, 6.Signage, 7.Parking, 8.Camping area, 9.Electricity, 10.Water.

3. Assessment on Accessibility

Accessibility to every destination was evaluated based on two indicators, road category and class of vehicle.

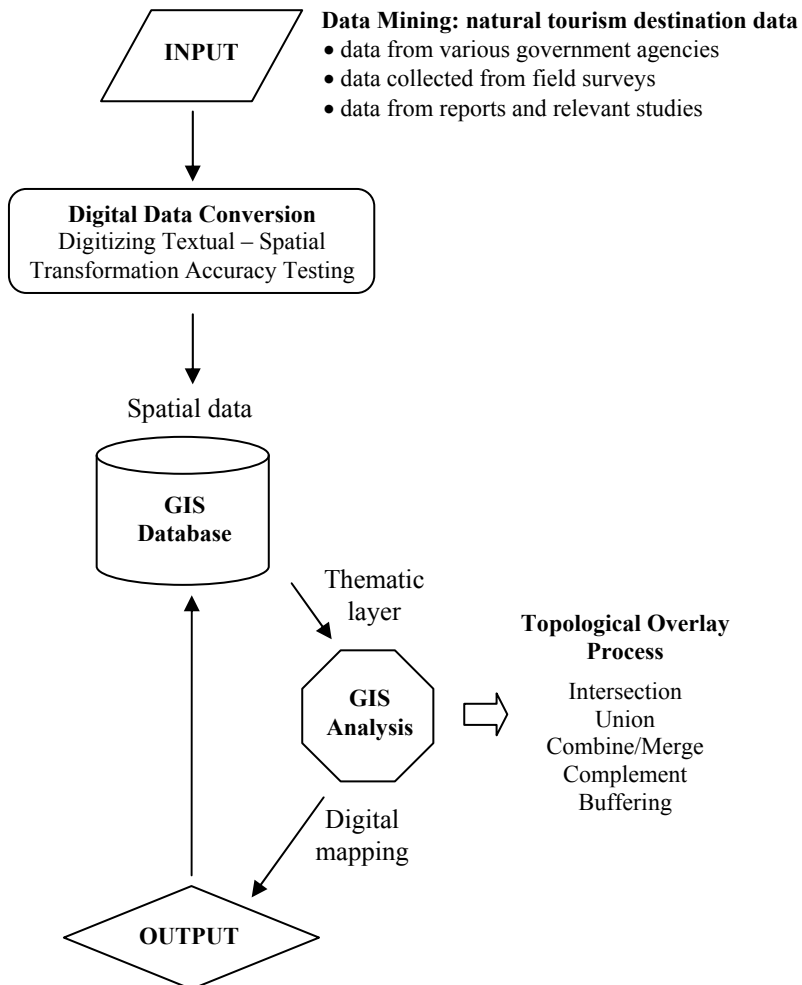
GIS Approach

A quantitative GIS analysis based on the checklist result was used to provide computable details of the background and characteristics of the destinations. The aim of the GIS analysis is to:

1. Provide maps and geographical information.
2. Improve geographical data management.
3. Offer a strategic approach to support decision-making process.

The formulation of an integrated natural tourism destination assessment requires relevant up-to-date data and information to assist and support the decision-making process. Such data and information includes land use, cadastral information, tourism, commercial activities and others.

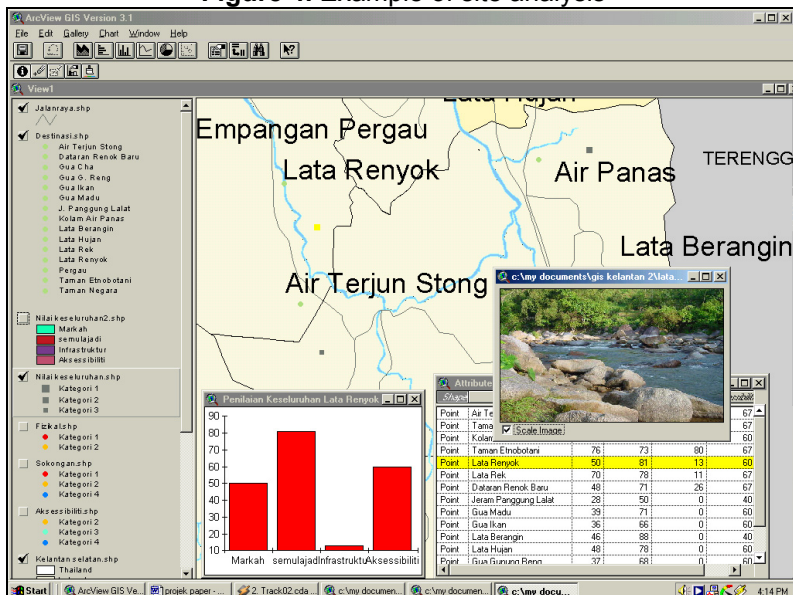
Figure 3. Data Conversion and Processing in GIS



The procedure pursued in the development of the spatial database is shown in Figure 3 and Figure 4 and explained further as follows:

1. Acquisition of spatial and tourism destinations database map from Kelantan state government department and local government agencies.
2. Field checking to verify the existence of features to determine the reliability of the source maps.
3. Converting paper maps into digital maps by digitizing.
4. Creation of typology to establish relationships between map features.
5. Spatial data analysis of natural tourism destinations in South Kelantan.

Figure 4. Example of site analysis



RESEARCH FINDINGS

The findings of this study were explained based on three categories of physical features, infrastructure and accessibility as follows:

1. Physical Features

Findings of natural based attractions from all destinations were varied (Table 1). Based on the assessment of all destinations, only 13 sites were 'very attractive' and another 2 site were 'attractive'.

Table 1 Classification on natural features of destination

Classification	Score	No.	%
Very Attractive	67 - 100	13	86.67
Attractive	34 – 66	2	13.33
Not Attractive	0 - 33	-	-

2. Infrastructure

In general, South Kelantan has very low levels of tourism infrastructure, with 11 sites were not provided with any facilities (Table 2). Only 3 sites had just some basic facilities and 1 site with poor facilities.

Table 2 Classification of destination facilities

Classification	Score	No.	%
Basic Facilities	67 - 100	3	20.00
Poor Facilities	34 – 66	1	6.67
No facilities	0 - 33	11	73.33

3. Accessibility

Only 6 sites can be accessed easily, compared to 8 sites which had a moderate accessibility (Table 3). However, one site could not be reached due to poor accessibility.

Table 3 Classification of destination accessibility

Classification	Score	No.	%
Good	67 - 100	6	40.00
Moderate	34 – 66	8	53.33
Poor	0 - 33	1	6.67

Summary of Findings

Based on the assessment done on all natural tourism destinations in South Kelantan, this research found that only 3 destinations are in the First Category with a score from 67% and above. Another 11 destinations with a score of 34% to 66% are in Second Category and the Third Category only comprises of only one destination with a score below than 33% (Table 4 and Figure 5).

Table 4 Result of destination classification

Category	Location
I	Taman Negara Kuala Koh Air Terjun Gunung Stong Taman Etnobotani
II	Gua Cha Gua Madu Gua Ikan Gua Gunung Reng Dataran Renok Baru Empangan Pergau Air Terjun Lata Hujan Air Terjun Lata Beringin Air Terjun Lata Renyok Air Terjun Lata Rek Empangan Pergau
III	Air Terjun Panggung Lalat

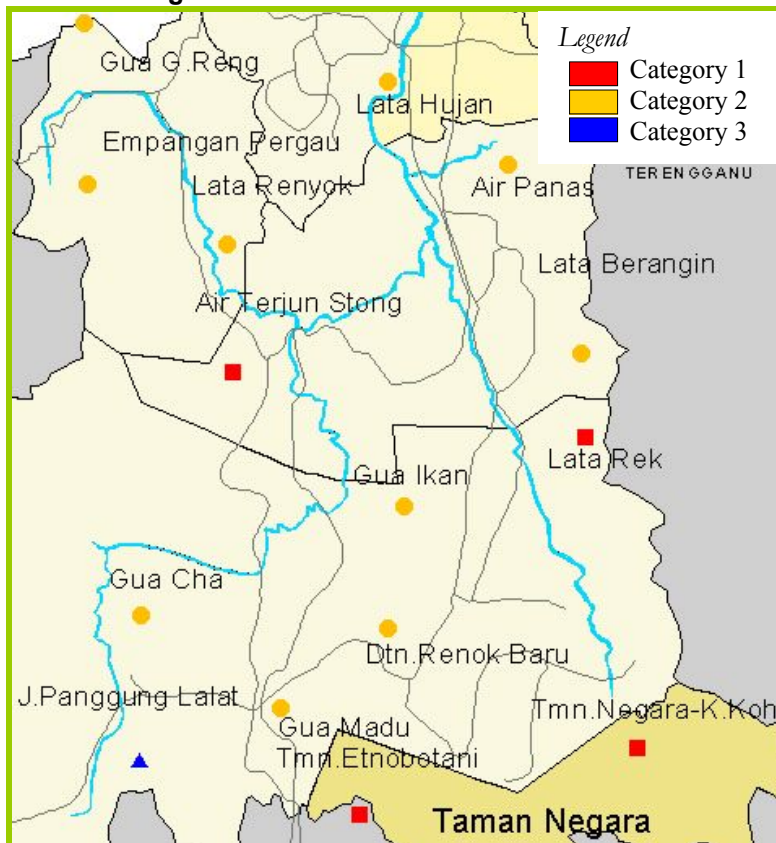
CONCLUSION

Generally, GIS application in tourism destination assessment provides value added analysis compared to other approaches such as observation and site investigation. In this study, observation technique was also used in deciding the score of each category, but the data analysis for destination categorization was conducted through GIS. It was found that the relationship between spatial and textual data has improved the management of data analysis procedures to provide an effective data modeling process. The findings from this study also show that GIS application in assessing natural tourism destination is effective and

efficient to provide higher quality of information for the decision making process.

In addition, this research used a simple and effective way to identify and assess the quality and quantity of natural resources for nature-based tourism in South Kelantan. As this has value for planners and managers, it is necessary for decision makers to know the quality and quantity of resources as well as their spatial distribution and how significant they are. Resource inventories such as this are fundamental to planners and managers, and they are better placed in making decisions about resource capability, land use compatibility and impacts.

Figure 5. Result of destination classification



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