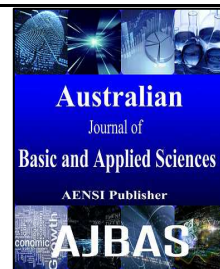




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The Study of Local Community’s Perception on The Impact of Tourism towards The Physical Environment of Perhentian Island, Malaysia

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ABSTRACT

This paper discusses the local community’s perception on the impact of tourism towards the physical environment of Pulau Perhentian, Malaysia. It aims to identify the villagers’ perception and their opinions on the impacts of tourism on the island. As one of the well-known tourist spots and destinations in Malaysia as well as in the world, Pulau Perhentian receives large numbers of tourists per year which has resulted in many changes to its physical environment and influenced the community’s culture and lifestyles as well as the island’s economy. As a small resort island, it has very limited flat lands and very fragile environment, and thus the increase in capacity of its occupants and populations may cause much impact on its natural resources and environment. Concerned with this issue, this study focuses on the impact of tourism on the physical environment of Pulau Perhentian, both natural and man-made environment. Questionnaires consisting six sections were distributed to 130 local people of the Pulau Perhentian. The information gained from the questionnaires was analyzed and the factors that gave high impact on the villagers and environment had been identified. The results of the study together with solutions and recommendations for a better tourism management which includes sustainable tourism planning strategies, appropriate IT applications with active and effective public participation are covered in this research.

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INTRODUCTION

Tourism is an important industry to many countries especially the developing countries. But tourism industry has given many impacts towards the environment and local community (Coccosis *et al.*, 2004).

These impacts could be positive and negative not only towards its natural environment but also to the culture and livelihood of the people in the host countries. The positive impacts are in the form of generating economic activities and income to the destination countries and also development to the attraction areas and many other benefits. However there are also many negative impacts arising from tourism activities especially to its natural environment and social and cultural impacts to local people unless it is done in sustainable manner and taking into account the carrying capacity of the areas.

The initiative of this study is not to get into depth of the causes and issues related to the impacts

but to understand and gather information on the perception of local people of Perhentian Island, Terengganu, Malaysia related to the physical environment impacts of tourism to their island, both positive and negative impacts.

History And Setting of Perhentian Island:

In Malay, Perhentian Island known as Pulau Perhentian. Pulau means Island and Perhentian is actually derived from the word ‘henti’ means stop and Perhentian means a place to stop. Perhentian Island has long been a stopover for merchant vessels since the era of Srivijaya maritime empire circa 13 centuries ago.

Perhentian Archipelago is located in the northern part of the state of Terengganu under the district of Besut, within the mukim (county) of Kuala Besut. It takes about 20-40 minutes by speedboat to reach the island from Kuala Besut Jetty.

Perhentian Island consists of two main islands namely Perhentian Kecil (Smaller Perhentian Island)

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and Perhentian Besar (Bigger Perhentian Island) and several small rocky islets to the North-West namely Pulau Serenggeh, Pulau Pusu Dara Besar, Dara Kecil, Pulau Rawa, and Pulau Tokong. (Department of Fisheries Malaysia, 2003)

According to Department of Statistic Malaysia (2010), based on the population and housing census of Malaysia 2010, the total population of Perhentian Island is 2,023 with 1,838 Malaysian and 185 others are non-Malaysian. Majority are Malay (1765 people). The statistics shows that the total population of Perhentian Island increases compared to 1274 people in the year 2000 (Besut District Local Plan 2020) It is assumed that tourism activities have influenced the increase in population to the island.

Tourism in Perhentian Island has started since 1960's on a very small scale basis. (Tan Wa Hin *et al.*, 2001 and Perhilitan and Coral Cay Conservation, 2005). Tourism in Perhentian Island really boost in 1992 during the 'Visit Terengganu Year 1992'. Since then, there are many developments in Perhentian Island where infrastructures were built and other tourists related development sprung up both in Perhentian Kecil and Perhentian Besar Islands, and tourism became the main economic activities of the island till today.

Significant of The Chosen Study Area:

This study is taken place in the Perhentian Island due to the connection between the tourist and the local people as well as the potential of tourism sector contribute to local people who inhabitant the place since before the establishment of Perhentian Island as world tourist attraction. This is also to study how the local people in fishermen's village adapt with the current status of Perhentian Island as a resort island as well as to identify the impacts of tourism sector towards local community in the prominent small island such as Perhentian Island.

The selection of Perhentian Island as a case study is mainly because geographically the area is located in the East Coast Malaysia, in the state of Terengganu which popular with its coastal and island tourism. Perhentian located facing the South China Sea and the location is one of the contributions towards its richness of sea resources and potential in tourism development. As mentioned before, Perhentian Island has many tourism attractions to offer but it also might exposed to many good and bad impacts due to tourism which will be the concern by the researcher. One of the most concerns is the impact towards the physical environment which Wallis (2000) who lived for years in Perhentian Island feels the effect of deterioration of the environment in the island. This is also felt by Tan Wa Hin (2000) who feels the degradation of the environment due to tourism though not drastically but its slowly make effects according to him.

Sampling Design & Criteria:

The survey is done during the site visit to Perhentian Island. The target respondents of this questionnaire survey are the local community who live in Perhentian Island aged 18 and above. The data collected is based on the assessment of the local community towards the impacts of tourism upon them. The questionnaire survey is divided into six sections; respondent's demographic, respondent's awareness, tourism impact on natural environment, tourism impacts towards man-made environment, other impacts of tourism and suggestion and recommendation for development improvement in Perhentian Island.

The survey is to state a general picture of tourism impacts towards the local community in Perhentian Island, so as to be able to understand the need and opinion of local people on how tourism may impact their daily lives as well as physical environment. The data of population of villagers in Perhentian Island as reported by Statistics Department is 2023 people in year 2010. Based on this population, the survey was able to get 130 respondents which are 6.5% of the local community in the island.

Subjects selected in the sample were based on specific criteria to ensure the samples are valid. The following criteria included:

- i. Local villagers / Working in Perhentian / Others
- ii. One year / more than one year stay in Perhentian
- iii. Well known with Perhentian condition recent and current
- iv. Willing to participate and is in good mental emotion
- v. Must be above 18 years old

Data Collection:

Data were collected from the local community who had lived more than one year in Perhentian Island as permanent residents or working on the island as well as those staying there for quite some time for whatever purposes. The data collected from the survey will be used to prove or disprove the theory reiterated from the literature review.

The data can also be used to do further research and findings on the improvement of tourism industry in a small island as well as give ideas on how the negative impacts could be mitigated or reduced while positive impacts to be enhanced in the future.

The population, community profile, their origin, and length of stay in the island were examined according to the survey and some information were based on the Statistics Department and other related agencies.

The questionnaire has been formulated and formatted according to the literature reviews. Several aspects of physical environment impact has been included in the questionnaire as well as other questions on other impacts of tourism such as

economy and social impact. The questionnaire consists of six sections which are as follows:

- i) Section A: Respondent's Demographic
- ii) Section B: Respondent's Awareness
- iii) Section C: Impacts on Natural Environment
- iv) Section D: Impacts on the Man-Made Environment
- v) Section E: Other Impacts of Tourism
- vi) Section F: Suggestion and Recommendation

Data Analysis:

For this survey, SPSS system was used extensively to analyze and organize the data that has been collected during the fieldwork survey. The method of data analysis is done according to suitability with the questions in the questionnaire survey.

In this research, there are several methods that have been used to analyze the data such as descriptive statistics which consist of frequencies,

descriptive, factor analysis, correlation analysis and multiple regression. Tables were drawn from the data recorded and presented in diagrams and charts.

As for basic analysis such as using frequency method, it is the simplest way in SPSS to get both frequency distributions and summary statistics for each variable in this research. For this research, frequency analysis has been used for each variable including the Likert scale questions. Based on overall results from the frequency analysis, each variables were rated and rank using average mean differences.

There are several hypotheses developed for this research. The hypotheses have been tested using Spearman's Rho Correlation (used to identify the strength of a relationship between two sets of data or variables). It will determine whether the hypotheses are to be rejected or accepted.

Respondent's Background:

Table 1: Distribution of Respondent's Background

Respondent's Background	Total	Gender				Total (%)
		Male	Female	Male	Female	
		Frequency		Percentage (%)		
1. RACE						
Malay	128	73	55	56.15	42.31	98.46
India	0	0	0	0	0	0
Chinese	1	0	1	0	0.77	0.77
Others	1	1	0	0.77	0	0.77
2. AGE						
18-25	36	19	17	14.62	13.08	27.69
26-30	25	12	13	9.23	10.00	19.23
31-35	13	7	6	5.38	4.62	10.00
36-40	23	13	10	10.00	7.69	17.69
41-45	9	6	3	4.62	2.31	6.92
46-50	10	8	2	6.15	1.54	7.69
51-55	6	3	3	2.31	2.31	4.62
56-60	3	3	0	2.31	0	2.31
≥60	5	3	2	2.31	1.54	3.85
3. MARITAL STATUS						
Single	43	25	18	19.23	13.85	33.08
Married	84	48	36	36.92	27.69	64.62
Widow/er	3	1	2	0.77	1.54	2.31
4. EDUCATION LEVEL						
Primary School	29	21	8	16.15	6.15	22.31
Secondary School	51	27	24	20.77	18.46	39.23
STPM	11	7	4	5.38	3.08	8.46
Certificate	8	6	2	4.62	1.54	6.15
Diploma	13	6	7	4.62	5.38	10.00
Bachelor Degree	16	7	9	5.38	6.92	12.31
Master Degree	2	0	2	0	1.54	1.54
Ph.D.	0	0	0	0	0	0
5. OCCUPATION						
Tourism-related	70	45	25	34.62	19.23	53.85
Others	47	25	22	19.23	16.92	36.15
Not Stated	13	4	9	3.08	6.92	10.00

(Source: Field Survey 2013)

According to Table 1, the respondent's background can be explained as follow:

1. The majority respondents are Malay with 98.46% of the total respondents. Only one Chinese respondent found working in a chalet at Perhentian Besar while another one respondent from other races who work as a Policeman at Perhentian Kecil.

2. The active respondents came from the younger generation of aged between 18-35 years old with total of 56.92% of the total respondents. Followed by age range from 36-50 years old with the

total 32.3% and the least from aged 51 and above for 10.78%.

3. The highest marital status of the respondents are married which is 64.6% followed by single with 33.1% and only 2.3% from total respondents is widower.

4. The majority respondents which are 39.23% acquired highest education until secondary school while 22.31% acquired only until primary school. This shows the highest number of respondents have low education level followed by middle education level (STPM, certificate and diploma) with the total

24.61% and the least gained high education level (Bachelor Degree and Master Degree) with the total 13.85%. In this research, education level is very important factor to determine the answers given by the respondents for the questionnaire either according to their experience or knowledge.

5. There are 53.85% of the total respondents are working in tourism-related sector. This includes

the boatman, chalet (chalet manager, operator, receptionist and many other jobs related to chalet), chef, restaurant, tourist guide and waiter as can be seen in Table 2. While, non-tourism related or other occupations recorded as 36.15% and there is 10.00% respondents did not answer the question.

Table 2: Distribution of respondents according to occupation

Occupation	Frequency	Percent (%)
Boatman	22	16.9
Chalet	21	16.2
Restaurant	13	10.0
Teacher	13	10.0
Housewife	8	6.2
Waiter	7	5.4
Chef	5	3.8
Fisherman	5	3.8
School Guard	5	3.8
Policeman	4	3.1
Cleaner	3	2.3
Student	3	2.3
Tourist Guard	2	1.5
Clerk	1	0.8
Contractor	1	0.8
House Builder	1	0.8
IT Officer	1	0.8
Nurse	1	0.8
TNB	1	0.8
Not Stated	13	10.0
Total	130	100.0

(Source: Field Survey 2013)

Respondent's Household Status:

Table 3: Distribution of Respondent's Household Status

Respondent's Household Status	Total	Gender				Total (%)
		Frequency		Percentage (%)		
		Male	Female	Male	Female	
1. LIVING PERIOD						
1-5	36	23	13	17.69	10.00	27.69
6-10	6	4	2	3.08	1.54	4.62
11-15	2	2	0	1.54	0	1.54
16-20	18	10	8	7.69	6.15	13.85
21-25	14	6	8	4.62	6.15	10.77
26-30	14	8	6	6.15	4.62	10.77
31-35	6	3	3	2.31	2.31	4.62
>35	34	18	16	13.85	12.31	26.15
2. LIVING PURPOSE						
Origin	68	35	33	26.92	25.38	52.31
Working	45	35	10	26.92	7.69	34.62
Education	2	0	2	0	1.54	1.54
Others	15	4	11	3.08	8.46	11.54
3. HOUSE/LAND STATUS						
Owned	71	35	36	26.92	27.69	54.62
Rent	16	10	6	7.69	4.62	12.31
Quarters	29	22	7	16.92	5.38	22.31
Others	14	7	7	5.38	5.38	10.77
4. MONTHLY INCOME						
< RM500	13	3	10	2.31	7.69	10.00
RM 501-RM1000	61	38	23	29.23	17.69	46.92
RM1001-RM 1500	14	11	3	8.46	2.31	10.77
RM 1501-RM 2000	9	6	3	4.62	2.31	6.92
RM 2001-RM 2500	2	1	1	0.77	0.77	1.54
RM 2501-RM 3000	5	2	3	1.54	2.31	3.85
RM 3001-RM3500	3	2	1	1.54	0.77	2.31
> RM3500	8	7	1	5.38	0.77	6.15
Not Stated	15	4	11	3.08	8.46	11.54

(Source: Field Survey 2013)

According to Table 3, the respondent's household status can be explained as follow:

i. It is important for a respondent to live in Perhentian Island for at least one year to see the impact and changes of the island. Most of the respondents have live in the island for 1-5 years (27.7%) followed by more than 35 years (26.2%), and 16-20 years (13.8%). The least is range from 11-15 years with the percentage of 1.5%. According to

the data, it can be assumed that the range of living period from 21 years and above is those who live in Perhentian Island since they were born which is their origin (refer Table 4).

ii. For the purpose of living in Perhentian Island, the highest number of respondents is origin from the island which recorded as 52.3% from the total respondents followed by working (34.6%), others (11.5%) and education (1.5%). The others are such as marriage, family etc.

Table 4: Relationship between living period and purpose of living

Living Period (years)	Purpose of Living				Total
	Origin	Working	Education	Others	
1-5	0	32	2	2	36
6-10	0	5	0	1	6
11-15	0	2	0	0	2
16-20	9	5	0	4	18
21-25	13	0	0	1	14
26-30	12	0	0	2	14
31-35	6	0	0	0	6
>35	28	1	0	5	34
Total	68	45	2	15	130

(Source: Field Survey 2013)

Purpose of living in Perhentian Island is much related to the living period of a respondent. According to Table 4.4 above, the simple cross tabulation table shows that the total of 68 respondents who live in Perhentian Island for more than 16 years are due to their origin while others who live less than 15 years are majority for the reason of working (as highlighted in the table).

iii. There are 54.6% of the respondents owned the house and land continued by 22.3% live in the quarters which include chalet workers quarters and also government quarters. 12.3% of the respondents live in a rental houses and the houses usually owned by the island community itself because there is no proper houses built by the government yet for rent except the one that is still under construction (which is a new residential area in Perhentian Kecil). The

least is 10.8% who live in other type of houses such as living with their family, in laws etc.

iv. The majority respondents (74.61%) gained less than RM2000 income per month, 13.85% of the total respondents have income more than RM2000 per month and 11.54% did not mention their income. This shows that, majority of the respondents have low income per month as according to informal interview and data gained from the survey, most of the tourism-related sector will gain income from RM501-RM2000 monthly. This is roughly calculated by the respondents including the at least four months they do not operated the chalet and other tourism based services due to monsoon (November-February). While other profession especially government servants will gain more than RM2000 per month.

Table 5: Cross tabulation between monthly income and occupation

	Monthly Income			Total
	< RM2000	> RM2000	Not Stated	
Tourism Related	66	3	1	70
	50.77%	2.31%	0.77%	53.85%
Others	28	15	4	47
	21.54%	11.54%	3.08%	36.15%
Not Stated	3	0	10	13
	2.31%	0.00	7.69%	10.00%
Total	97	18	15	130
	74.62%	13.85%	11.54%	100.00%

(Source: Field Survey 2013)

Questionnaire Section C: Impact to Natural Environment:

Table 6: Distribution of Perception of Local People on the Impact of Tourism towards Natural Environment (*According to Low, Average and High Impact*)

No	Question	Low Impact (V. Low + Low)	Average	High Impact (V. High + High)	Total
CHANGES TO FLORA AND FAUNA					
	Increase in reforestation to sustain environment	108 (83.0%)	17 (13.1%)	5 (3.9%)	130 (100%)
	Increase in extinction of coral, turtle etc.	60 (53.1%)	39 (30.0%)	22 (16.9%)	130 (100%)
	Increase in deforestation for new development	59 (45.3%)	41 (31.5%)	30 (23.1%)	130 (100%)
	Creation and efficiency of marine park	51 (39.2%)	41 (31.5%)	38 (29.2%)	130 (100%)
POLLUTION					
	Increase in noise pollution from vehicles etc.	84 (64.6%)	33 (25.4%)	13 (10.0%)	130 (100%)
	Increase in water pollution through tourism activities	79 (60.7%)	33 (25.4%)	18 (13.8%)	130 (100.0%)
	Increase in water pollution through oil spillage	77 (59.2%)	26 (20.0%)	27 (20.7%)	130 (100.0%)
	Increase in water pollution through improper sewage discharge	74 (56.9%)	24 (18.5%)	32 (24.7%)	130 (100.0%)
EROSION					
	Increase in land slides	95 (73.1%)	20 (15.4%)	15 (11.6%)	130 (100.0%)
	Increase in exploitation/exploration of caves, hills etc.	88 (67.6%)	32 (24.6%)	10 (7.6%)	130 (100.0%)
	Increase in coastal erosion due to tourism activities	78 (60.0%)	31 (23.8%)	21 (16.2%)	130 (100.0%)
	Increase in coastal erosion due to tourism development	76 (58.4%)	32 (24.6%)	22 (16.9%)	130 (100.0%)
	Increase in coastal erosion due to natural coarse	40 (30.8%)	32 (24.6%)	58 (44.6%)	130 (100.0%)
NATURAL RESOURCES					
	Increase in the usage of ground and surface water to supply purposes	60 (46.1%)	39 (30.0%)	31 (23.8%)	130 (100.0%)
	Increase in the occurrence of fire or open burning	78 (60.0%)	21 (16.2%)	31 (23.9%)	130 (100.0%)
	Increase in the usage of fossil fuels for energy generation	50 (38.5%)	34 (26.2%)	46 (35.4%)	130 (100.0%)
VISUAL IMPACT					
	Increase in litter / garbage	28 (21.6%)	24 (18.5%)	78 (60.1%)	130 (100.0%)

(Source: Questionnaire Survey, 2013)

Table 7: Impacts of Tourism towards Natural Environment Mean Differences

Questions	Mean	Rank
VISUAL IMPACT		
Increase in litter / garbage	3.68	1
Total Mean	3.68	1
NATURAL RESOURCES		
Increase in the usage of fossil fuels for energy generation	2.91	1
Increase in the usage of ground and surface water to supply purposes	2.58	2
Increase in the occurrence of fire or open burning	2.29	3
Total Mean	2.59	2
CHANGES TO FLORA & FAUNA		
Creation and efficiency of marine park	2.72	1
Increase in deforestation for new development	2.62	2
Increase in extinction of flora and fauna	2.32	3
Increase in reforestation to sustain environment	1.55	4
Total Mean	2.30	3
EROSION		
Increase in coastal erosion due to natural coarse	3.15	1
Increase in coastal erosion due to tourism development	2.22	2
Increase in coastal erosion due to tourism activities	2.18	3
Increase in exploitation/exploration of caves, hills etc.	2.00	4
Increase in land slides	1.88	5
Total Mean	2.29	4
POLLUTION		
Increase in water pollution through improper sewage discharge	2.41	1
Increase in water pollution through oil spillage	2.28	2
Increase in water pollution through tourism activities	2.21	3
Increase in noise pollution from vehicles etc.	2.03	4
Total Mean	2.23	5

(Source: Questionnaire Survey, 2013)

Questionnaire Section D: Impact to Man-Made Environment:

Table 8: Distribution of Perception of Local People on the Impact of Tourism towards Man-made Environment (*According to Low, Average and High Impact*)

No	Question	Low Impact (V. Low + Low)	Average	High Impact (V. High + High)	Total
URBAN EXPANSION					
	Increase in change of hydrological and other natural pattern	58 (44.7%)	47 (36.2%)	25 (19.2%)	130 (100.0%)
	Increase in land use change for tourism	34 (26.2%)	54 (41.5%)	42 (32.3%)	130 (100.0%)
	Increase in land use change for residential	41 (31.5%)	51 (39.2%)	38 (29.3%)	130 (100.0%)
VISUAL IMPACT					
	Increase in built up area that create unpleasant view	59 (45.4%)	47 (36.2%)	24 (18.4%)	130 (100.0%)
	Increase in new architectural style which contrast with the existing	74 (56.9%)	26 (20.0%)	30 (23.1%)	130 (100.0%)
INFRASTRUCTURE					
	Increase in road capacity	75 (57.7%)	32 (24.6%)	23 (17.7%)	130 (100.0%)
	Increase in development and better maintenance of public facilities	49 (37.7%)	40 (30.8%)	41 (31.5%)	130 (100.0%)
	Increase in developing new infrastructures	45 (34.6%)	45 (34.6%)	40 (30.8%)	130 (100.0%)
	Increase in distilled water supply	19 (14.6%)	28 (21.5%)	83 (63.9%)	130 (100.0%)
	Increase in electricity	19 (14.6%)	42 (32.3%)	69 (53.1%)	130 (100.0%)
	Increase in communication systems	18 (13.8%)	46 (35.4%)	66 (50.7%)	130 (100.0%)
	Increase in waste disposal bin	33 (25.4%)	35 (26.9%)	62 (47.7%)	130 (100.0%)
	Increase in environmental management scheme	32 (24.6%)	38 (29.2%)	60 (46.2%)	130 (100.0%)
	Increase in boat parking and jetty	30 (23.1%)	48 (36.9%)	52 (40.0%)	130 (100.0%)

(Source: Questionnaire Survey, 2013)

Table 9: Impacts of Tourism towards Man-Made Environment Mean Differences

Questions	Mean	Rank
INFRASTRUCTURE		
Increase in distilled water supply distribution and upgrade the system	3.66	1
Increase and upgrade in communication systems	3.54	2
Increase upgrade in distribution of electricity and power supply	3.36	3
Increase in waste disposal bin and area	3.21	4
Increase in environmental management scheme	3.21	5
Increase in boat parking and jetty	3.12	6
Increase in developing new infrastructures (e.g. dining, restaurants, chalets etc.)	2.92	7
Increase in development and better maintenance of public facilities	2.80	8
Increase in road capacity due growth population	2.18	9
Total Mean	3.11	1
URBAN EXPANSION		
Increase in land use change for tourism	3.05	1
Increase in land use change for residential	2.97	2
Increase in change of hydrological and other natural pattern	2.54	3
Total Mean	2.85	2
VISUAL IMPACT		
Increase in built up area that create unpleasant view	2.58	1
Increase in new architectural style which contrast with the existing	2.40	2
Total Mean	2.49	3

(Source: Questionnaire Survey, 2013)

Questionnaire Section E: Other Impacts:

Table 10: Distribution of Perception of Local People on the Impact of Tourism towards Other Impact (According to Low, Average and High Impact)

No	Question	Low Impact (V. Low + Low)	Average	High Impact (V. High + High)	Total
ECONOMIC IMPACT					
	Increase employment opportunities	6 (4.6%)	24 (18.5%)	100 (76.9%)	130 (100.0%)
	Generates more income to local people	5 (3.8%)	28 (21.5%)	97 (74.6%)	130 (100.0%)
	Increase cost of living in the island	3 (2.3%)	39 (30.0%)	88 (67.7%)	130 (100.0%)
	Improve life pattern of local people	8 (6.2%)	34 (26.2%)	88 (67.7%)	130 (100.0%)
	Increase price rate of necessities which burden local people	11 (8.5%)	38 (29.2%)	81 (62.3%)	130 (100.0%)
	Increase in the imported labour working in the island	16 (12.3%)	43 (33.1%)	71 (54.6%)	130 (100.0%)
	Encourage local to invest and gain more profit from tourism sector	12 (9.2%)	56 (43.1%)	62 (47.7%)	130 (100.0%)
SOCIAL IMPACT					
	Increase bad culture and influence for local people	9 (6.9%)	37 (28.5%)	84 (64.6%)	130 (100.0%)
	Increase in self-esteem (more proud of their town and community)	15 (11.6%)	39 (30.0%)	76 (58.5%)	130 (100.0%)
	Encourage to develop friendships and interaction between local and tourists	11 (8.5%)	46 (35.4%)	73 (56.2%)	130 (100.0%)
	Increase in cross-cultural exchange between local and tourists	19 (14.6%)	47 (36.2%)	64 (49.2%)	130 (100.0%)
	Increase in cultural change and dilute local people culture	21 (16.2%)	47 (36.2%)	62 (47.7%)	130 (100.0%)

(Source: Questionnaire Survey, 2013)

Table 11: Impacts of Tourism towards Economy Mean Differences

Questions	Mean	Rank
ECONOMIC IMPACT		
Generates more income to local people	4.01	1
Increase employment opportunities	4.00	2
Increase cost of living in the island	3.87	3
Improve life pattern of local people	3.77	4
Increase price rate of necessities which burden local people	3.75	5
Increase in the imported labour working in the island	3.58	6
Encourage local to invest and gain more profit from tourism sector	3.55	7
	3.79	

(Source: Questionnaire Survey, 2013)

Table 12: Impacts of Tourism towards Socio-Cultural Mean Differences

Questions	Mean	Rank
SOCIAL IMPACT		
Increase bad culture and influence for local people	3.88	1
Encourage to develop friendships and interaction between local and tourists	3.56	2
Increase in cultural change and dilute local people culture	3.48	3
Increase in cross-cultural exchange between local and tourists	3.45	4
Increase in self-esteem (feel more proud of their village)	3.28	5
	3.53	

(Source: Questionnaire Survey, 2013)

RESULTS AND DISCUSSION

Major Finding:

There were several major findings identified to be elaborated in this subtopic. Generally it can be concluded that the perception amongst the residents of Perhentian Island regarding impacts of tourism depends on the social background of the respondents such as age, levels of education, periods of staying in Perhentian Island, and the purposes of living in Perhentian Island. The following findings indicate the perceptions of respondents towards the tourism impacts on the environment:

- i. The respondents from the older age groups perceived that impacts of tourism on environmental pollution were low.
- ii. The respondents in the higher education levels group perceived that the impact of tourism towards the changes to flora and fauna in Perhentian Island is high.
- iii. The respondents in the higher education groups also perceived that tourism activities on the island give higher impact on environment pollution and higher impact towards natural resources of the island.

iv. It was discovered that the respondents living and staying longer on Perhentian Island perceived that the impact of tourism towards its urban expansion, environment pollution and natural resources are low.

v. The respondents who live long on the island perceived that the impact of tourism towards its visual appearance is also low.

vi. It was discovered that the original inhabitants of the islands perceived lower impact of tourism towards the environment pollution and the natural resources of Perhentian Island.

The local people of Perhentian Island were aware of the impacts of tourism towards their island - both positive and negative impacts. They perceived that tourism gives low and insignificant impact towards the natural environment such as its natural resources, flora and fauna, and erosion. However, every respondent agreed that tourism gives high impact towards certain aspect of physical environment especially with regards to cleanliness such as garbage and littering issues.

Other Findings:

On the impact of tourism towards man-made environment, the local people of Perhentian Island perceived that tourism caused high impact due to infrastructural development such as developing new facilities and upgrading existing infrastructures.

Besides the findings on impact of tourism towards physical environment, there are also other impacts such as economy and social impacts. The local people perceived that tourism gives both positive and negative impacts towards the economy and socio-cultural influence to the island.

The local people believed that tourism gives lots of social benefits and monetary profits to the local economy and their personal income, however they also believed that it gives negative impact such as increase in the imported labour which may deprived local people from getting the most of its economic activities. However due to increasing demand for tourism and looking at the benefits arising from it, the local people agreed that the island should remain as tourist destination and believed that the positive impacts of tourism is far higher than its negative impacts.

Discussion of Findings:

In this dissertation, first and foremost, it is very important to identify the background of the respondents as it will determine their perceptions and opinions about the topic. As mentioned earlier, the perception regarding impacts of tourism in Perhentian Island depends on the local inhabitant's background such as age, levels of education, durations and purposes of living in Perhentian Island. These perceptions were revealed through surveys and

questionnaires as well as informal interviews with the respondents.

From the interviews during the survey, it was found out that the older people who had been staying longer or the pioneer inhabitants of the island opined that tourism gives more positive impacts towards the environment. According to them, during the time before Perhentian Island was officially declared as tourism destination, the condition of the environment was worst. There were basically no proper facilities and the village were unorganised. It was so disorganised that there were no basic facilities such proper toilet and sewage were directly discharged into the sea.

However due to tourism activities, the government has provided many infrastructure and facilities in Perhentian Island especially in term of sewage and environmental awareness and system. This explained the reason of older peoples' perception that tourism not only gives no negative impact whereas positively influence and enhance the environment by introducing mitigations towards environmental pollution.

The findings however saw a different view from the respondents with higher education level. From the survey, it was observed that this group believed tourism caused more negative impact towards the environment. Although they perceived that the adverse impacts that is brought by tourism activities is not that extensive at present, but in the long run it will give negative impact. Their views was based on their observation from other similar island resorts whereas the elderlies viewed it based on their local past experience. The educated based their views on more scientific observation such as the extinction of turtles, corals and the other marine life.

These findings is in accordance with the findings elaborated by Holden (2000) and Reef Check Malaysia (2012) which stated that tourism development and constructions as well as tourism activities are among the threats towards marine life especially the coral reefs which are the abode of one third of the oceans dwelling and nursery ground. However one of the boatman interviewed opined from his observations that the extinction of turtles were not entirely due to tourism development alone, but the deliberately of trawler net and natural disaster such as huge wave especially during monsoon seasons were amongst the main reasons for turtles disappearance and corals damage around the island. Monsoonal affects were also contributing to the coastal erosion in the entire island especially in the fisherman's village. Due to this natural phenomenon, the findings shows that majority of the local residents believed that the most worrying factors that is detrimental to the natural environment degradation of Perhentian Island is not entirely from tourism activities but from natural causes.

Since tourism contributes so much to the economic and incomes of the local people, the survey

found out that they still prefer Perhentian Island to remain as a resort island and to receive more tourists. Due to this also, most of the respondents have little concern about the environmental impact to the island and see the benefit from tourism activities outrun the adverse impact of it.

Conclusion And Recommendation:

This research has been done due to various issues raised by many authors regarding tourism in small islands. They are mostly related to limited flat land areas for development, problems with waste disposal, insufficient freshwater supply and high demand, drastic rising of tourist arrival, failure in adhering EIA regulations, and many others. This issues and problems will definitely give rise to both positive and negative impacts towards the physical environment of the island. Besides that, there are also issues such as complaints by the residents relating to the intangible social and cultural impacts due to tourism development in their place.

The recommendation for better development of tourism in Perhentian Island must be done in symbiosis (tourism and environmental conservation can be mutually supportive and beneficial where tourists benefit from the visitor experience and the environment enjoys improvements in management practices) way which benefits the environment, tourist as well as local people. Some recommendation that collected and gathered from questionnaire and interviews are:

- i. Strictly Control in Urban Expansion and New Development
- ii. Implement and Promote Sustainable Eco-Tourism Concept
- iii. Improve and Upgrade the Facilities, Amenities and Infrastructure
- iv. Observe and Limit the Tourism Carrying Capacity / Control the Tourists Arrivals
- v. Awareness Campaign
- vi. Involvement and Participation of All Parties (Government, Local People, Private Sector and Tourists)

Last but not least, as there is limit in this research, there are still rooms for further research. The topic only covers on the physical environment impact of tourism towards Perhentian Island. This research is limited due to many constraints such as time and place distance. Thus, there are many significant aspect related to this topic can be studied further by the other scholars such as aspects of tourism carrying capacity as well as crucial aspect of waste management. This is because an island supposed to have different waste management systems compared to main land area. It will be more sophisticated and challenging in managing waste in an island. This issue also need for serious attention to

maintain environment health of tourism islands in Malaysia.

REFERENCES

- Amran, H. and P.H. Mark, 2011. Tourism Development and Change in Small Islands: Lessons from Perhentian Kecil, Malaysia. Skudai: CiPD, Faculty of Built Environmnet, Universiti Teknologi Malaysia.
- Badaruddin, Mohamed, 2008. *Pelancongan Lestari*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Badarudin, Mohamed. (n.d.). Island Tourism in Malaysia : The Not So Good News? 1212-1219.
- Besut District Local Plan 2020, 2008. *Besut District Local Plan 2020*. Terengganu: Besut District Council.
- Burkart, A.J. and S. Medlik, 1974. *Tourism: Past, Present and Future*. London: Hainemann.
- Chan Ngai Weng, 2009. Ecotourism and Environmental Conservation in Small Islands in the East Coast of Peninsular Malaysia. *Malaysian Journal of Environmental Management*, pp: 53-69.
- Coccosis, H. and A. Mexa, 2004. *The Challenge of Tourism Carrying Capacity Assessment: Theory and Practice*. Ashgate: Hampshire.
- Coral Cay Conservation, 2000. *Status Report on the Coral Reefs of the East Coast of Peninsular Malaysia*. United Kingdom: Coral Cay Conservation Ltd.
- Department of Fisheries Malaysia & Coral Cay Conservation, 2003. *Malaysia Reefs And Islands Conservation Project 2003: Report Of The Marine Pilot Phase*. London: Coral Cay Conservation Ltd
- Department of Statistics Malaysia, 2013. *Malaysia Tourism Satellite Account 2005-2011*. Kuala Lumpur: Department of Statistics, Malaysia.
- Department of Wildlife and National Parks & Coral Cay Conservation, 2005. *Malaysia Tropical Forest Conservation Project: Report of The Perhentian Phase*. London: Coral Cay Conservation Ltd
- Fathilah, I. and T. Lindsay, 2008. Host and Tourist Perceptions on Small Island Tourism: A Case Study of Perhentian and Redang Island. *International Conference on Applied Economics (ICOAE 2008)*, pp: 401-410.
- Hamzah, A., 2007. Tourism development, governance and the environment in small islands: lessons from Perhentian Kecil, Malaysia. *Island Geographies Conference*. Taipei: National Taiwan University.
- Holden, A., 2000. *Environment and Tourism*. USA: Routledge.
- Ismail, F., 2008. Host and tourist perceptions on small island tourism: a case study of Perhentian and Redang Islands, Malaysia. *International Conference on Applied Economics* (pp. 401-410). Kuala Lumpur: International Conference on Applied Economics.

- Jamaluddin, M.J., 2009. Pembangunan Pelancongan dan Impaknya Terhadap Persekitaran Fizikal Pinggir Pantai. *Malaysian Journal of Environmental Management*, pp: 71-88.
- JPBD, 2011. *Garis Panduan Perancangan Pembangunan Fizikal Pulau-pula dan Taman Laut*. Jabatan Perancangan Bandar dan Desa Semenanjung Malaysia; Kementerian Perumahan dan Kerajaan Tempatan.
- JPBD, 2012. *Garis Panduan Perancangan Pembangunan Fizikal Pulau-pula dan Taman Laut*. Jabatan Perancangan Bandar dan Desa Semenanjung Malaysia; Kementerian Perumahan dan Kerajaan Tempatan.
- Marine Park Malaysia, 2011. *Laporan Tahunan Jabatan Taman Laut Malaysia*. Putrajaya: Jabatan Taman Laut Malaysia.
- Marine Park Malaysia, 2012. *Resource Centre: Facts About Coral*. Retrieved from Department of Marine Park Malaysia: <http://www.dmpm.nre.gov.my/>
- Megan, E.W., 2002. *Ecotourism: Principles, Practices and Policies for Sustainability*. Burlington: United Nations Publication.
- Mimura, N., L. Nurse, R.F. McLean, J. Agard, L. Briguglio, P. Lefale, R. Payet and G. Sem, 2007. Small Islands. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, *Climate Change 2007 : Impacts, Adaptation and Vulnerability* (pp. 687-716). Cambridge: Cambridge University Press.
- Mohd Rusli Yaacob., Alias Radam. and Khairil Wahidin Awang, 2008. *Economic Valuation of Marine Parks Ecotourism Malaysia: The Case of Redang Island Marine Park*. Serdang: Universiti Putra Malaysia.
- Nordin, B.M., 2007. *Perancangan Pelancongan*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Reef Check Malaysia, 2009. *Status of Coral Reefs in Malaysia*. Kuala Lumpur: Reef Check Malaysia
- Reef Check Malaysia, 2012. *Annual Report 2012*. Kuala Lumpur: Reef Check Malaysia.
- Roshanim, K., 2004. Komuniti Pulau, Kemiskinan Dan Impak Pelancongan: Kajian Kes Di Pulau Redang, Terengganu. *4th International Malaysian Studies Conference*. Bangi: Universiti Kebangsaan Malaysia.
- Rosniza Aznie, C.R., Y. Usman, G. Suriati, Abdul Rahim, Rosmiza, L. Novel and M.J. Mohd Fuad, 2012. Pantai peranginan Besut, Terengganu sebagai destinasi pilihan. *Malaysia Journal of Society and Space*, pp: 64-74.
- Salleh, N.H.M., R. Othman, S.H.M. Idris, 2012. Penglibatan Komuniti Pulau Tioman dalam Bidang Keusahawanan Pelancong dan Peranan Insentif Pelancongan. *Journal of Tropical Marine Ecosystem*, pp: 57-71.
- Tan Wa Hin, 2001. Sustainability of Island Tourism Resorts: A Case Study of the Perhentian Islands. *National Geography Conference* (pp. 51-68). Kuala Lumpur: University of Malaya.
- Tan Wa Hin and Teh Tiong Sa, 2001. Sustainability of Island Tourism Resorts: A Case Study of the Perhentian Islands. *Geografi Dalam Pembangunan Negara*. Kuala Lumpur: University of Malaysia.
- Teh Tiong Sa., 2000. Sustainable Development and Environmental Management of Malaysian Islands. *Islands of Malaysia: Issues and Challenges*, pp: 319-342.
- UNEP., 2006. *Marine and Coastal Ecosystems and Human Well-Being: A synthesis Report Based on the Findings of the Millennium Ecosystem Assessment*. Kenya: UNEP.
- UNEP., 2011. *Freshwater Under Threat Pacific Island: Vulnerability Assessment of Freshwater Resources to Environmental Change*. Thailand: United Nations Environment Programme (UNEP).
- UNEP., 2012. *Integrated Water Resources Management: Planning Approach for Small Island Developing States*. Kenya: United Nations Environment Programme.
- United Nations, 2010. *Trends in Sustainable Development: Small Island Developing States*. New York: United Nations.
- UNWTO., 2013. *Tourism Highlights*. Madrid, Spain: UNWTO
- Wallis, G., 2000. The Perhentian Islands: Community and Visitor Initiatives in Island Management. In T. S. Teh, *Island of Malaysia: Issues and Challenges*. Kuala Lumpur: KL: IRPA 0237