

The Perception among Tourists on the Impact of Water Tourism Activities towards Marine Pollution: at Geopark, Pulau Langkawi



Azila Ayub, Nur Fariza Aida Azahari, Nik Harnida Suhainai

Abstract: Marine pollution is not a new issue in our country. This could be problem if pollution happened at Kilim Karst Geoforest which is one of the UNESCO Geopark. UNESCO Geopark aims to protect geosites and natural environment. Pollution could exist when it relates to the high volume of tourist that flock to the Kilim Karst Geoforest especially Sungai Kilim. Thus, the increase number of tourists can lead to higher amount of pollution due to water tourism activities. This study is to identify the water tourism activities at Geopark, Pulau Langkawi and to analyse the perception among tourists on the impact of water tourism activities towards marine pollutions. A set of questionnaires was developed, and it was distributed to a total number of 100 respondents that available at Kilim Karst Geopark, Pulau Langkawi. This research was analysed by using Statistical Package for Social Science (SPSS). The findings of the results show water tourism activities contribute towards marine pollution by using correlation analysis. It more proven when natural environment, for example the mangroves being threatened by tourist boat activities and pollution due to littering.

Keywords: Water tourism activities, island hopping, marine life, mangroves

I. INTRODUCTION

This research is about the perception study among tourists on impact of water tourism towards marine pollution at Geopark, Langkawi. This is to identify the water tourism activity and perception among tourist on impact because Langkawi is a world class tourists' destination. This chapter state an overview of the study; background research, problem statement, objective and question of research, scope of research, limitations and significant of study. Background of research state the reason why the title is chosen. This study is to analyze perception among tourists on the impact of water tourism activities towards marine pollution at Geopark Langkawi.

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Geopark Langkawi known as Langkawi UNESCO Global Geopark which is to sustain the balance of tourism development, economic activity and conservation of nature. Geopark Langkawi consists of three conservations area such as Machinchang Cambrian Geoforest Park, Kilim Karst Geoforest Park and Dayang Bunting Marble Geoforest Park. However, this research only focuses on Kilim Karst Geoforest.

The objectives of conducting this research are:

- i. To identify the water tourism activities at Geopark, Pulau Langkawi.
- ii. To analyse the impact of water tourism activities towards marine pollution.

The research questions of this study are:

- i. What is the water tourism activity at Geopark, Pulau Langkawi?
- ii. Are the water tourism activities give impacts towards marine pollution?

The significant of this study is where the researcher will get information about the impact water tourism activity towards marine pollution. This study also can be used as reference to the government and developers on environmental issues at Kilim Karsts Geoforest Park. Thus, the authorities be more stringent in enforcing the law in order to control this situation. Then, at the same time to preserved environment.

II. LITERATURE REVIEW

Geopark

Geopark is an innovation for the protection of natural and geological heritages that vital to the development of geotourism. According to Langkawi Development Authority, geopark is a place that was selected because of its geological significance; fulfil the aspect of place of researched and promoted through any medium like mass media for public, so the natural heritage of geopark can be preserved for generation. There are three (3) main component of geopark such as i) protection and conservation ii) tourism related infrastructural development and iii) development of socio-economic using a sustainable territorial development strategy. Langkawi Development Authority state that any country can declare any of its location as geopark but to get validation by international need to gain membership from Global Geoparks Network (GGN). Global Geoparks Network is supported by United Nations Educational, Scientific and Cultural Organization (UNESCO).



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UNESCO Global Geopark's bottom up approach of combining conservation with sustainable development that involving local people that become popular nowadays. Currently, in 38 countries consists of 140 UNESCO Global Geoparks such as Langkawi UNESCO Global Geopark (Malaysia), Satun UNESCO Global Geopark (Thailand), Jeju Island UNESCO Global Geopark and others (UNESCO, Global Geoparks, 2017).

According to (Henriques M and Briha J, 2017), geopark use some of geodiversity elements which is abiotic component of nature. This is representing a succeed path to global sustainability by encourage sustainable economic development of local people by promoted geotourism and education. The researcher also stated the achievement global sustainability can get by using important tool that assuming the role of local structure.

Water tourism

Water tourism is for recreation and enhance the experience that is developed at the area with complete installation and services [5]. According to [6], going travel to the place that consists of water- based activities means water tourism. The researcher mentions that the people that do not want to take part in water-based activities also can visit tourist site which sit near to the water such as lakes or ocean. [6] also stated water tourists visit islands and coastal region appropriate to involve more leisurely pursuit such as diving or snorkeling whereas water tourism often to active pursuit.

[5] states that water give influence on the ecosystem such as increasing efforts reservation of natural resources, improvement of national parks, protection of coastal and marine parks due to protect mangrove forests. In addition, environment can pollute if there is no construction of facilities water tourism. It is necessary to give understanding of vital water tourism to the local people. The health of the river, lake and coastal should be maintain.

The researcher also states that there are some criteria of tourism plan such as; i) the natural and socio- economic environment ii) attractiveness and tourist activities iii) accommodation iv) transportation v) other infrastructure vi) facilities and vii) utilities. Furthermore, water is important of tourism in nature or open space. Water tourism is demand by people and usually supported by facilities and tourist activities that related to the water fun or entertainment.

Water- based activities

Activity that involve with water based is called water activities. Water activities are most famous around the island. Sometimes, most resorts provide opportunity for water activity. Some example of water activities is water skiing, laser or sun fishing, kayaking, snorkeling and wind surfing, sailing, diving and rafting.

[13] Water activities can be; i) exciting and active ii) diverse and wide ranging iii) fun for the whole family and iv) enjoyed on as well as in the water. There are some advantages of water activities such as soothing and therapeutic, good during pregnancy and low impact as joints which muscles are under less stress. Recreational activities such as swimming, rafting, kayaking, fishing and diving can be done at the fantastic place like rivers, lakes and seas. The researcher also

mentions some or all the four types of activity crucial for wellbeing and quality of life which are aerobic, balance, flexibility and strength.

Water based activities experienced as forms of sport, leisure, recreation and tourism [12]. For the water sports, it can range from high- adrenaline activities such as windsurfing, kite surfing etc. Water leisure activities such as sailing, kayaking and fishing.

Pollution

Pollution refer to the discharge of a toxic or contaminating substance that give disadvantages on natural environment. Based on UNCLOS 1982 Article 1(2), marine pollution also means direct and indirectly introduction by man of substances into marine environment including estuaries. These causes hazard to human wellbeing, damages harm to living resources, existence of barrier to marine activities likes fishing, impairment of the quality of sea water and decrease of enhancements. There are three main types of pollution such as air pollution, water pollution and land pollution.

Water pollution

[1] Water pollution is one of the major problems in global environment and Owa [9] stated that it is a major problem in Nigeria. [11] Water pollution described the poorer water quality while article by Owa [9], water pollution is when the present of some substances and condition in water that the water cannot be used. Water pollution is causes by industrial and commercial water, agricultural practices, human daily activities and modes of transportation. Water pollution contribution by human is huge through; i) defecating ii) dumping of refuse iii) industrial wastes iv) washing clothes etc. Sewage is causes of pollutant fresh water due to discharge of untreated sewage into the river and coastal is very huge and unhealthy. It is becoming hazard to plant and animal including humans when the effect of water pollution in several place has been to extent of irreversibly changing marine life [9]. [3] stated that water pollution gave effect on human health and the environment. According to Environmental Protection Agency (EPA) rates, 3.5 million contract health issues in every year. Some of the health issues are skin rashes, respiratory infections and hepatitis from sewage-loaded coastal waters. [3] also mention that marine debris affected marine environment. All type of debris is responsible for harming more than 200 different species of marine life.

III. METHODOLOGY

The sample for this research is one hundred (100) tourists of Kilim Geopark, Pulau Langkawi. The targeted sample is randomly selected from tourists. The design was chosen as to achieve the objective of research on impact of water tourism activities towards marine pollution.

Data analysis was done with the aid of SPSS (Statistical Package for the Social Sciences) for the Reliability Test, Descriptive Statistic, Mean analysis and Spearman correlation analysis.

Spearman rank correlation is a non-parametric test that used to measure the degree of association between two variables. It does not carry any assumptions about the distribution of the data. When data are measured, at least an ordinal scale which the ordered categories can be replaced by their ranks [2] Spearman also provides a measure of how closely two sets of rankings agree with each other. There formula that used manually calculate the Spearman Correlation:

$$r_s = 1 - \frac{6 \sum D^2}{n(n^2 - 1)}$$

Fig. 1 Formula Correlation

Where:

r: Coefficient

Sd2: The sum of the squared differences between the pairs of ranks

n: The number of pairs

IV. DATA ANALYSIS AND FINDINGS

Descriptive statistics were separated into either the calculation of central tendency or measures of variability.

Research objective 1 (RO1): To identify the water tourism activities at Geopark, Pulau Langkawi.

Table. 1 Mean for RO 1

Variable Statement	Mean
1. There are many "island hoping" activity at Kilim Geopark, Pulau Langkawi.	4.08
5. I get to experience the Wetland Mangroves.	4.13
6. There are many activities can be done at Kilim Geopark.	4.08
9. There is monkey feeding activity at Kilim Geopark.	3.03
10. There is kayak activity at Kilim Geopark.	3.76
11. There is jet ski activity at Kilim Geopark.	2.4
12. I get to experience to see eagle feeding activity.	4.25

The mean values for question "I get to experience to see eagle feeding activity" is 4.25 which the highest means among 7 questions, refer table 1. This means show the tourists strongly agree that there was eagle feeding at there. While, mean value is 2.4 and it was the lowest among 7 questions presented. The question for this mean value is "There is jet ski activity at Kilim Geopark". Some of the tourist agree or disagree with this statement as they not really know that were jets ski activity.

Research objective 2 (RO2): To analyse the impact of water tourism activities towards marine pollution. Pearson's correlation coefficient known as one of the test statistics methods that measured the statistical relationship, or association, between two continuous variables. The relationship is based on the table 2 if it is positive or negative.

Table. 2 Spearman Correlation Test for RQ2

			Correlations		
			Tourist insight	Authority	Water Activity
Spearman	Water Activity	Correlation Coefficient	.355**	.516**	1.000
		Sig. (2-tailed)	.002	.000	.
		N	75	75	75

The authority has the highest value which was 0.516. The significant is about 0.516 which close to 1. Thus, there was a positive relationship between water tourism activity and authority. The Spearman's value 0.516 is positive correlation towards authority. As to conclude, the variables will be influenced on the dependent variable.

V. CONCLUSION

The first research objective is about the water tourism activities at Kilim Geopark. In order to identify the water tourism activities at Kilim Geopark, mean analysis was conducted. Therefore, based from the study, there were 7 activities that been identified with the most higher mean referring to table 1; eagle feeding, tracking at Wetland Mangroves, Island hopping, monkey feeding, kayaking, and jet skiing.

As for second research objectives, is to find tourist's perception on impact of water tourism activities towards marine pollution. Based from the table 2: Spearman correlation test, shows that has positive relationship between water tourism activity and authorities. In contrast of this finding, if there is no relationship between these items, it shows that the researcher has failed to prove the relationship between these two items. As a conclusion, the water tourism activities and authorities have positive relationship.

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