International Journal of Engineering & Technology, 7 (4.34) (2018) 37-40

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

The Impact of Monsoon Flood Phenomenon on Tourism Sector in Kelantan, Malaysia: A Review

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Abstract

The northeast monsoon flood phenomenon is a natural disaster especially around East Peninsular Malaysia such as Kelantan. The main objective of this study is to identify the impact of the northeastern monsoon flood of Malaysia on the tourism sector. The climatology factors for tourism sector especially for the coastal zone tourism segment. Large floods as in 2014 have seen a lot of destroying local areas. Both the government and the non-government should formulate strategies to address the flood issue as a process of improvement for the future. Flood effects such as damage to building infrastructure, coastal beauty, facilities, interrupted services and tourist attractions. The findings show that floods that are among the most frequent climate change in all countries in Malaysia. However, the impact of this disaster will not only affect flood-damaged areas but also indirectly affect the growth of the tourism sector as it requires a reconstruction process. The study was conducted to illustrate the impact of the flood disaster that has affected the tourism sector.

Keywords: *Monsoon Flood; Climate; Tourism Sector; Coastal Zone; Kelantan.*

1. Introduction

The issue of flood disaster is not a normal matter for countries that have often been affected by climate changes factors. Floods that hit almost at the end of the year and the beginning of the year effects around the state. The flood phenomenon is due to the excessive rainfall and water catchment areas that can no longer afford water. However, this study is focused only on the tourism sector. The impacts of floods caused the negative impacts on the tourist defect, forest destruction, lakes, and biological diversity. This is because the tourism sector is a sector that helps a lot in the country's growth. Overflowing of flood water that has flowed to the surrounding area has destroyed building infrastructure, facilities, and so on. The purpose of the study was to identify the impact of the northeastern monsoon flood of Malaysia on the tourism sector in Kelantan.

Flood is a natural disaster that is no stranger to the general public in the world. This flood is not only happening in Malaysia but it is also happening around the world. Malaysia is one of the country which accepts the flood disaster during the monsoon season at the end of the year. Most of the states in the country are not spared the large flood threats, especially the states of East Coast such as Kelantan, Terengganu and Pahang who are familiar with the phenomenon of floods during the monsoon season each year [1].

This situation shows that states in the East Coast are synonymous with flood disaster [2]. In addition, the massive flood events end of 2014 were among the worst floods in Malaysian history [3]. He also pointed out that the massive floods this time affected the extraordinary destruction. Not illustrated by flood events in previous years. According to [4] stated that the unexpected flood was unpredictable due to the "New Moon" phenomenon in which the moon was close to the earth resulting in higher tide than usual.

The big flood phenomenon faced at Kelantan during the end of 2014 was an unexpected event for all Malaysians, especially the people of Kelantan although the state was familiar to flooding at the end of the year during the northeast monsoon. The big flood this time is due to the receipt of high density rain in Hulu Kelantan at Gua Musang and Kuala Krai. This great flood is due to climate change. As stated by [5] major flood events occur due to climate change which has increased the rainfall distribution, thereby enhancing river flow as well as leading to increased sea levels. Furthermore, in Malaysia, floods and flash floods occur traditionally, especially in the east coast of the peninsular during the monsoon season [6]. Increasing frequency of flood events in the country occurs naturally as a result of monsoon changes or due to urbanization and increased squatter areas within the city [6-8]. Meanwhile, floods usually occur either as a result of continuous rainfall resulting in a greater quantity of water than normal or river water overflowing over river banks as a result of capacity or both [9].

Increasingly shallow riverbeds in downstream areas impact from erosion and sedimentation caused flooding more easily occurring [10, 11]. Urbanization development around the river basin causing the erosion and rapidly flow of water into rivers when heavy rain [12].

In general, the monsoon flood is a natural occurrence occurring as a result of the circulation of the earth in its axis which produces different wind movements, where wind circulation (known as the northeast monsoon wind) containing a large amount of water vapor from high pressure areas to low pressure area [13, 14]. In addition, according to the physics theory, the monsoon floods occur in November to March or winter season because of the sun's rays falling on the Southern Hemisphere and forming a low pressure area in Australia, while in the Northern Hemisphere it forms a highland area in Central Asia. The cooling air creates a cold and stable air layer near Siberia and in the northern part of China with the movement in the south-western slope of the Tibetan Plateau. This condition increases the strength of the "Baroclinic zone" between the cooling mass of continental air and the mass of tropical hot air to the South. Thus, an upper gap in mid-latitude increases the "anticyclogenesis" near Central China and "cyclogenesis" near the East China Sea is applicable [15]. In the event of catastrophic floods, various effects will be faced by disaster victims such as loss of life, property destruction, injuries and disease infections [16]. The disaster management systematically should be conducted in an effort to minimize the impact of disasters [17, 18]. Referring to [19], disaster management is a means of reducing or controlling potential losses and hazards caused by disasters; and ensure that immediate assistance can be channeled to disaster victims in an effort to achieve a rapid and effective recovery.

2. Literature Review

Tourism is one of the largest economic sectors in the world which also involves several related sectors such as food, transportation, accommodation, attractions and other services. This sector is one of the major contributors to the economic development of most countries. The World Tourism Organization (WTO) [20] reports that the number of international tourist arrivals has always been increasing, especially between 2004 and 2007 which has recorded impressive growth at an average annual rate of 7%. The WTO also estimates the increase in international tourist trips will reach 1.6 million by 2020 [21]. This situation clearly shows that tourism is a developing sector in the world including Malaysia. Tourist arrivals to Malaysia have grown rapidly from five million people in 1999 to 22 million in 2009 with an increase of 17 million tourists over a period of ten years. It also makes the country occupy the 11th place as the preferred travel destination in the world [22]. Travel development is also due to the human movement to find something that has not been discovered, to explore new areas, to find a change of atmosphere or to get a new journey as well as to improve the quality of life of the world population and to have plenty of time [23].

In addition, travelers are those who are outside their home. Tourism also involves the activities conducted at the destination and facilities created to meet their needs [24]. Based on that definition, tourism is not just a matter of involving foreign tourists, but also local tourists who spend the night in tourist destinations. Accordingly, the World Tourism Organization (WTO) [25] defines tourists as people who go or visit places they are not traveling for at least one year. While the Islamic Tourism Center or the Islamic Tourism Center under the Ministry of Tourism Malaysia has defined Islamic tourism as a field or industry related to adventure to visit places of Islamic history, recognize Islamic culture and heritage, as well as to understand and explore Islamic way of life. Meanwhile, tourism is also defined as a multidimensional and diverse activity that touches on aspects of life and economic activities. [26]. The tourism can be divided into two namely religious tourism which is based on Islamic law and immoral tourism, which is contrary to God's decree and law. According to [27], they are defines tourism as a phenomenon that has a relationship with a person's journey that is not permanent and is not involved with productive activities or activities.

Malaysia has a diversity of attractions and privileges that can be developed as a world-famous tourist destination. The main asset of the nation apart from the beauty of nature and the historical place is its unique culture. It is a major component in tourism development that needs to be addressed, especially when it is combined with tourism and recreation activities. In the context of cultural based tourism, the country has its own strengths due to the unique and potential diversity of cultures being developed as a national tourism product. However, the key to the success of the tourism sector is attributable to the quality, location and perceptions of travelers on the asset [28]. The cultural richness of the people of this country has proven to be attractive to foreign tourists who want quality cultural products and in strategic locations. Tourists as an example need not go to China or India to recognize and view the patterns of life and culture of Chinese or Indian, but are sufficient to visit Malaysia. The unique and diverse local cultural patterns that embrace custom, dressing, ritual, lifestyle and religion are important elements in the context of the national tourism market [29].

Furthermore, the development of tourism in the coastal zone is not something new. The beachside trends and leisure time began when "breathing the sea air" became a fashion at the end of the 18th century and the early 19th century on the coast of European countries [30]. Tourists are particularly interested in new places, while locals benefit from their involvement in tourism. Among the activities that can be carried out by locals is to conduct business, to guide tourists and others [31]. Travel activity has increased dramatically in terms of involvement as well as results over 50 years. Tourism has become more than one industry. This is because it has developed and is part of an important aspect of the country's economic growth. According to [32], tourism sector is one of the largest industries in the world. The tourism industry is closely linked to other economic sectors. Tourism is also an activity that benefits many parties.

3. Results and Discussion

This study is a review study to discuss impact of flood to tourism issue. So, the method used in this study is review issue based on previous study has been conducted by the previous researcher as a related. There are some previous studies that have been done by other researchers in the past regarding the flood disaster. In 33] explain that weather is an important component in the choice of tourism destinations that will impact on demand, service provision, and destination. Changes in weather can affect visitor statistics on a visitor's destination. The study was conducted using quantitative methods of five locations in the United States including San Diego, California; Las Vegas, Nevada; Vail, Colorado; Chicago, Illinois and Miami, Florida. The results of the study illustrate the impact of weather on tourism destinations and climate impacts or changes in the long-term weather.

According to [34], researchers use a land use map obtained from the Department of Agriculture to examine in detail the land use changes to the study area. Researchers also use secondary data on the frequency of disasters and the amount of damage caused by the flood disaster obtained from the Drainage and Drainage of Ampang, Selangor. The findings show that floods are due to human behavior in exploring nature and the consequences of human-created innovation have paved the way for flood disaster risks in the Kelantan River Basin. This situation illustrates that residents affected by floods should prepare and adapt to this disaster, as the amount of damage caused by floods increases every year.

In addition, another study about flood also made by [35] states that monsoon floods are a natural disaster that cannot be avoided from being hit by society. This research is only focused on the Kota Bharu community living in Kota Bharu, especially the respondents who live near the Kelantan River. This study used questionnaires

with 400 respondents. The findings showed that the Kota Bharu community was able to adjust and reduce the impact of floods. Most of the respondents are those who are very sensitive to the surroundings especially during the monsoon season.

Besides that, in [36], researchers use primary data and secondary data. Primary data by fieldwork and observation, questionnaires, and interviews. Secondary data is provided with data from the Department, library materials and references from the internet. Researchers find that floods are overflowing or rising levels of water that occur within a certain period of time and are temporary. This has an impact on socioeconomic activity especially for those living in flood plain. The impact of this flood is more emphasizing on tangible loss, which involves direct impact and indirect effects. The direct impacts were the destruction of property, agriculture, livestock, public utilities and mud pollution and rubbish, while indirectly emphasizing the difficulty of going to work and going to school, social activities were interrupted, transportation and external relations were affected and income declines.

Next, in the study of [37] has been discussing the floods that hit Kelantan. Kuala Krai is one of the worst areas affected by floods. Flood disaster management covers three phases of management in the phase before, during and after. But, this study focuses on the current management phase that relates to rescue activities and delivery of aid supplies. Meanwhile, during the post-flood management phase in relation to recovery activities. This study is aimed at the current and future flood management in Kuala Krai, Kelantan. In this study, qualitative methods were conducted where the respondents consisted of five officers: two from the State Stage and three officers from the District Level. The findings show that there are eight current management problems and after the 2014 floods have been identified. Meanwhile, three current management improvement strategies and a strategy after the flood disaster have been proposed.

According to [38], this study has been using qualitative research using phenomenology as a research study design. Selection of respondents based on sampling and interviews are conducted. The findings have found that there are six major problems involving the destruction of homes and property, financial problems and loss of income sources, psychological problems, respondents' health problems or family members, problems with resident representatives or community leaders and personal problems with family members or neighbors.

Meanwhile, according to [39], this study assess the level of population knowledge of risks, hazards and flood disasters, to study the causes, processes and effects of flood disaster from the perspective of the population. In addition, it also identifies the views and suggestions for reducing the risks and impact of flood disaster on the population. The area of study is focused on Serian District, Sarawak. This study uses a questionnaire with the support of observation, shooting and interview. A total of 99 respondents were randomly selected to represent 12 villages in the Serian District. The survey method was used and the results of the study were analyzed using descriptive analysis (percentage, standard deviation, mean and mod) and inference (mean comparison). The findings show that the majority of residents have knowledge of risks, dangers and floods. Most residents are also aware of the causes, processes and effects of floods in Serian, Sarawak.

Globally, an investigation into the impact of floods on tourism has included various countries and tourist destinations. This makes studying the impact of floods on travel involves many countries. For example, the flood in Prague, the capital of the Czech Republic in 2002, has reduced the number of tourists by one-third with the cancellation of 30 000 reservations for airline tickets. Meanwhile, in 2005 about the storm of Katrina's storm struck the New Orleans US state which dramatically caused the tourism sector to halt the flood. Flood disaster is commonplace in countries like Australia and it has an impact on peak travel flows, a brief and high-risk warnings for loss of lives. Additionally, for less developed and developing countries such as Mumbai (India) are exposed to floods with severe annual impact on the tourism sector. The impact of floods on Mumbai refers to the cost of damaging business properties that are expected to be based on flood water levels. The flood in Bangladesh has been a barrier to tourism and local economic development. However, flood disaster studies in Bangladesh are not reviewed in detail, as they do not have a more specific literature review.

According to [40], flood perceptions are a natural hazard by innkeepers. Floods are defined as dangers with high probability or opportunity to occur on a recurring basis. In his study, most respondents stated flood as a negative and a risk to the success of a business. Floods pose a risk to anyone covers before, during, and after the flood. The accommodation manager sees the flood as a danger through the frequency of floods occurring. Furthermore, the impact on booking and tourist accommodation rates. Tourists who have made a reservation will cancel the reservation upon discovering their chosen destination at risk and affect their safety. The chosen destination has been flooded like the northeast monsoon floods. Travelers who choose a travel destination also cancel the selected package. Floods also have a widespread impact on local communities. It covers the relationship between accommodation, environment, and local communities. Tourism is seen to provide employment to local communities. Flood affects the quality of water, soil, and daily activities of the community. Meanwhile, the impact of the floods is also on the tourist accommodation center. Among them are the loss of business center, the number of tourists, the facilities, the damaged infrastructure, the high recovery costs and the cost of reconstruction. The impact of flooding has affected the tourism industry with the rate of decline in the number of tourists due to floods. After the floods of tourist accommodation business centers suffer losses and may face many challenges to recover. Floods have affected geography, landscapes, activities and attractions in the travel sector [41-43]. Indirect flood impacts are more complex to identify and classify them. Among them are the return visit statistics like repeat tourists, tourist experiences and tourist accommodation management. Second, the indirect impact on product loss, service, promotion and media. Finally, indirect impacts on local communities, staff and accommodation staff.

While the flood disaster in Malaysia is involving the state of Kelantan, which was largely flooded in 2014. Among the effects of the flood disaster on the tourism sector is the area surrounding the tourism sector. Damage to the infrastructure will impact such losses and require cost to reconstruct. The flood-prone tourism infrastructure will make tourist attractions less attractive because tourist safety is a priority. Additionally, the impact on the beauty of the beach as a tourist attraction such as rising sea levels and strong waves will make the center of the tour experience strong winds and affect the coastal area. Hypnosis activities cannot be carried out as it can endanger the safety of the public. In fact, floods are also due to the prolonged rainfall. This affects the beauty of the forest and the lake. The forest is always wet and humid. This will affect tourist travel planning to explore the beauty of flora and fauna.

Based on this study, the phenomenon of floods often encountered by the people of the whole country is not strange. Flood disaster is a natural occurrence occurring as a result of the circulation of the earth in its axis that produces wind movement (known as northeastern monsoon wind). Districts such as Kota Bharu, Kelantan are areas that have been hit by the northeastern monsoon flood due to its proximity to the Kelantan River. Impacts such as infrastructure and building damage, tourist attraction, beach beauty, facilities, interrupted service, tourist rate decline, overhaul costs, and cancellation of travel destination reservations.

4. Conclusion

This study discusses the northeast monsoon floods in Malaysia. The impact of floods in the tourism industry, especially in areas with frequent tourist arrivals, will indirectly impact the economy sector. The findings showed the tourism industry will experience infrastructure damage, facilities, beach beauty and its history,

tourist attraction, service that has to be stopped, tourist rates decline, overhaul costs, and cancellation of travel destination reservations. Travel industry closely related to the economy needs a good strategy to save the sector. Business managers and stakeholders should work together to resolve the issue. The government also needs to be prepared to face the risk of floods and take good measures to prevent problems in the tourism industry not to decline. All the damage and flood impacts in Kelantan this time is among the biggest and of course it requires commitment and high concern of the State and Federal Government. In fact, the services and contributions of the public and volunteer organizations are expected to prove to be together in the rebuilding of all damages that occur in flood-affected areas.

Acknowledgement

The authors acknowledgment to UniSZA and MOHE for scholarship under research grants: (UniSZA/2017/SRGS/17) – R0019-R017, (FRGS/1/2017/WAB05/UNISZA/01/1) - RR22 and RAGS /1 /2015 /WAB05 /unisza /02 /1. Special thanks are also dedicated to *Fakulti Sains Sosial Gunaan* (FSSG) and ESERI, UniSZA to give permissions to use the research facilities, provide the secondary data and supporting in this research.

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