

Impacts of Climate Change on Tourism in Malaysia: Assessing the Community Perspectives

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ABSTRACT

Climate change is a critical issue today which significantly affected the ecosystem of the community. The government of Malaysia has constructed and implemented numerous policy and plan in order to curb the climate change but it is sad to see that this country is still at the moderate phase of overcoming the issue. Climate change consequences on tourism are crucial because it increases the danger of species extinction, decreases freshwater, increases wildfire accidents, heat waves, and illnesses, all of which cause visitors to avoid certain places. Being aware of climate change consequently help the communities to prepare for its effects. As a result, the community is also becoming more educated and able to develop proactive and reactive measures to combat climate change and reducing their social vulnerability. Hence, this study surveyed the impacts of climate change on tourism in Malaysia by assessing the perspectives of the community. The researcher had distributed questionnaire survey to 400 respondents representing the communities in various destinations in Malaysia which are directly and indirectly affected by climate change. The findings indicated that three domains derived and were named as socio-economic impacts, physical impacts and environmental impacts. This study significantly provides the tourism stakeholders in Malaysia to understand in-depth the perceptions of the community towards the impacts of climate change on tourism and taking further actions to overcome the issues.

Contribution/Originality: This study contributes to the tourism stakeholders particularly the policy makers for better understanding regarding the consequences of climate change to the tourism communities in Malaysia. It further provides a strategic plan to overcome the issues of climate change for sustainability based on the socio-economic, physical and environmental aspects.

1. Introduction

Climate change is expected to adversely to affect the tourism as a large portion of its overall performance, but others such as infrastructure, hospitality, land, culture, and

economics will be affected even more (Hall et al., 2015). Indeed, a thorough study of how ten types of climate change impacts are affecting 89 human health, food, water, housing, environment, and protection attributes discovered that tourism is one of the five that is affected by all ten types of climate impacts (Mora et al., 2018). Despite growing data in academia and recognition by policy makers, climate change is still a controversial in the tourism sector. The World Travel and Tourism Council (WTTC) joined the United Nations Framework Convention on Climate Change (UNFCCC) Climate Neutral Now campaign in 2018, pledging to become climate neutral by 2050 and collaborating on sector-wide climate action (Gössling & Scott, 2018).

Tourism has grown to be one of the important and rapidly industries, and it is a key source of income, employment, export, and taxes for many countries. Based on the data from World Tourism Organization (2020), tourism has contributed 9.25 trillion USD to the global economy for 2019 with the number of international tourist arrivals worldwide 1.46 billion. As for Malaysia, the significance of the tourism industry can be interpreted by increasing of revenues, creating job opportunities, encouraging private sector and developing infrastructure (Jalil et al., 2013). Additionally, it also promotes growth and prosperity in business activity, foreign exchange, income, employment and government revenue. In recognition of the importance of tourism towards economy, the government has built essential infrastructure to serve hotels and other tourist facilities and has provided support for the expansion of tourist accommodations, investment incentives and loan guarantees to assist private sectors. The World Tourism Organization has acknowledged Malaysia as the top three countries which attracted higher number of tourists in the Asian region (WTO, 2018). The latest statistics highlights that tourism in Malaysia has continued to exhibit positive growth from 2015 with 86.14 billion contributions in tourist receipts and 26.1 million international tourist arrivals for 2019 (Tourism Malaysia, 2020).

Since tourism encompasses a highly diversified range of destination types for instance nature-based tourism, cultural tourism, sun and beach tourism, adventure tourism and urban tourism, climate change can also impact tourism in many different ways. Studies on the impacts of climate change have highlighted several implications to tourism for instance shifts in tourists flow, shifts in destination choice of tourist and discomfort in transportation (Anup, 2017). Considering tourism mostly as a nature-based destination, the impact of climate change can be highly seen through the changes in rainfall pattern which result either in floods or drought and cause deterioration of infrastructure, huge loss of wildlife populations and conflict and competition of resources (Nyamwange, 2016). Climate change consequences on tourism are crucial because it increases the danger of species extinction, decreases freshwater, increases wildfire accidents, heat waves, and illnesses, all of which cause visitors to avoid certain places (Siddique, 2018). The tourism industry, owing to its massive growth and the main engine of the world economic prosperity, is willing to make a significant contribute to addressing climate change. It enables the industry to lead through adopting good practices while educating its guests by sustainable conservation programs and by stressing sustainability (Mukogo, 2014). Today, Malaysia is experiencing the unstable weather which may lead to the sea level rise, wildfire, drought, flood and infected disease. Hence, this study was conducted with a purpose to understand the community perspectives towards the impacts of climate change on tourism in Malaysia.

2. Literature Review

Tourism is a significant global economic field that has developed exponentially in the last 50 years ([United Nations World Tourism Organization \[UNWTO\], 2018](#)). The tourism sector's global economic impact has also increased, with the World Travel and Tourism Council (WTTC) placing the sector's contribution to the global economy in 2015 at US\$7.2 trillion (9.8% of global GDP) and 284 million employees (9.1% of global jobs) ([WTTC, 2016a](#)). The tourism economy's value is magnified even more in thousands of destination societies and more than 90 countries where tourism accounts for more than 10% of national Gross Domestic Product (GDP) and a sizable portion of jobs ([WTTC, 2016b](#)). Tourism is a rising multinational industry, with average growth rates of more than 5% ([UNWTO, 2018](#)). Unexpectedly, tourism emissions are also increasing, accounting for around 8% of anthropogenic greenhouse gas emissions in 2013 ([Lenzen et al., 2018](#)). As such, the focus of the tourism industry in its policy priorities has been increased on biodiversity ([UNWTO, 2019](#)) and climate change ([Scott & Gossling, 2018](#)). Widening climate change ([IPCC, 2018](#)), despite possible high adaptation ability in tourism, makes it more impossible for destinations to disregard consequences and respond passively.

The literature indicates that many destinations are insecure ([Scott et al., 2019](#)) and the need to prepare for change ([Becken, 2017](#)). [Klock and Nunn \(2019\)](#), who explored a wide variety of adaptation categories in tourism, have identified the emergence of systemic reactions as a form of adaptation, whereas most interventions rely on systemic or social initiatives ([Becken & Hay, 2012](#)). The incorporation of climate change in national tourism policies and systems is an example of a constructive adaptation in the policy field, as illustrated in Seychelles or Samoa ([Klock & Nunn, 2019](#)). Considering climate change in tourism policy is a major move, since Tourism Ministries and offices typically strive to increase visitors, improve turnover and optimize economic benefits ([Becken & Hay, 2012](#); [Joppe, 2018](#)). Although national and international organizations focused organizations have been at a major disadvantage, it's likely that such objectives would need profound change to make a lasting impact on the travel industry, as this model was developed primarily as a profit-oriented industry ([Becken, 2019](#)). In a new review of national tourism policies in relation to sustainability more broadly, early developments to resolve climate change aspects can be seen ([UNWTO, 2019](#)).

The impacts of climate change on tourism exist in different channels ([Simpson et al., 2008](#)), ranging from direct impacts such as predicted higher temperatures ([Hein, et al., 2009](#)), rising sea level ([Jones & Phillips 2015](#)), to indirectly changing the natural resources on which tourist destinations depend, such as reduced snow cover and snow seasons, coral reef bleaching ([Piggott-McKellar, 2015](#)) habitat depletion ([Thomas et al., 2004](#)), increasing risks of wildfires, coastal erosion ([Zhang et al., 2004](#)), and others. These impacts are observed to be spatially heterogeneous, bringing threats to a destination while resulting in opportunities for another. Individuals or communities' attitudes toward certain behaviours in particular contexts are altered through perception. Individuals' knowledge and attitudes play a critical role in enhancing natural settings ([Mumtaz et al., 2019](#)). Individuals' original attitudes are challenged or altered by fresh knowledge or circumstances ([Nazir et al., 2018](#)). The basic assumption of the 'theory of planned behaviour' is an individual's desire to depict a specific behaviour. This intention indicates the amount of desire and effort that an individual will put out to project a behaviour and is determined by his attitude toward the activity, subjective standards, and assumed behavioural control ([de Oliveira et al., 2019](#)).

3. Methodology

Data collection was basically based on sets of data at two levels. The diversity of climate change information as a secondary data was investigated and obtained from reports, newspapers, the Ministry of Energy, Science, Technology, Environmental and Climate Change (MESTECC), the Ministry of Tourism, Arts and Culture (MOTAC) and mostly were from previous literature. The primary data collection involved a distribution of questionnaire to 400 respondents which are directly affected by climate change and living in the sustainable tourism areas such as ecotourism, natural-park, beach tourism, wildlife tourism and agro-tourism. Due to the Covid-19 pandemic and the implementation of Movement Control Order (MCO) in Malaysia at the time the study was conducted, the questionnaire was distributed through online survey using a Google form link.

Questionnaires were emailed to several email portals of government organizations and also through the WhatsApp platform. A control question was provided to the respondent asking only those who are living in the specific sustainable tourism areas such as ecotourism, natural-park, cultural heritage and agro-tourism which are directly affected by climate change. This is very important to make sure that their respond is valid and reliable. The data gained from the Google form were presented into an Excel format which were then transferred into Statistical Package for Social Sciences (SPSS). The test involved three major analyses namely factor analysis, reliability test and descriptive statistics analysis.

4. Result

The findings of the study revealed that majority of the respondents were female (63%) and followed by male (37%). Most of them were under the category of age below 25 years old (41%). It is also seen that respondents under the category of age between 25 – 35 years old were also highly participated in the study (28%). Further, the findings noted that half of the respondents were still single (50%) and followed by those who were married (47.3%). As for the level of education, the findings emphasized that majority of the respondents had tertiary education (86.8%) and with only a few of them had no formal education (0.6%). In terms of household size, most of the respondents had less than 5 people in the house (51%), followed by the respondents having between 5 – 10 people in the house (48%) and the remaining were those who had more than 10 people in the house (11%). Surprisingly, it can be seen that most of the respondents had no occupation (44.5%). Most of them were working as government servants (21.8%) and also in the private sectors (21.8%).

Further, the findings showed that some of the respondents also had their own businesses (11.5%). The question regarding the respondents' income showed that majority of them had between RM1000 – RM5000 income per month (34.8%), followed with those who had no income (32.8%) and a few with income of more than RM5000 (22.8%). Interestingly, the findings revealed that majority of the respondents had tourism activities in their community which related to beach/island (20%). Most of them also had activities related to urban tourism (13.8%) and ecotourism (13.3%). Only a few respondents were involved in the community related to wildlife tourism activities (0.5%). Further, the findings of the study showed that majority of the respondents had lived in the community for more than 20 years (48.3%), followed by those who had lived in the community between 5 – 10 years (17.5%). The final question revealed that

majority of them understood the meaning of climate change (80%) and only a few did not understand climate change (2.5%).

As for the findings regarding the community's perceptions, the Principal Component Analysis using varimax rotation showed that three domains extracted from 18 items regarding the community's perceptions about impacts of climate change on tourism activities (Table 1). The first domain named as socio-economic impacts revealed five items with high factor loading values ranged from .555 - .835, eigenvalues of 8.893 and accounted for 49.407% of the total variance. Meanwhile, the second domain named as physical impacts consisted of seven items with factor loading values ranged from .481 - .779, eigenvalues of 1.397 and accounted for 7.760% of the total variance. The third domain named as environmental impacts derived with six items with factor loading values ranged from .460 - .808, eigenvalues of 1.018 and accounted for 5.655% of the total variance.

Table 1: Factor analysis results for perceptions about impacts of climate change on tourism (N = 400)

No.	Statement	1	2	3
Socio-economic impacts				
1	Climate change has led to loss of job for tourism in the community.	.835		
2	Climate change has led to loss of income for tourism in the community.	.813		
3	Climate change has caused difficulty for the community to run daily errands of tourism activities.	.740		
4	Infrastructure damage caused by climate change has affected tourism activities in the community.	.685		
5	Diseases caused by climate change has affected tourism activities in the community.	.555		
Physical impacts				
1	Tourism activities in the community are affected due to fires in forest.		.779	
2	Tourism activities in the community are affected due to extreme heat conditions.		.756	
3	Tourism activities in the community are affected due to frequent droughts.		.664	
4	Tourism activities in the community are affected due to frequent floods during raining seasons.		.647	
5	Tourism activities in the community are affected due to beach erosion.		.616	
6	The sea level rise has great impact on tourism activities in the community.		.585	
7	Water sufficiency due to climate change has affected tourism activities in the community.		.481	
Environmental impacts				
1	There has been a loss of biodiversity for tourism activities in the community due to climate change.			.808
2	Climate change has caused behavioral change of wildlife in the community.			.771
3	Coral reefs in the community are damaged due to climate			.738

4	change. Natural forest resources for tourism activities in the community have declined due to climate change.	.586
5	Changes in seasonal pattern have great impact on tourism activities in the community.	.583
6	Unpredictable weather has affected tourism activities in the community.	.460
	Eigenvalues	8.893 1.397 1.018
	% of Variance	49.407 7.760 5.655
	Cumulative %	49.407 57.167 62.822

Note: Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization

The items were then further tested for reliability using Cronbach's Alpha test. Table 2 presents the findings on the reliability test for the three domains extracted in factor analysis. The socio-economic impacts showed a high coefficient alpha value of .881. The coefficient alpha value for physical impacts also showed a significant value of .869. The coefficient alpha value for environmental impacts also indicated a high value of .884. Additionally, all items in the three domains showed acceptable alpha values of more than .40. Hence, each sub-scale of item-total correlation for these domains were considered good and strongly reliable which reflects the constructs that they are measuring.

Table 2: Reliability test results for perceptions about impacts of climate change on tourism (N = 400)

No.	Statement	Item-total correlation	Total items	Coefficient Alpha
	Socio-economic impacts		5	.881
1	Climate change has led to loss of job for tourism in the community.	.617		
2	Climate change has led to loss of income for tourism in the community.	.769		
3	Climate change has caused difficulty for the community to run daily errands of tourism activities.	.727		
4	Infrastructure damage caused by climate change has affected tourism activities in the community.	.714		
5	Diseases caused by climate change has affected tourism activities in the community.	.749		
	Physical impacts		7	.869
1	Tourism activities in the community are affected due to fires in forest.	.695		
2	Tourism activities in the community are affected due to extreme heat conditions.	.620		
3	Tourism activities in the community are affected due to frequent droughts.	.606		
4	Tourism activities in the community are affected due to frequent floods during raining seasons.	.642		
5	Tourism activities in the community are affected due to beach erosion.	.671		

6	The sea level rise has great impact on tourism activities in the community.	.652		
7	Water sufficiency due to climate change has affected tourism activities in the community.	.625		
	Environmental impacts		6	.884
1	There has been a loss of biodiversity for tourism activities in the community due to climate change.	.781		
2	Climate change has caused behavioral change of wildlife in the community.	.714		
3	Coral reefs in the community are damaged due to climate change.	.710		
4	Natural forest resources for tourism activities in the community have declined due to climate change.	.706		
5	Changes in seasonal pattern have great impact on tourism activities in the community.	.668		
6	Unpredictable weather has affected tourism activities in the community.	.609		

The respondents were further asked to provide answers regarding their perceptions about the impacts of climate change on tourism activities in the community. Table 3 shows the findings regarding the five items representing the impacts on the socio-economic. Majority of the respondents had agreed (54.4%) and strongly agreed (26.4%) that climate change has led to loss of income for tourism activities in the community. They also found that climate change had damage the infrastructure which eventually affected tourism activities in the community. Most of them had agreed (56.5%) and strongly agreed (24.5%) with the issue. The findings further noted that the majority of the respondents had agreed that climate change has caused difficulty for them to run their daily errands related to tourism activities (60%). Interestingly, the findings found that 25.8% of the respondents had agreed, in fact 52.5% had strongly agreed that climate change had created diseases which affected tourism activities in the community. Finally, most of the respondents had agreed that climate change has led to loss of job related to tourism (48.2%) and 26.1% had strongly agreed with the statement.

Table 3: Descriptive analysis of items for socio-economic impacts (N = 400)

No.	Item	Disagree	Not sure	Agree	Strongly agree
1	Climate change has led to loss of income for tourism in the community.	21 (5.3%)	55 (13.9%)	216 (54.4%)	105 (26.4%)
2	Infrastructure damage caused by climate change has affected tourism activities in the community.	20 (5.0%)	56 (14.0%)	226 (56.5%)	98 (24.5%)
3	Climate change has caused difficulty for the community to run daily errands of tourism activities.	20 (5.0%)	52 (13.0%)	240 (60.0%)	87 (21.8%)
4	Diseases caused by climate change has affected tourism activities in the community.	15 (3.8%)	72 (18.0%)	210 (52.5%)	103 (25.8%)

5	Climate change has led to loss of job for tourism in the community.	25 (6.3%)	77 (19.3%)	192 (48.2%)	104 (26.1%)
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As for findings regarding the seven items of physical impacts (Table 4), it was found that most of the respondents had agreed that tourism activities in the community are affected due to frequent floods during raining seasons (58.3%) and some of them had strongly agreed with the issue (29.5%). In fact, the findings showed that the majority of the respondents had agreed that changes in seasonal pattern have great impact on tourism activities in the community (58.8%). The respondents had also agreed that the tourism activities in the community are affected due to beach erosion (52.1%) and fires in forest (51.2%). They further emphasized that the water sufficiency due to climate change has affected tourism activities in the community. Majority of the respondents had agreed (55.8%) and some of them had strongly agreed (21.9%) of the issue. Meanwhile, the findings of the study found that most of the respondents had agreed that tourism activities in the community are affected due to extreme heat conditions (56%) and also due to frequent droughts (56.5%).

Table 4: Descriptive analysis of items for physical impacts (N = 400)

No.	Item	Disagree	Not sure	Agree	Strongly agree
1	Tourism activities in the community are affected due to frequent floods during raining seasons.	21 (5.3%)	28 (7.0%)	233 (58.3%)	118 (29.5%)
2	Changes in seasonal pattern have great impact on tourism activities in the community.	12 (3.0%)	48 (12.0%)	235 (58.8%)	105 (26.3%)
3	Tourism activities in the community are affected due to beach erosion.	22 (5.5%)	70 (17.6%)	207 (52.1%)	98 (24.7%)
4	Tourism activities in the community are affected due to fires in forest.	37 (9.3%)	51 (12.8%)	205 (51.2%)	107 (26.8%)
5	Water sufficiency due to climate change has affected tourism activities in the community.	15 (3.8%)	74 (18.6%)	222 (55.8%)	87 (21.9%)
6	Tourism activities in the community are affected due to extreme heat conditions.	33 (8.3%)	54 (13.5%)	224 (56.0%)	89 (22.3%)
7	Tourism activities in the community are affected due to frequent droughts.	23 (5.8%)	91 (22.8%)	226 (56.5%)	60 (15.0%)

Table 5 presents the descriptive findings of the study regarding the six items of environmental impacts. It can be seen that most of the respondents had provided consistent answers regarding several impacts. Majority of the respondents had agreed that unpredictable weather has affected tourism activities in the community (57.6%). Most of them had also agreed that climate change has caused behavioral change of wildlife in the community (52.5%) and some of them had strongly agreed with the issue (29.3%). The issue regarding climate change had led to loss of biodiversity for tourism

activities in the community was agreed by the majority of the respondents (53.5%). In fact, some of them also had strongly agreed with the issue (24.5%). The findings regarding issue on coral reefs in the community are damaged due to climate change showed that some of the respondents were not sure about the impact (26.3%) whilst some of them had strongly agree with in (27.3%). However, most of the respondents had agreed about this statement (42.1%). Furthermore, the findings noted that half of the respondents had agreed that the sea level rise has great impact on tourism activities in the community (50%) and 23.5% of them had strongly agreed with it. Similarly, half of the respondents had also agreed that the natural forest resources for tourism activities in the community have decline due to climate change (50%).

Table 5: Descriptive analysis of items for environmental impacts (N = 400)

No.	Item	Disagree	Not sure	Agree	Strongly agree
1	Unpredictable weather has affected tourism activities in the community.	18 (4.5%)	38 (9.5%)	230 (57.6%)	113 (28.3%)
2	Climate change has caused behavioral change of wildlife in the community.	11 (2.8%)	62 (15.5%)	210 (52.5%)	117 (29.3%)
3	There has been a loss of biodiversity for tourism activities in the community due to climate change.	12 (3.0%)	76 (19.0%)	214 (53.5%)	98 (24.5%)
4	Coral reefs in the community are damaged due to climate change.	17 (4.3%)	105 (26.3%)	168 (42.1%)	109 (27.3%)
5	The sea level rise has great impact on tourism activities in the community.	31 (7.8%)	74 (18.5%)	200 (50.0%)	95 (23.8%)
6	Natural forest resources for tourism activities in the community have declined due to climate change.	20 (5.0%)	89 (22.3%)	200 (50.0%)	91 (22.8%)

5. Discussion

The study demonstrated that the community's perceptions toward the impacts of climate change on tourism is encouragingly positive. Most of them were strongly acquiesce that climate change badly affected the community socio economics, physical and environmental impacts. This may be due to their previous experiences when they were dealing with such situations such as floods. Commonly in Malaysia when it comes to the end of each year, the east coast, central states and some of northern states facing this physical impacts. According to [Crossman et al., \(2013\)](#), [Whitehead et al. \(2013\)](#), [Whitehead et al., \(2018\)](#), [Nicholls et al., \(2018\)](#), across Asia, Africa, and Europe vast river systems have shown a consistent pattern of change under the dual threats of climate and socioeconomic change. Changes in flow regimes, with higher flows in rainy seasons and decreased flows in dry seasons, are common findings. These hydrological regime changes increase flood risk and lengthen dry spells, endangering watershed infrastructure and public and agricultural water supplies. Drought reduces dilution and hence increases pollution concentrations. The increasing flushing of pollutants from urban and rural regions increases diffuse runoff of pollutants such fertilisers, pesticides, emerging compounds, and plastics. Temperature changes also impact soil and water biogeochemistry reaction kinetics, affecting decay rates and hence the mass balance of

chemicals in the environment. Population growth has a significant socioeconomic impact, increasing wastewater discharges, intensifying agriculture, and placing pressure on river systems. This, along with increased industrial activity, such as highly polluting industrial discharges from tanneries, garment manufacture, and chemical plants, results in widespread contamination, damaging the oxygen balance and ecology of several urban rivers (Whitehead et al., 2018).

The finding further indicated that the community mostly agreed on the loss of income for tourism activities. This is because whenever the physical impacts take place it leads to difficulties for the community to perform their routine and sales will drop slowly. Besides, such causes will definitely influence the tourists in making decision whether to proceed or not to. Research shows that poverty individuals are disproportionately affected by climate change compared to the rest of the population. A number of household studies using self-reported shocks reveal that impoverished individuals are more likely to be impacted by environmental shocks, lose more money (relative to wealth), and receive less post-shock help from friends and family, financial institutions, and social safety nets (World Bank, 2017). The study revealed that impoverished individuals are more vulnerable to floods, droughts, and excessive temperatures. Climate-related shocks can keep people poor by hindering asset accumulation, wiping away assets, or even destroying human capital (World Bank, 2013; Moser, 2004; Carter & Barrett, 2006). As the prosperity scenario shows, quick and inclusive growth can mitigate most of the effects of climate change on poverty. In this scenario, the number of people living in severe poverty due to climate change ranges from 3 million to 16 million, depending on the climatic impact scenario (Hallegate et al., 2017).

Other than losing source of income, climate change badly affects the infrastructure, leads to unemployment and increase of diseases. As with communities, infrastructure must be assessed separately to determine its vulnerability to climate change, but also its interdependence, as much is networked (Dawson et al., 2018). Flooding from severe precipitation, sea level rise, storm surge, or larger storms is a serious risk to most infrastructure. Coastal flooding can cause access issues, infrastructural devastation, operational issues, and even technical issues. For example, uneven infrastructure provision throughout a region may create ethical concerns if authorities prioritise frequently used systems in city centres while delaying activity in outlying areas (Klein et al., 2014). Previous study has proven that, the perception of the community on the impacts of climate change is absolute. This can be seen on the findings made by Canalejo et al (2016), which took place in Sal and Boa Vista Island, Afrika. The study focused on the local community's opinions regarding climate change and tourism. It indicated that the communities' views regarding tourist development are a critical factor to consider when planning and managing tourism development coherently. While the residents of these islands are generally supportive of tourism development due to the personal benefits associated with it, they are also aware of the negative economic, sociocultural, and environmental consequences associated with poorly managed tourism that does not benefit the community.

6. Conclusion

Based on this study, it indicated that community understand the development of tourism, its beliefs, and their awareness of its advantages to their welfare, they were optimistic about the climate change implications on tourism. This knowledge assists policymakers in formulating and executing long-term sustainable policies. Besides that,

they were aware that the impact of climate change in tourism will somehow affected their life, they will definitely appreciate the good sides of the impacts. Such as enhancement of the recreational possibilities available, community development via an increase in the living standard and quality of life, job opportunities especially for the ones who lived in rural area.

The study faced a great limitation particularly regarding sampling as similarly suggested by a few scholars for instance [Andrews et al. \(2003\)](#) and [Howard et al. \(2001\)](#). Since it was conducted using an online survey, the sampling was restricted to only those population having access to the internet or web survey service. The selected respondents were only based on their demographic characteristics provided instead of relatively known about their actual destinations having directly affected to climate change. It is also undoubtedly that some respondents may complete more than one survey. A self-selected bias of conducting online survey also lead to a tendency that some individuals will respond to the invitation and some may just ignore the message. In fact, it is also considered by [Thompson et al. \(2003\)](#) as a major limitation for such study conducted through an online survey.

Ethics Approval and Consent to Participate

The researcher used the research ethics provided by the Research Ethics Committee of Universiti Utara Malaysia (JKEPUUM). All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee. Informed consent was obtained from all participants according to the Declaration of Helsinki and Local Regulations and Standards in Ethical Review.

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Conflict of Interests

The authors reported no conflicts of interest for this work and declare that there is no potential conflict of interest with respect to the research, authorship, or publication of this article.

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