

## THAI TOURISTS' AWARENESS TOWARDS CLIMATE CHANGE ON HOLIDAY MAKING

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### Abstract

**Purpose** This study aimed to explore Thai tourists' awareness towards climate change on their holiday making.

**Methods** This study was a quantitative research adopting questionnaires as a main method of data collection. This research adopted a convenience sampling method by handing a questionnaire that was provided to 400 potential Thai tourists, aged between 18 to 55 years old. This was a survey research using the closed-end questionnaire as a research tool. The pilot test was taken place with 30 respondents in order to do the reliability test by using the analyst of Cornbach's Alpha Coefficient (0.93). The statistical data analysis in this study used frequency, percentage, mean, standard deviation and t-test with the statistical significance at 0.05.

**Results** Most of the respondents were females, aged between 25 to 34, who had children in their household, working as full-time, and graduated from higher education. Most

of them had ever taken oversea holidays and using a car as their mode of transportation. The respondents, overall, were aware ( $\bar{x} = 3.79$ , S.D. = 0.51) that there were problems towards climate change. The hypothesis testing showed that the levels of Thai tourists' awareness towards climate change on their holiday making were not affected by the difference in type of holiday taken between oversea and non-oversea.

**Conclusion** There were no differences between oversea and non-oversea holiday taken of Thai tourists' awareness towards climate change on their holiday making. The attitude and behaviour correlations were found when actual behaviours were assessed that when self-report measurement was used. The difference between awareness and non-awareness was a matter of the strength of the attitude held, not a contrast in fundamental values.

**Key Words:** Tourists/ Awareness/ Climate change/ Holiday making

## **Introduction**

Global warming is affecting human and surrounding. This is an environmental change caused by man among several direct and indirect issues of change and shortage in global environment, geography and natural resources. Norcia (2008) reports that human beings are the main cause of global average air and ocean temperature increases, widespread melting of snow and ice as well as rising global average sea level. In addition, a number of studies indicate that the change of atmospheric condition is mainly affected by the greenhouse gases contributed by human activities both directly and indirectly (Shah, 2009). The carbon dioxide, methane and nitrous oxide gases usually come from fossil fuel use, deforestation and agricultural activities. The higher rate emissions of the greenhouse gases (GHG) by human activities have increased the average global heat energy and temperatures (Becken and Hay, 2007).

The global warming situation has been recently considered to be the world top issues. Several corporations have been taken worldwide in concerning global climate change (Mason, 2003). Various types of environmental management systems have been developed in order to guide the business providers in successful interaction with the natural environment. In addition, there is a dramatic increase in worldwide environmental consciousness, especially in tourism industry (Schlegelmilch, Bohlen and

Diamantopoulos, 1996).

Tourism has recently attracted attention as an important contributor to climate change and it is also widely acknowledged that the tourism industry is implicated in climate change and effect (Becken, 2002; Gössling and Hall, 2005; Becken and Hay, 2007). Carbon Dioxide (CO<sub>2</sub>) emissions from tourism mobility is one of the most challenging aspects of society's response to climate change (Monbiot, 2007). Research from the transport and tourism sectors also agrees that CO<sub>2</sub> emissions are a key environmental challenge (Barr, Shaw, Coles, and Prillwitz, 2010; Becken, 2007; Scott, 2011; Scott, Hall, and Gössling, 2012). It is estimated that tourism contributes global greenhouse and CO<sub>2</sub> emissions around 5%. Studies show that transport is the dominant component of the tourism contribution and responsible for over 90% of tourism's emissions to global climate change (UNWTO, 2017). The tourism sector needs to progressively reduce its GHG contributions if it is to move onto a sustainable emissions path.

Gössling and Hall (2006) identify two focuses that address the relationship between tourism and climate concerns. Firstly, tourism is dependent on climate and that climate change is associated with a range of consequences for tourism destinations (Agnew and Viner, 2001; de Freitas, 2005). The consequences may be particular for specific tourist activities (Richardson and Loomis, 2005; Scott, Wall and

McBoyle, 2005). Secondly, sensitivities of tourists themselves change in attitude and behaviour in response to climate concerns (de Freitas, 2005) including choice of destination and timing of visits, the abandonment of some destinations, and the discontinuation of some forms of tourism.

Europe, especially the United Kingdom concerns and considers reducing CO2 emissions. The European Union has targeted a 20% reduction in CO2 by 2020 (Gössling and Hall, 2008). In comparison to the most developed countries, Thailand currently has a relatively high proportion of the population taking holidays. The population of 65 million is responsible for more than 19 million domestic trips and 6.5 million outbound trips (Tourism Authority of Thailand, 2015). This is in comparison to a UK population of 64.8 million taking 22.6 million domestic trips and 24.2 million outbound trips (Tourism Alliance, 2016). However, there has been recently very little research undertaken to investigate whether tourists are aware of the impacts that travel has on climate change (Becken, 2007; Gössling et al., 2006; Shaw and Thomas, 2006) in Thailand.

A number of both qualitative and quantitative studies have examined public attitudes towards travel (Becken, 2007; Lorenzoni and Pidgeon, 2006) and the studies show that most people understand climate change brought by the media and people have little faith their actions will make a difference (Bickerstaff et al.,

2008). Tourists distinguish between tourism travel and everyday life and take more responsibility for climate change at last because they feel they have earned the right to take holidays (Barr, Shaw, Coles, and Prillwitz, 2010; Becken, 2007). This research tends to explore the levels of awareness amongst Thai tourists towards climate change and to investigate the extent of climate change considerations feature in travel decision making processes of Thai tourists.

### **Objectives**

1. To explore Thai tourists' awareness towards climate change on their holiday making;
2. To study the differences between non-oversea and oversea taken by Thai tourists' awareness towards climate change on their holiday making.

### **Hypothesis**

Non-oversea Thai tourists were different from oversea Thai tourists on their awareness of climate change feature in holiday making.

### **Methods**

A quantitative method was undertaken. A questionnaire was developed to explore awareness of climate change on holiday making and implications for Thai tourist. The quantitative methodology was a deductive approach commences with hypotheses about the phenomenon which was the focus of the

research, a data collection tool, which was usually a survey, was utilised to gather data to test hypothesis, then the data was analysed using statistical tools and the hypotheses was either rejected or accepted (Boyatzis, 1998; Peterson, 2007). This method generally involved statistical analysis which means the results of studies using quantitative method from a sample survey was used to generalise about the survey population with a certain degree of confidence (Yin, 1993). Particularly, quantitative research was characterised by the counting of the occurrences or frequencies of qualities, or by determinant of their mean values for numbers of individuals (Bryman, 2008; Yin, 1993). Thus, the quantitative method relied on numerical evidence to test hypotheses (Boyatzis, 1998; Gordon and Langmaid, 1990

The sample used in this study was representative of potential Thai, which know the finite population. The method used to calculate the size of samples is the formula of Taro Yamane (1973). This research adopted a convenience sampling method by handing a questionnaire that was provided to 400 potential Thai tourists, age between 18-55 years old. This was a survey research using the closed-end questionnaire as a research tool. The researcher studied the theories and concepts related to the application and development of questions in order to collect the data. Questionnaire was divided to 4 parts as in the following:

Part 1: Questions about demographic

information including gender, age, children in the household, employment and educational level. Questions in this part are 'Multiple choices'.

Part 2: Questions about travel behaviour including oversea holiday taken, and mode of transportation. Questions in this part are 'Multiple choices'.

Part 3: Questions about Thai tourists' awareness and attitudes towards holiday makers and climate change. Rating scale was used for this part. The measurement of information was 'interval scale' including 5 classifications as follow:

5 = Strongly aware

4 = Aware

3 = Uncertain

2 = Unaware

1 = Never in my mind

The average rating for each classification uses the following formula to calculate the width of the interval.

$$\begin{aligned} \text{Width of the interval} &= \frac{\text{maximum} - \text{minimum}}{\text{Quantity of classifications}} \\ &= 1-5 / 5 \\ &= 0.80 \end{aligned}$$

From above criteria, it can be interpreted into the following score:

Mean value between 4.21 – 5.00 = Strongly aware

Mean value between 3.41 – 4.20 = Aware

Mean value between 2.61 – 3.40 = Uncertain

Mean value between 1.81 – 2.60 = Unaware

Mean value between 1.00 – 1.80 = Never in my mind

Part 4: Further recommendation. An open ended question is adopted.

This questionnaire has passed content validity and reliability. The pilot test was taken place with 30 respondents in order to do the reliability test by using the analyst of Cornbach's Alpha Coefficient. The value of Alpha Coefficient is 0.93. which means the questionnaire was reliability.

Research projects were designed to collect data relevant to a specific research problem, issue, hypothesis or aim. As a result of quantitative data collection, the researchers have amassed several piles of individual data sets. In particular, the data need to be organised, coded and entered into computer-constructed aggregation or recording system. Such systems enable the researchers to determine patterns in the data and to test relationship between variables. The patterns and the testing of data were usually represented numerically. These representations included tables. The main

methods of data analysis in a quantitative paradigm were associated with aggregation processes which are linked to statistical analyses.

This research applied both descriptive and inferential statistical analysis. It was to show the statistic including 1) Frequency and Percentage in order to analyse the demographic and travel behaviour data; 2) Mean and Standard Division in order to analyse the data from Interval Scale including levels of Thai tourists' awareness towards climate change on holiday making; and 3) Hypothesis testing.

## Results

This part presents the research findings and analysis of the study. The findings were divided into 4 parts as follows: (1) Demographic characteristic of the respondents; (2) Travel behaviour of the respondents; (3) Respondents' awareness towards climate change on holiday making; and (4) Hypothesis testing. The questionnaires were conducted from 400 potential Thai tourists, aged between 18 to 55 years old. They all replied to the questionnaires and returned it back to the researcher. Demographic information of the 400 Thai tourists was shown on the table 1.

**Table 1** Demographic information of the respondents

Demographic information	Thai tourists	
	Frequency	Percentage
<b>1. Gender</b>		
Male	173	43.20
Female	227	56.80
<b>Total</b>	<b>400</b>	<b>100.00</b>
<b>2. Age</b>		
18-24	51	12.8
25-34	225	56.2
35-44	104	26.0
45-55	20	5.0
<b>Total</b>	<b>400</b>	<b>100.00</b>
<b>3. Children in the household</b>		
Yes	291	72.8
No	109	27.2
<b>Total</b>	<b>400</b>	<b>100.00</b>
<b>4. Employment</b>		
Retired	11	2.7
Studying	107	26.8
Unemployed	0	0
Working full-time	243	60.8
Working part-time	39	9.7
<b>Total</b>	<b>400</b>	<b>100</b>
<b>5. Education level</b>		
Secondary school	45	11.3
Professional/Technical	13	3.2
Higher education	342	85.5
Other	0	0
<b>Total</b>	<b>400</b>	<b>100</b>

Table 1 showed the demographic information of the respondents. Most of the respondents were 227 females (56.8%) and 173 males (43.2%) respectively. There were 225 respondents (56.2%) of age between 25-34, 104 respondents (26%) of age between 35-44, 51 respondents (12.8%) of age between 18-24, and 20 respondents (5%) of age between 45-55 correspondingly. 291 respondents (72.8%) had children in their household; contrastingly, 109 respondents (27.2%)

claimed that they did not have any children in the household. Most of them were working full-time (243 responds or 60.8%), studying (107 responds or 26.8%), working part-time (39 responds or 9.7%), and retired (11 responds or 2.7%) respectively. In addition, most of them graduated from higher education (342 responds or 85.5%), secondary school (45 responds or 11.3%), and professional/technical (13 responds or 3.2%) respectively.

**Table 2** Holiday taken in the past 3 years

Information	Thai tourists	
	Frequency	Percentage
<b>1. Overseas holiday</b>		
Yes	274	68.5
No	126	31.5
<b>Total</b>	<b>400</b>	<b>100.00</b>
<b>2. Modes of transport</b>		
Plane	345	29.8
Train	97	8.4
Car/Motorcycle	400	34.5
Ferry	27	2.3
Coach/Bus	289	25.0
Other	0	0
<b>Total</b>	<b>1,158</b>	<b>100</b>

Table 2 showed travel behaviour of the respondents taken on their holidays in the past 3 years. It showed that there are 274 respondents (68.5%) who have taken overseas holidays but 126 respondents (31.5%) had never taken an overseas holiday. When they

travelled, most of them preferred to use car as their transportation (400 responds or 34.5%), plane (345 responds or 29.8%), coach/bus (289 responds or 25.0%), train (97 responds or 8.4%), and ferry (27 responds or 2.3%) respectively.

**Table 3** Awareness of climate change

<b>Information (n = 400)</b>	<b><math>\bar{x}</math></b>	<b>S.D.</b>	<b>Level of awareness</b>
1. I believe that climate change is a serious threat to the future of our planet	4.81	0.39	Strongly aware
2. There is considerable debate amongst scientists as to whether climate change is happening	3.49	0.77	Aware
3. I am greatly concerned by climate change issues	3.91	0.29	Aware
4. I try to minimise my carbon footprint	4.89	0.32	Strongly aware
5. By taking fewer flights a year I will reduce my impact on climate change	2.19	0.70	Uncertain
6. Any actions an individual tourist can take will be insignificant on a global problem like climate change	4.73	0.57	Strongly aware
7. Airplanes will be invented whose emissions do not contribute to climate change	3.11	0.11	Uncertain
8. Scientists will find a way to prevent climate change from happening	3.90	0.31	Aware
9. I believe that my holidays have some effect on climate change	3.15	0.84	Uncertain
10. The government should introduce higher taxes on airline tickets so the prices fully reflect the environmental costs	3.81	0.51	Aware
11. I am prepared to make substantial changes to the way I take holidays for climate change reasons	2.61	0.57	Uncertain
12. It does not matter what impacts my holidays have on climate change if I try to reduce my carbon footprint in my home life	4.29	0.66	Strongly aware
13. If I protect the environment in other ways, I do not need to worry about the impacts of my holidays on climate change	4.43	0.52	Strongly aware
<b>Total</b>	<b>3.79</b>	<b>0.51</b>	<b>Aware</b>

Table 3 showed respondents' awareness towards climate change. Overall, they agree ( $\bar{x} = 3.79$ , S.D. = 0.51) that they were aware of the problems towards climate change. They also strongly agreed on the following: I try to minimise my carbon footprint ( $\bar{x} = 4.89$ , S.D. = 0.32); I believe that climate change is a serious threat to the future of our planet ( $\bar{x} = 4.81$ , S.D. = 0.39); any actions an individual tourist can take will be insignificant on a global problem like climate change ( $\bar{x} = 4.73$ , S.D. = 0.57); if I protect the environment in other ways, I do not need to worry about the impacts of my holidays on climate change ( $\bar{x} = 4.43$ , S.D. = 0.52); and it does not matter what impacts my holidays have on climate change if I try to reduce my carbon footprint in my home life ( $\bar{x} = 4.29$ , S.D. = 0.66) respectively.

They also agreed on the following: I am greatly concerned by climate change issues

( $\bar{x} = 3.91$ , S.D. = 0.29); scientists would find a way to prevent climate change from happening ( $\bar{x} = 3.90$ , S.D. = 0.31); the government should introduce higher taxes on airline tickets so the prices fully reflect the environmental costs ( $\bar{x} = 3.81$ , S.D. = 0.51); and there is considerable debate amongst scientists as to whether climate change is happening ( $\bar{x} = 3.49$ , S.D. = 0.77) respectively.

Lastly, they were uncertain towards the following: I believe that my holidays have some effect on climate change ( $\bar{x} = 3.15$ , S.D. = 0.84); airplanes will be invented whose emissions do not contribute to climate change ( $\bar{x} = 3.11$ , S.D. = 0.11); I am prepared to make substantial changes to the way I take holidays for climate change reasons ( $\bar{x} = 2.61$ , S.D. = 0.57); and by taking fewer flights a year I will reduce my impact on climate change ( $\bar{x} = 2.19$ , S.D. = 0.70) respectively.

**Table 4** The differences between overseas and non-overseas holiday taken of Thai tourists' awareness towards climate change on their holiday making.

Holiday taken	$\bar{x}$	S.D.	T	P
Overseas	3.77	0.33	0.995	0.320
Non-overseas	3.81	0.31		

$P > 0.05$

Table 4 showed the differences between overseas and non-overseas taken of Thai tourists' awareness towards climate change on their holiday making. The hypothesis testing shows

that the levels of Thai tourists' awareness towards climate change on their holiday making is not affected by the difference in type of holiday taken between overseas and non-overseas.

## **Discussion**

Overall, Thai tourists were aware of the problems towards climate change. Furthermore, Thai tourists were also strongly aware that tourists should use a carbon offsetting scheme and tourists should actively seek accommodation providers that have a green/environmental policy, in the regards to what tourists should be responsible for, during the holiday that would effect on climate change. The tourist activities and tourism impacts cannot be separated entirely as it naturally influences one another (Holden, 2000). Although sightseeing from a bus, for example, contributes pollution and traffic congestion, it has a little effect on the actual environment. Therefore, it is necessary to be carefully controlled some tourist activities. However, many scholars claim that tourism tends to over-consume natural resources (McKercher, 1993; Holden, 2000; Mason, 2003; Matheison and Wall, 2006).

The findings also showed that Thai tourists are highly aware that climate change is a serious threat to the future of our planet. Mason (2003) states that climate is an essential resource for tourism especially beach and nature based tourism segments. Changing climate and weather patterns at tourist destinations and tourist generating countries can significantly affect the tourists' comfort and their travel decisions (Becken and Hay, 2007). Furthermore, increases in seawater and sea-surface temperatures, CO<sub>2</sub> emissions and consequent ocean acidity

are altering the ecosystem, which pose a risk for coastal tourism. Climate change and changing weather patterns at tourist destinations are already affecting tourist flows and behaviour (Becken and Hay, 2007).

However, the findings showed that there was no difference between oversea and non-oversea holiday taken of Thai tourists' awareness towards climate change on their holiday making. The attitude and behaviour correlations were found when actual behaviours were assessed that when self-report measurement was used. The difference between awareness and non-awareness was a matter of the strength of the attitude held, not a contrast in fundamental values (Vining and Ebreo, 1992). According to Fennell and Dowling (2003) tourism and the environment must be developed together harmoniously in corporation with community concerns and involvement to create sustainable tourism planning. They explain that the concept of sustainability can only occur with the concern of ecological and social responsibility.

## **Conclusion**

This research aims to explore Thai tourists' awareness towards climate change on their holiday making. Travel is becoming one of basic needs, which is the result of social development. However, the way of travel is various and very different between people in developed countries and those in developing

countries. People of developed countries have more travel experiences than those of developing countries so their awareness of protecting environment and preserving the value of the destinations' resource is also much higher.

Thailand is a developing country so tourism and travel are just becoming common activities in recent years. A majority of people have formed the travel habit became conscious tourists when traveling. Besides, there are many people who have never traveled or just have traveled for several times. Thus, they have no sense of environmental protection and preservation of the values of tourism sites, which leads the climate change and damage in many famous destinations which are contaminated seriously. The findings showed that Thai tourists were aware in terms of climate change. Therefore, it is important to note that Thai government should promote a rising green awareness of climate change scheme to Thai people. It should encourage Thai people to be aware, not only in their daily activities, but also tourism activities during their holiday making process would effect on climate change.

Tourism has the potential to increase public appreciation of the environment and to spread awareness of climate problems when it brings people into closer contact with nature and the environment. This confrontation may heighten awareness of the value of nature and lead to environmentally conscious behavior and

activities to preserve the environment. If it is to be sustainable in the long run, tourism must incorporate the principles and practices of sustainable consumption. Sustainable consumption includes building consumer demand for products that have been made using cleaner production techniques, and for services—including tourism services—that are provided in a way that minimises climate change. The tourism industry can play a key role in providing environmental information and raising awareness among tourists of the climate change consequences of their actions. Tourists and tourism-related businesses consume an enormous quantity of goods and services; moving them toward using those that are produced and provided in an environmentally sustainable way, from cradle to grave, could have an enormous positive impact on the planet's environment and climate.

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