A STUDY OF THE ENVIRONMENTAL CONSERVATION BEHAVIOR OF TOURISTS AT KOH CHANG NATIONAL MARINE PARK

THANIYA TAENGCHAN

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF EDUCATION
(ENVIRONMENTAL EDUCATION)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2005

ISBN 974-04-6569-2

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was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Master of Education (Environmental Education)
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ACKNOWLEDGEMENTS

This thesis is completed by the great kindness and support of Asst. Prof. Suphachai Sukarawan, Thesis Advisor, Assoc. Prof. Sirichai Chinatungkoon, and Asst. Prof. Themduang Ratanathusnee, who are the thesis committee and sacrificed their time to offer me valuable advice and comments for my research. I would like to extend my gratitude to Assoc. Prof. Pisit Sukreeyapongse for his time to attend the thesis defence committee and also to give his comments to ensure that my research is clearer and more perfect.

I would like to express my gratitude for all instructors for the Master of Environmental Education who have tendered all students including myself the academic knowledge and experience. Moreover, I also acknowledge the partial assistance, in respect of advice and convenience for this research, of every official of the Faculty of Social Science and Humanities.

I am also grateful to my parents for all encouragement and educational support given to me up to now.

Finally, I thank the large number of tourists at Koh Chang National Marine Park for contributing their time to answer my questionnaire. I also thank all my colleagues of the Faculty of Social Sciences and Humanities for Special Program, who always took care of me, including other relevant persons who are not named here but also offered a lot of assistance to me until my research is successful eventually, and I greatly appreciated all their kindness.

Thaniya Taengchan

A STUDY OF THE ENVIRONMENTAL CONSERVATION BEHAVIOR OF TOURISTS AT KOH CHANG NATIONAL MARINE PARK.

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ABSTRACT

This study was survey research with the aim studying the tourism behavior and relationship to variables affecting tourism behavior, of tourists at Koh Chang National Marine Park. The studied variables consisted of gender, age, occupation, education, income, duration of visit, size of tourist groups, receipt of information about tourism development plans of the National Marine Park, knowledge about environmental conservation, and attitude towards environmental conservation. The data was collected by means of questionnaire distributed to Thai tourists whose ages were 15 and up who visited Koh Chang National Marine Park. The sample group composed 200 persons selected by specific sampling. The data was then analyzed by percentage, mean, standard deviation, and Chi-Square methods. The findings of the study were as follows:

1. Most sample persons had environmental conservation behavior at a high level.

2. The environmental conservation behavior varied depending on size of tourist groups, knowledge about the environmental conservation, and attitude towards environmental conservation at a 0.01 level of significance, but such behavior did not vary of gender, age, occupation, education, income, tourism duration, and receipt of information about tourism development plans of the National Marine Park, at a 0.05 level of significance.

The recommendations of this study were that the natural and environmental conservation behavior of community members and shop owners should be studied. Tourists and relevant authorities should be provided the knowledge about the environmental conservation so that the authorities would be able to advise tourists correctly and the environment would not be destroyed. In-depth study concerning problems and obstacles of selecting tourist attractions by tourists should also be conducted.

KEY WORDS : LEVEL OF KNOWLEDGE/ ATTITUDE/ BEHAVIOR/ ENVIRONMENTAL CONSERVATION

141 P. ISBN 974-04-6569-2

พฤติกรรมการอนุรักษ์ทรัพยากรธรรมชาติของนักท่องเที่ยว ณ อุทยานแห่งชาติหมู่เกาะช้าง (A STUDY OF THE ENVIRONMENTAL CONSERVATION BEHAVIOR OF TOURISTS AT KOH CHANG NATIONAL MARINE PARK)

ธนิยา แตงจั่น 4336969 SHED/M

ศษ.ม. (สิ่งแวดล้อมศึกษา)

คณะกรรมการควบคุมวิทยานิพนธ์ : สุภชัย สุกรวรรณ, พบ.ม., ศิริชัย ชินะตังกูร, Ph.D., เต็มดวง รัตนทัศนีย, วท.บ. (เคมี)., M.A.

บทคัดย่อ

การศึกษาครั้งนี้เป็นการวิจัยเชิงสำรวจ เพื่อศึกษาพฤติกรรมการท่องเที่ยวของนักท่องเที่ยวและศึกษาความสัมพันธ์ของตัวแปรที่มีต่อพฤติกรรมการท่องเที่ยวของนักท่องเที่ยว ณ อุทยานแห่งชาติหมู่เกาะช้าง โดยศึกษาตัวแปรด้านเพศ อายุ อาชีพ การศึกษา รายได้ ระยะเวลาท่องเที่ยว ขนาดกลุ่มนักท่องเที่ยว การรับรู้ข่าวสารเกี่ยวกับแผนพัฒนาการท่องเที่ยวอุทยาน ความรู้เกี่ยวกับการอนุรักษ์สิ่งแวดล้อมและเจตคติต่อการอนุรักษ์สิ่งแวดล้อม ผู้วิจัยเก็บข้อมูลโดยใช้แบบสอบถามกับนักท่องเที่ยวชาวไทยที่อายุ 15 ปี ขึ้นไปที่เดินทางเข้ามาเที่ยวอุทยานแห่งชาติหมู่เกาะช้าง กำหนดกลุ่มตัวอย่าง จำนวน 200 คน โดยเลือกใช้วิธีการสุ่มตัวอย่างแบบเจาะจง และนำมาวิเคราะห์โดยใช้สถิติร้อยละ ค่ามัชฌิมเลขคณิต ค่าเบี่ยงเบนมาตรฐาน และค่าสถิติไคสแควร์ (Chi-Square) ผลการศึกษาสรุปได้ดังนี้

1. กลุ่มตัวอย่างส่วนใหญ่มีพฤติกรรมเกี่ยวกับการอนุรักษ์ทรัพยากรธรรมชาติในระดับสูง

2.พฤติกรรมการอนุรักษ์ทรัพยากรธรรมชาติขึ้นอยู่กับตัวแปร ขนาดของกลุ่มนักท่องเที่ยว ความรู้เกี่ยวกับการอนุรักษ์สิ่งแวดล้อม และเจตคติที่มีต่อการอนุรักษ์สิ่งแวดล้อม อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 แต่ไม่ขึ้นอยู่กับตัวแปร เพศ อายุ อาชีพ การศึกษา รายได้ ระยะเวลาท่องเที่ยว การรับรู้ข่าวสารเกี่ยวกับแผนพัฒนาการท่องเที่ยวอุทยาน อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05

จากการวิจัยครั้งนี้มีข้อเสนอแนะควรมีการศึกษาทางด้านพฤติกรรมการอนุรักษ์ทรัพยากรธรรมชาติและสิ่งแวดล้อมของคนในชุมชนและผู้ประกอบการร้านค้า ให้ความรู้ในเรื่องของการอนุรักษ์สิ่งแวดล้อมให้กับนักท่องเที่ยว เจ้าหน้าที่ที่เกี่ยวข้อง เพื่อจะได้แนะนำนักท่องเที่ยวได้อย่างถูกวิธี และไม่ทำลายสิ่งแวดล้อม รวมทั้งศึกษาเชิงลึกถึงปัญหาและอุปสรรคในการเลือกสถานที่ท่องเที่ยวของนักท่องเที่ยว

141 หน้า. ISBN 974-04-6569-2

CONTENTS

CONTENTS (CONT.)

LIST OF TABLES

LIST OF TABLES (CONT.)

LIST OF CHART

CHAPTER I
INTRODUCTION

1.1 Background and Rationale of the Study

Upon the start over three decades, Thailand's tourism industry had been growing rapidly. Thailand became the leading country in respect of tourism in the Asia region and second to the Mainland China only. Tourism had generated the foreign-currency income more than Baht 280,000 million from 9.5 million foreign tourists visiting Thailand in the year 2000. Moreover, tourism was the economic sector supporting and backing Thailand when the economic crisis occurred. In the last year of the ninth National Economic and Social Development Plan, it was expected that not less than 14 million foreign tourists would be visiting our country. The average expansion rate of international tourists was expected to be 7% per annum. Regarding Thai tourists for the year 2006, it was expected to reach 59 million persons per year[1], which would take huge economic, social, and cultural benefit to our country that involved foreign-currency income, job formation, income distribution, and formation of good attitude towards tourism. However, there was a concern that the rapid expansion of tourism would have unsatisfactory impact in parallel with such growth (Thailand Development Research Institute, 2545: 5).

In particular, the destruction of natural and environmental resources, both natural and cultural resources created by men, had affected the ecological system as a whole. This event made some populations and some powerful groups or profit groups considered that the behavior of extravagant and unsubstantial society was the western vision, that was, it considered that men were superior to nature and anything made by human. These problems could be solved by rooting the consciousness of humans, which was the important condition leading to more creative tourism development.

However, in the present social circumstances, most people had been so serious with their work andearning for living all day and night, which resulted in exhausted body and mind including brain tension. Consequently, populations needed to have available time forrecreation or visiting natural locations and man-made sites or cultural places (Vichai Thiennoi, 1985:1). So, tourism was one kind of recreation widely desired by most people. Tourism could be counted as the recreation; tourism was required by everyone for better quality of life.

Traveling and visiting could lead to many emotions, experience, and adventure of new and exotic events. It was important that traveling and visiting brought about comprehension for other humans who communicated in different languages and stayed in differ\rent cultures. It could be deemed that tourism was like a bridge to combine human unity in different races of the world. In addition, traveling in unseen and unknown lands, what we saw and experienced would cause love and attachment to our own resources. Thus, to maintain resources in various tourist attractions, except good consciousness, tourists had to have good knowledge and comprehension in eco-tourism, which could be expressed by their future behavior.

As mentioned earlier, we could see that tourism development was one way of economic and social development of the country, which, when the time was passing by, played more important role apart from the agricultural development that was Thailand's economic base. As a result, tourism industry became a new hope of Thailand's economic system leading further expansion of economy. Nevertheless, under all-the-time fluctuation of global economy, it has affected Thailand's economy in respect of importation that had been facing the drop of goods prices and severe trading blockade, which caused the tendency of Thailand's decreasing foreign-currency income gained from the import of goods. But, conversely, tourism was a kind of goods that had not been impacted because of serious cooperation by every party in governmental and private sectors. However, tourism industry not only took important roles in the economic aspect, past tourism development also had economic, social, and cultural impact including environmental quality. In the economic system, tourism took a partial role in generating employment opportunities, employment, and income

distribution. In the meantime, in the social and cultural system, tourism caused social, cultural, technological, trading, and other changes.

Thailand's tourist attractions could be mainly divided into natural tourist locations, cultural tourist locations, and historical tourist locations. Without good care and maintenance, such resources would be deteriorating very quickly and further caused problems or affect the overall tourism. In respect of environmental conservation, it could be said that tourism had the effect to the environmental promotion and conservation; investment for tourism development in any area could be classified into 2 features: investment for infrastructure construction, and investment for gaining benefit from natural attractiveness or utilization of existing resources for tourism and relaxation. Tourism resources consisted of beaches, sand beaches, waterfalls, forests, and mountains. But, if such resources were utilized for tourism without taking account of suitability, other deterioration apart from natural deterioration would occur. Therefore, it was essential to have environmental maintenance and conservation so that it would not deteriorate or became worse in the inappropriate time (Dasman, Milton and Freeman: 1973).

In Thailand, there were many tourist locations all over the country including natural tourist locations. Favorable seaside places located along the eastern coast involved Bang Saen, Pattaya, Koh Samed, etc. For the tourist locations on the western and southern parts, seaside lodging usually visited by tourists cover Cha-um, Hua Hin, etc., and Pang-nga and Koh Samui respectively.

Beaches or seaside locations had been facing the large environment deterioration as a result of nature and tourists. Main problems involved rubbish, release of wastewater into the sea, landslide of ground along the seaside, seawater quality that dirtied beaches and made them muddy, invasion of beaches, etc. These problems had made beaches gradually lose their attractiveness. At present, tourism characteristics had been changing due to more holidays of populations in developed countries and their changing favor; tourists required to search for new and exotic experience apart from existing tourist locations. Attitude of tourists and tourist companies had also been

changing, that is, they had more awareness of environmental problems. These factors turned the old-type tourism, in which business principles were to present the best goods for the best benefit to big groups of tourists under high service standard to make tourists feel like living at home, to a new-type tourism, in which business profit is not up to the economic size but tourists preferred to visit tourist locations by themselves or in small groups (Poon, 1994). In the new form of tourism, tourists avoided traveling in big groups, and they required gaining the experience from nature, and cared the environment and natural conservation. We could see that the number of eco-tourists would be certainly expanding in the near future. Eco-tourists usually had higher ages than tourists who liked to travel in big groups or had ages of 45-64, had the holiday period more than one time a year, and were in the middle-class and up, so they had good financial status and paid strong attention to natural conservation. Natural locations favorably visited by such tourists were usually natural tourist attractions in many undeveloped countries.

Koh Chang was one of natural tourist locations in Trat Province. It is located in the marine area in the eastern part of Thailand. Koh Chang consisted of various interesting tourist locations including forests, mountains, waterfalls, and beaches. Some parts of forest, mountain, and waterfall areas as well as beaches were located out of the National Park. According to tourism potential and the governmental development projects in respect of seaport and roads, land utilization has been turned from agricultural areas to lodgings and facilities to support increasing tourists. In accordance with awareness of impact to environment and ecological system, the Tourism Authority of Thailand (TAT) assigned The Thailand Institute of Scientific and Technological Research (TISTR) to conduct a study of Thailand's capacities of supporting tourism development. From this study, it was expected that Koh Chang could provide services to only 10,000 tourists per day or 4,000 service rooms under appropriate areas for tourism development amounting to 3,360 rai.

Table 1: Projection of Visitors Classified by Groups and Room Requirements

Year	Thai Visitors	Over-night Staying			Accommodation Rooms
		Staying at night	Not staying at night	Total	
2541	263,535	233,387	30,148	263,535	1,099
2544	300,539	266,926	33,613	300,539	1,276
2546	328,051	293,491	34,560	328,051	1,393
2549	354,501	317,154	37,347	354,501	1,647
2551	378,707	339,397	39,310	378,707	1,767
2554	398,167	356,837	41,330	398,167	1,905
2556	417,104	374,559	42,545	417,104	2,020
2559	429,526	385,714	43,812	429,526	2,144

Source: Projection, Master Plan for Specific Area Development for Tourism, Koh Chang, Trat Province

Because of tourists' increasing favor to go tourist locations on Koh Chang, which were situated in the National Marine Park, Koh Chang was determined as an area for supporting natural tourist activities. In the master plan of Koh Chang, Trat Province National Park (upon the Department of Forestry's approval, this master plan had to be used as the master plan for the management of national marine parks B.E. 2540 – 2544), the development of Koh Chang National Marine Park was set up. Additionally, the governmental sector desired to promote Koh Chang as Thailand's new important tourist location. For the budget year 2002, the Government approved Baht 43,744,985 for Koh Chang Development Plan, and, most recently, the cabinet approved the supplementary budget for Koh Chang Development for the year 2003 in the amount of 28,708,709. As a result, the budget flowing into Koh Chang reached Baht 72,453,764. Such budget was set as the operation framework for the development of Koh Chang and neighboring areas, as well as the administration of environment, and public relations for tourism promotion with a focus on its role of distributing modernization to the region. Koh Chang would be one of tourist locations attracting tourists and leading to the development of infrastructure and other services. Furthermore, such development might lead to the production of goods and other

facilities, which partly helped to boost income and employment of populations living in the area. The nature of Koh Chang was outstanding and grew to be the significant cost for increasing number of tourists, which took part in more and rapid development of tourism services. Regarding physical development, it could be noticed that the number of bungalows, holiday lodgings, resorts, and improvement of infrastructure have been increasing such as increasing roads distributed around the island. However, growth without good control could cause the expansion beyond capabilities of natural resources there, which would be followed by deteriorating natural conditions, social problems, changes of land use, etc. But, since tourists' behavior would vary subject to knowledge and attitude that would lead to the conservation of tourism resources; hence, if this location were visited by more tourists, the following impact would be the deteriorating environment. Therefore, the researcher was interested in examining the behavior of tourists to get useful information for the governmental sector in its preparation of working plans, as well as for other agencies relating to the sustainable development and conservation of tourist locations.

1.2 Objectives of the Study

1.2.1 To study tourism behavior of tourists who visited Koh Chang National Marine Park.

1.2.2 To study the relation of variables affecting tourism behavior of tourists who visited Koh Chang National Marine Park.

1.3 Research Questions

1.3.1 What kind of tourism behavior of tourists who visited Koh Chang National Marine Park?

1.3.2 Which variable had the relation with tourism behavior of tourists who visited Koh Chang National Marine Park?

1.4 Research Hypothesis

Variables involving gender, age occupation, income, level of education, tourism duration, knowledge about environmental conservation, receipt of information about tourism and attitude towards environmental conservation, and environmental

management plan had the relation with tourism behavior of tourists who visited Koh Chang National Marine Park.

1.5 Scope of the Study

1.5.1 Populations of this study were Thai tourists who visited Koh Chang National Marine Park during the year 2000 – 2001 in the total number of 287,940 persons as per the tourism data collected from October 2000 – September 2001 illustrated below:

1.5.2 The sample group of this study covered 200 tourists who visited Koh Chang National Marine Park selected by the specific sampling method.

1.5.3 Variables of the Study

1.5.3.1 Independent Variables:

- Gender
- Age
- Occupation
- Level of education
- Income
- Tourism duration
- Size of tourist group
- Receipt of information regarding Koh Chang tourism development plans
- Knowledge about environmental conservation
- Attitude towards environmental conservation

1.5.3.2 Dependent Variables:

- Tourism behavior of tourists who visited Koh Chang National Marine Park.

1.6 Operational Definitions

1.6.1 **Tourism behavior** referred to actions done by tourists during visiting Koh Chang only in part of beaches and waterfalls. Such actions were done to increase knowledge and comprehension in environmental conditions in Koh Chang without

destroying or deteriorating the environment or causing any pollution. In this study, two following tourism behavior would be conducted:

1.6.1.1 Tourism behavior in tourist locations

1.6.1.2 Behavior towards natural resource conservation in tourist locations

1.6.2 **Natural resource conservation** referred to the conservation, maintenance, care, and reasonable utilization of natural resources to serve needs, and saving natural resources for future use.

1.6.3 **Tourists** referred to Thai people with ages of 15 and up who visited tourist locations in part of beaches and waterfalls in Koh Chang.

1.6.4 **Knowledge about environmental conservation** referred to facts or information about conservation, that is, tourism aiming at learning, appreciating, and enjoying natural scenery under knowledge and responsibility to the environment of persons who gained them by studies, observation, or experience before applying them whenever tourist activities took place.

1.6.5 **Attitude towards environmental conservation** referred to manners, emotions, and tendency of behavior to prevent or maintain the environment to be in the same and appropriate conditions. Behavior might be in forms of support or assistance, not-support, or indifference.

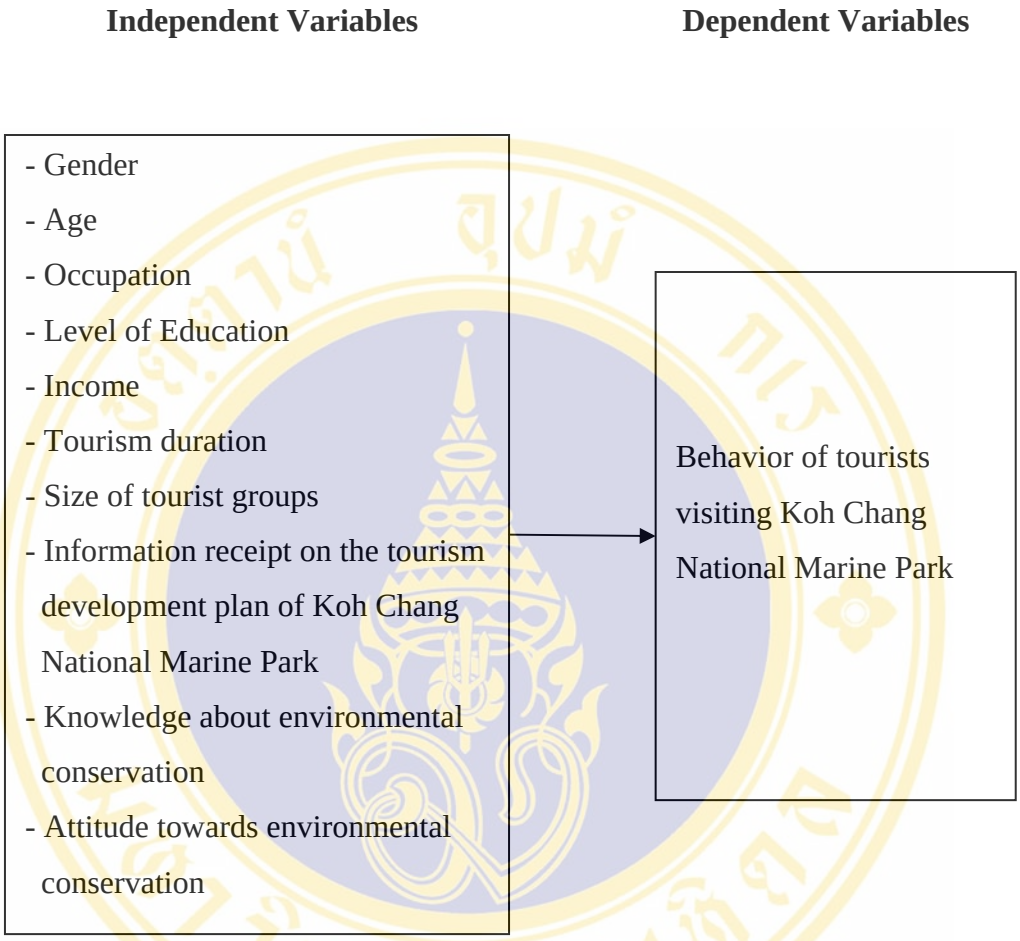
1.6.6 **Receipt of information about tourism development plans of Koh Chang National Marine Park** referred to the receipt of any information about tourism development plans from various sources such as television, radio, newspaper, magazine, or other publication, including from many persons such as friend, relatives, etc.

1.6.7 **Size of tourist groups** referred to members of a tourist group who visited Koh Chang National Marine Park together.

1.6.8 **Tourism duration** referred to days and time spent in visiting Koh Chang National Marine Park.

1.6.9 **Tourism expenses** referred to the total amount of sums spent in such visit by each tourist per day.

1.7 Conceptual Framework



1.8 Advantage from the study

1.8.1 To learn the information about tourism behavior of tourists who visited Koh Chang National Marine Park.

1.8.2 To learn important variables affecting tourism behavior of tourists who visited Koh Chang National Marine Park.

1.8.3 Findings of the study can be applied as the basic information for public relation planning to promote tourism and to undertake by the policy of efficient natural resource management in consistence with the State's policy and Koh Chang National Marine Park's policy for the best benefit of Koh Chang National Marine Park.

CHAPTER II
LITERATURE REVIEW

This research concerns the study of tourism behavior of tourists who visited Koh Chang National Marine Park. Concepts, theories, and relevant researches as the foundation and direction of this research were divided as follows:

2.1 Concepts of behavior
2.2 Concepts of ecotourism
2.3 Concepts of knowledge
2.4 Concepts of attitude
2.5 Information about studied areas
2.6 Conceptual framework regarding the management of tourist attractions at Koh Chang National Marine Park
2.7 Related researches

2.1 Concepts of Behavior

2.1.1 Definitions of Behavior

Longman Dictionary (Longman, 1984: 90) gave the definition of behavior as an action or psychological response to an action by each person, and behavior was the interaction in responding internal or external stimulus. It also included an action done purposefully and observably, or an action done after some consideration or unconsciously.

Munn (Munn, 1962: 5) defined behavior as the occurrence of activities or actions done by humans.

Bole and Davanport (Bole and Davanport, 1975: 423) explained that behavior was forms of actions.

Thanaporn Panakup (1995: 25) gave the meaning of behavior that it dealt with activities/actions expressed by humans, both observable and unobservable.

Lalita Pochanapan (1996: 10) explained the meaning of behavior as a person's actions, both shown out or hidden in mind, which might be expressed consciously or unconsciously and might or might not be observed by other persons, or could be measured by behavioral instruments.

Saowaluck Navacharoenkul (1998: 19) defined the behavior as any action done by human to respond to a situation consciously or unconsciously, or that action could or could not be noticed by other persons.

According to definitions mentioned above, it could be concluded that behavior referred to any action or activity that a person expressed in a situation, which might or

might be noticed by other persons. In this study, tourism behavior was defined as actions expressed by tourists during their traveling and visiting Koh Chang in part of beaches and waterfalls, and those actions were done to increase knowledge and comprehension in environment at Koh Chang without destroying or deteriorating the environment, and causing any pollution there.

2.1.2 Types of Behavior

M.L. Tui Chumsai (cited in Lalita Pochanapan, 1996: 11) divided the learning behavior into 2 following types:

1. Unlearned Behavior referred to any action done by organs without prior learning. But, unlearned behavior might occur after the birth of organs; thus, sometimes, it was still doubtful that that behavior might not be the unlearned

behavior. However, if that behavior occurred after the organs were born so long, it is hardly impossible to avoid the learning proficiency.

2. Learned Behavior referred to any behavior done by organs after opportunities of learning or imitating other persons in the society. This kind of behavior might be called “Social Behavior”.

Moreover, Somjit Supannatas (1983: 98) divided behavior, by her observation, into 2 following types, which was consistent to the concept of Preeyaporn Wongbutroj (1991: 14-15):

1. Internal Behavior or Covert Behavior referred to an action or activity that occurred inside the body; brain had the duty to collect the information and send the order, both in concrete forms such as heart beating and intestine pressing, and in abstract forms such as thought, emotions, attitude, belief, and moral value filled in a person’s brain and could not be seen.

2. External Behavior or Overt Behavior referred to a reaction or activity of a person shown out and seen by other persons in forms of wording, acts, and manners such as speaking, laughing, eating, cleaning, or planting. External behavior was human’s most important factor in living with other persons, and was the important reason in supporting the world or conserving the environment.

2.1.3 Components of Behavior

Components of human behavior, according to the concept of Cronbach (Cronbach, 1972: 14) could be classified into 7 as listed below:

1. Goal – It was a need or goal of doing the activity. General people had to do activities to respond existing needs. Some activities could serve our pleasure or needs immediately, but, for some needs or goals, it might take longer time to fulfill them. We had several needs at the same time and usually decided to serve the urgent needs first and serve less urgent needs later.

2. Readiness – It meant the level of maturity or essential capabilities of doing activities to serve needs. We were unable to serve all our needs; some needs were out of our capabilities.

3. Situation – It was the event giving the opportunity to do any activity in order to serve human's needs.

4. Interpretation – Prior to doing any activity, one had to consider the situation before deciding to choose the method expected to serve his/her needs most.

5. Response – It was the activity to serve one's needs by using selected method(s) got by the stage of interpretation.

6. Consequence – One would certainly get the consequence of doing a particular activity. The consequence might be subject to his/her expectation (confirm) or contrary to the expectation (conTratict).

7. Reaction to thwarting – if one's needs could not be served, it could be said that he/she would have disappointment. In such case, he/she might have to go back to re-interpret the situation and chose a new response method.

According to the study above, it might be concluded that main components of behavior had the effect to an individual's different behavior comprised knowledge, attitude, and practice. In respect of knowledge, there were several elements used for making decision before acting. To have knowledge, one had to have comprehension, knowledge application, analysis, synthesis, and evaluation together. Concerning attitude, moral value, perception, response, background of moral value, order, and showing the moral value one stuck to were important elements. When one had knowledge and attitude, it would lead to practice expressed to others and observable. To have practice, knowledge and attitude needed not to be linked with each other.

In this study, only behavior in respect of knowledge, awareness, and practice would be studied because such behavior was what one shown out and could be noticed.

2.1.4 Behavioral Process

Vimonsith Horrayangkul (cited in Songpol Saengprakai, 2001: 25) divided the behavioral process into 3 sub-processes as follows:

1. Perception – It was the process of receiving the information from one's surroundings through the nerve system, so the process included the sensation as well.

2. Cognition – It was the process involving the mental process that covered learning, memorizing, and thinking. Such mental process had to include the development process. So, cognition was the intelligence process.

Both perception and cognition would lead to emotional responses, affective process. Both perception and cognition process were the covert behavior.

3. Spatial Behavior – It was the process in which one had the behavior in the surroundings, and had the relationship with surroundings through actions, could be noticed, and was the overt behavior.

2.1.5 Behavioral Determinants

Narong Sinsawas (1976: 20) stated that human behavior was determined by several matters, which could be classified into 2 following types:

1. Individual's Personal Habit, comprising:

1.1 Belief – One might think of anything. But, in fact, such thinking might be right or wrong. Belief might come from seeing, telling, reading, or imagining.

1.2 Value – It referred to what one attached in mind, and helped in decision on selection.

1.3 Attitude – It was an important power influencing the behavior shown out, and it was the core of psychology in the present society. Attitude was so delicate and complicated, which had to rely on wording responses or overt behavior.

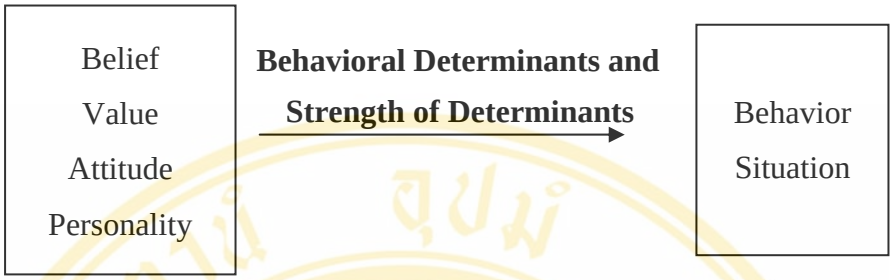
1.4 Personality – It was a part of habit and was an instrument in determining behavior.

2. Others that did not deal with human's habit, comprising:

2.1 Stimulus object and strength of stimulus object – They could encourage one to show out any behavior such as hunger, instruction, gun-firing noise, etc.

2.2 Situation – It referred to surroundings, both human and non-human, in the condition when one was going to have an action such as queuing up to buy the movie ticket at the cinema theater, etc.

Chart 1 – Illustration of Behavioral Determinants



2.1.6 Relation between Behavior and other Components

From the study, determinants of human behavior consisted of belief, value, attitude, as well as influences of physical body, personality, society, and culture. Therefore, there are several matter relating to behavior, which could be concluded as follows:

1. Influence of value on human behavior – Value referred to the covert behavior while human behavior referred to acts or expression of covert behavior. Humans usually behaved or practised as per their thought, favor, or personal value. Prasarn Malakul Na Ayudhya (1989: 2) concluded the influence of value on human behavior that the value had influence on motivation, attitude, interest, and it also had influence on intention or expectation, and further had influence on behavior or action aimed at that favorable matter. In addition, that action behavior would have the feedback to intention, motivation, attitude, as well as interest, and had influence on value too.

2. Relationship between culture and behavior – Culture had influence on the development of personal personality by setting up conditions of behavior/practice that was acceptable in the society. Knowing culture in the society would increase abilities of roughly foretelling behavior. Every behavior in human societies was influenced by culture. For the concept of relationship between culture and behavior, Sir Serpell Robert (Serpell Robert, 1976: 18) explained in his book “Culture’s Influence on Behavior” that some reasons conveying the relationship between culture and behavior were that culture had the relation with physical surroundings and social surroundings. Culture also had the relation with motivation and knowledge. Both motivation and

knowledge had the relation with behavior. For behavior, it could cause the relation with culture.

3. Social and cultural surrounding – This had influence on behavior of person or group of persons who was/were a part of society and culture. Then, entering into the group or into the society would make him/her have motivation and stimulus, and behave differently.

2.1.7 Measurement of Behavior

Somjit Supannatas (cited in Soontaree Jeantham, 1988: 24) stated two ways of studying behavior as follows:

1. Direct study of behavior – could be done by 2 ways:

1.1 Direct observation – For example, the teacher observed students' behavior in the classroom by advising all students that the teacher would observe each student's activity done in the classroom. In this observation, someone might not show his/her actual behavior.

1.2 Naturalistic observation – If one wants to observe other person's behavior by not interrupting persons to be observed and the observed persons did not know that their behavior was being observed. We would get very actual behavior from this kind of observation and the results of observation could be used to explain other similar behavior. However, the limitation of this observation was that it had to be done continuously and repeatedly.

In conclusion, the observation of behavior, whether the observed person was aware of that observation or not, the observer had to have delicate and systematic observation, have records when behavior was observed. Moreover, the observer should not have any bias to observed persons, so that the observation results were valid and reliable.

2. Indirect study of behavior – could be done by several ways as described below:

2.1 Interview – If the researcher required asking the information from a person or group of persons, he/she might have the face-to-face interview or ask the middle man interview for him/her such as interpreter in case that the interviewer and

interviewee speak in different languages. The interview was done to learn individuals' behavior that could be separated into 2 main types: direct interview in which the interviewer asked the interviewee for the set issues; and indirect or unofficial interview in which the interviewee did not know what the interviewer required. The interviewer would speak continually and insert the interview issues if the interviewer had a chance, and the respondent would not know that the interviewer specifically required knowing about each respondent's behavior. The interviewer would get a large amount of information, but there was a limitation that the interviewee did not want to disclose some issues.

2.2 Questionnaire – This was a suitable way of studying behavior of many people and respondents were able to read and write. The questionnaire might be used to ask respondents in order to know the future tendency. Another advantage of questionnaire was that the studied persons might give some information about overt behavior or other behavior they would not disclose to others persons if being asked by other methods because respondents were sure that their information shall be kept confidential. The questionnaire was also used for the study in anytime.

2.3 Experiment – It was a way of studying behavior in which studied persons were in controlled conditions as required by the researcher. In fact, the controlled conditions could be done in the laboratory, but if it was done in the community, studying community behavior by controlling many variables were hardly possible. The experiment in a laboratory would limit the information and, sometimes, could not be used in real situations. However, this method was so useful in studying personal behavior in the medicine field.

2.4 Recording – This way could make us know individuals' behavior by letting each record his/her own behavior. The records might be done on a daily basis or each type of behavior was studied such as eating behavior, working behavior, health behavior, environmental behavior, etc.

According to the study above, it could be concluded that, in the measurement of human behavior that consisted of both covert and overt behavior, human's covert behavior could not be noticed but might be measured by indirect study of behavior such as interview, questionnaire, experiment, and recording. For overt behavior that

could be noticed directly, the study of behavior would be direct observation and naturalistic observation.

For the study of tourism behavior of tourists at Koh Chang, the researcher conducted the study on their behavior, both direct and indirect study of behavior in forms of questionnaire and observation.

2.1.8 Criteria Indicating the Appropriate Level of Behavior

Duangkamon Vechbanyairat et al. (1986: 79-81) divided principles or criteria indicating the level of appropriateness of human behavior into 3 following principles:

Principle 1: Pleasure Principle – The behavior shown out was for the highest satisfaction by the lowest investment of action. For example, crossing the road anywhere he/she liked although the overhead crossing or the pedestrian crossing was provided nearby, or the field caretaker posted the sign that “Dog’s Path”, that person agreed to be a dog in order to cross the field to save their energy without thinking of the person who had to take care of that place or the attractiveness of the place. This kind of person was selfish and relied on the pleasure principle without thinking of other persons. So, considering only the pleasure principle might not the appropriate behavior of men.

Principle 2: Reality Principle – This meant the reality that has changed up to age, time, era, and role of that person. The reality principle was the learning of desire or might be called knowing other persons and knowing ourselves, what we could do or could not do, when and where we could do, or realizing time and place of that person.

Principle 3: Cultural and Social Principle – One’s appropriate behavior had to depend on the group’s criteria, that is, value, rules and regulations, tradition, culture, laws, morale, religion, or others existing at that time and in that particular area. Criteria or cultural and social standard would be different between local groups and period of time. Any behavior that was similar to mean would be also similar to behavior of the majority people. If any behavior deviated from mean, whether more

positive or negative, it would be deemed as the deviated behavior or abnormal behavior.

The above study could lead to a conclusion that the criteria indicating the level of appropriateness of human behavior relied on situation, society, and surroundings where humans have been living in at that time, and their expressed behavior had to be most consistent and harmonious with the nature.

2.2 Concepts of Ecotourism

2.2.1 Definitions of Tourism

Ploysri Porananon (2001: 41) gave the meaning of tourism as one of activities done during the free time, but the difference between tourism and recreation was that recreation was an activity done during the free time at home or in the neighboring area, but tourism also dealt with distance or perhaps overnight staying and there would also be recreation activities at the destination.

Hanziker & Krapf (Hanziker & Krapf of Berne University) (cited in Ploysri Porananon, 2001: 41) stated that tourism included the total outcome and involvement arising from traveling and staying of persons who were not local people and these persons did not stay in that area permanently and did not involve in any income activity.

The Tourism Authority of Thailand (TAT) gave the meaning of tourism that it was the traveling under 3 international criteria:

1. Traveling from regular accommodation to other place temporarily
2. Traveling willingly
3. Traveling with any purpose, but not for earning for living or gaining income.

The Thailand Institute of Scientific and Technological Research (cited in Prommed Nathomthong, 1997: 11) had a conclusion on tourism that it referred to the

total outcome of phenomena and relation arising out as a result of tourists, businesses, and services, as well as the host government and local people, which were tourist attractions involving in activities or procedures of attracting tourists or visitors by warm and friendly welcome.

Wanna Wongwanich (1996: 17) defined tourism as people's traveling to many places and, during such traveling, they did many activities including visiting tourist attractions or exotic scenery or shopping for souvenirs.

Pursuant to definitions mentioned above, it could be said that tourism meant an activity that was done during the free time that had to involve traveling from one place to other place known as the tourist location.

2.2.1.1 Concepts of Tourism

In the past, the overall tourism management usually the contradict problems between the conservation of natural environment and society and development. Therefore, the balance between development and conservation including the democratic system based on the grass root level should be promoted most. In addition, the global trend in respect of sustainable development, especially from the Earth Summit held at Brazil on 14 June 1992 arouse an important direction to tourism development in the following 3 facets (The Thailand Institute of Scientific and Technological Research, 1997):

1. Trend of needs for the conservation of environment and natural resources under the worldwide network that covered the conservation in local level to the conservation, prevention, and solutions of global crisis, especially the ecological conservation.

2. Trend of needs for tourism market in respect of studies and learning, or experience in environment and natural resources that has become increasing among tourists and every part of the society so that relevant people had knowledge and awareness of environmental conservation.

3. Trend of needs for human development under the participation of grass-root people to guarantee for the right direction of development, proper distribution of income, and subject to local people's desire.

By these three trends of needs, it led to a new alternative in tourism, which directed to the sustainable tourism and was the tourism form mostly mentioned now.

2.2.1.2 Definitions and Meanings

Hector Ceballos –Lascurain (Hector Ceballos-Lascurain, 1990 cited in Karuna Taechatiwong Na Ayudhya: 1996: 58) of International Union for the Conservation of Nature and Natural Resources – IUCN said that tourism meant a form of tourism that covered traveling to tourist attractions with purposes of appreciating, studying, learning, and enjoying the scenery, plants, and wild animals including cultural characters existing in those natural locations.

Elizabeth Boo (Elizabeth Boo, 1991 cited in Kasetsart University, the Forestry Research Center, 1995: 3-2) defined eco-tourism as the natural tourism that provided benefit to the conservation as a consequence of income for the area maintenance, employment in communities or local areas, and rooting the conscious mind with regard to environment.

The Ecotourism Society (The Ecotourism Society, 1991 cited in Kasetsart University, the Forestry Research Center, 1995: 3-23) defined the eco-tourism, in the first phase, that it was the traveling to natural resources with purposes of learning natural culture and history under carefulness not to cause changes or destruction of ecological system, and, in the meantime, helping economic opportunities, which would result in the conservation of natural resources that provided benefit to local people.

The Thailand Institute of Scientific and Technological Research (1997: 2-51), which established a project to set up the tourism policy in order to maintain the ecological system to be presented to the Tourism Authority of Thailand, concluded

the definition of eco-tourism that it was tourism with responsibilities for natural locations, which contained particular local unique, and cultural sources in relation to ecological system under joint learning process among relevant persons, environmental management, and tourism by local participation to emphasize on the conscious mind in the sustainable conservation of ecological system.

Parakorn Payakvichien (1996: 5) stated that tourism was traveling in natural and cultural local areas under the limitation of forms and locations including tourist groups.

From the definitions presented above, the material content of tourism could be concluded as follows:

1. Tourist attractions to be promoted and developed for tourism should be natural areas under the conservation of natural resources and environment. Tourist attractions might include historical, archeological, and cultural locations located in those natural areas.

2. Tourism should involve every party that had responsibilities for natural environment and ecological system, and tourism would not destroy or deteriorate natural resources and environment.

3. Tourism had to place emphasis that tourists enabled to touch or have direct experience with natural environment, and it should provide opportunities to tourists to learn natural environment. Tourism not only gave pleasure to tourists, it also encouraged positive environmental ethics.

4. Tourism had to return benefit to the nature and natural conservation. In the meantime, tourism would provide both direct and indirect benefit to local communities.

5. Tourism would emphasize on natural value, or the outstanding unique of tourist attractions could attract tourists, not the increases or development of many facilities.

Therefore, it could be said that eco-tourism was a kind of tourism that focused on learning, appreciating, and comprehending natural environment including culture,

and custom and Tratition under the emphasis on responsibilities for conservation and maintenance of natural environment, and opportunities given to local people for their participation in managing tourism for their own local areas to set up the sustainable tourism.

2.2.2 Components of Tourism

Karuna Dejatiwong Na Ayudhya (2001:1) explained that tourism comprised at least 3 components as listed below:

1. Traveling from the regular accommodation to other places temporarily
2. Traveling willingly
3. Traveling with any purposes, but not for earning for living or gaining income

The Thailand Institute of Scientific and Technological Research, 1997 concluded the system and components of tourism that tourism was the social and economic process consisting of 3 main parts: tourism resource, tourism service, and tourism market or tourist. Each component also consisted of sub-components that linked with each other and were causes and reasons. The difference of each tourism type was caused by the difference of sub-components and the arising relation. The relation between 3 sub-components arose out when tourists utilized tourism resources for recreation or visual education, which might utilize it directly or from related services.

Wanna Wongvanich (1996: 19) explained that components of tourism were important factors to tourism development in many countries because those components not only encouraged tourism industry, they also provided benefit to tourists in general. Tourism activities needed several factors as listed below:

1. Tourists
2. Tourism products or tourist attractions
3. Communication and transportation
4. Information and services
5. Safety and convenience in entering into the country

6. Infrastructure components

7. Other supports such as finance, banking

2.2.3 Factors Encouraging Tourist Activities

Cohen and Taylor (Cohen and Taylor: 1976), Crompton (Crompton: 1979), and Mathieson and Wall (Mathieson and Wall: 1982) (cited in Ploysri Porananon: 2001: 51-53) mentioned consistently about the motivation that led to tourism requirements, which could be concluded as follows:

1. The escape motivation – It is a need to escape from social conditions and familiar environment.

2. Relaxation – It dealt with a need to escape, but the escape was to recover one's body and mind.

3. Play – To release oneself to enjoy with children's activities. Adults participating in children's plays were like moving the time backwards freely and free from any anxiety like they were still young.

4. Strengthening family bonds – In real situations, when both father and mother had to work all the time, holidays would be the parents' allocation of time to stay with their children and to strengthen the family bonds.

5. Prestige – Social status was like a support of person's capabilities. Selection tourist attractions to temporarily stay during holidays and visiting many locations sometimes were forms of fashion. Selection fashionable locations or exotic or strange locations was the show-off of these holidaymakers. Tourist attractions became another indicator of life; it was a proof of persons' reputation to others.

6. Social Interaction – Holidays were usually an important social representative for groups who did not pay attention to tradition or culture nor feel interested in learning the background of each person. These groups had the same hobbies or interest in spending their free time. Traveling of groups who had similar thought would help these groups share experience with each other, make them feel as a part of their group, and not feel lonely in traveling.

7. Sexual Opportunity – In some facets, social interaction might open to sexual opportunity too. The sexual opportunity could occur or be shown out perhaps due to

the physical need or affection. The reason of this opportunity was that traveling was usually free from restrictions from surroundings at home. Traveling would provide one the opportunity of no-responsibility since he/she was far from home.

8. Educational Opportunity – Heart of traveling was the opportunity of traveling to see strange and new things, to learn famous locations in the world, to talk to other persons who had different culture and thought, to have opportunities to visit important relics, and to appreciate masterpieces of art. Many people had objectives of traveling for educational opportunities.

9. Self-fulfillment – Searching to fulfill self-requirement might be one objective of tourists such as selection of experience to be gained from tourism.

10. Wish Fulfillment – Sometimes, holidays and tourism became answers of individuals' dream. They were the dream that individuals required to keep in forever. The dream of travelers who admired nature was to visit the most attractive nature.

11. Shopping – Though shopping would not be one of regular and most favorable tourist activities, this activity was a possible reason when one wanted to escape from home for a moment, and, in fact, it would concern the traveling to other countries.

2.2.4 Types of Tourist attractions

The Tourism Authority of Thailand (cited in Prapawadee Paothongchin, 1985: 28) divided tourist attractions into 3 types pursuant to tourists' needs as follows:

1. Natural tourist attractions – These tourist attractions exist by nature such as mountain, waterfall, cave, geyser, hot springs, wild animal reserved areas, national park, sea, etc.

2. Ancient buildings/relics and religion such as temple, ancient buildings, historical park, ancient community, museum, religious site, etc.

3. Art, culture, Tratition, and activities – They all were kinds of tourism resources in forms of rite, Tratitional rite, living, ways of life such as Songkran Festival, rural village, fishery village, etc.

M. Peter (M. Peter, 1969: 148) divided tourist attractions according to their unique, interest, and activities attracting tourists into 5 types as follows:

1. Cultural Attractions such as important historical location, monument or ancient building, museum, new forms of culture, educational or political institute, including religious rites.

2. Tradition Attractions such as national festival, art, handicraft, music, folklore, life, and original Tradition of natives, etc.

3. Scenic Attractions such as attractive natural locations, national park, wild animal life, flower, and exotic ornamental garden, seaside, and other tourist attractions on the mountain, etc.

4. Entertainment Attractions such as participation or playing sports, shows in the park, zoo or museum, theatre, cinema, night entertainment locations, including restaurant, etc.

5. Other Attractions such as health recovery places, places where hot springs were located and there was the mineral water bathing, including exclusive tourist attractions that have never been found in other places, etc.

2.2.5 Types of Tourists

Cohen (Cohen: 1972) (cited in Ploysri Porananon, 2001: 48) described that each type of tourist would be the representative to express behavior of each kind of tourist because roles of each tourist type would be different depending on tourist groups and level of relationship between tourists and local people, which mostly affected tourism. Cohen divided tourists into the following 4 types:

1. The organized mass tourist – This meant tourists traveling in a group and their tourism activities were set up as to the tourist program arranged by the tourist company. All tourist activities would be planed in advance, and tourist decision would be up to the tourist organizer. For this type of tourist, tourists got the experience in tourist attractions where they highly felt familiar with, but they would gain new experience in tourist attractions so few.

2. The individual mass tourist – This meant tourists traveling in a group and the tourist company did not set the total tourist plan, but it would arrange some main

matters only. For this type, tourists would be able to control their tourist activities and time. But, such tourists would gain the same experience in tourism like the first type described above.

3. The explorer – This meant individual tourists who set their tourist plan by themselves and avoided to visit developed tourist attractions, but desired to participate as members of local communities. However, this type of tourists has not yet combined with local communities completely. These tourists also got new experience from tourist attractions.

4. The drifter – This kind of individual tourists would set up the tourist plan and travel by themselves, and avoided to visit developed tourist attractions by staying with local people in those areas. These tourists would adapt them to suit local culture. This kind of tourism would take unusual experience to tourists and make familiarity disappear.

World Tourism Organization (Tourism Authority of Thailand: 1992, 4) divided tourists into 3 types according to traveling purposes as follows:

1. Business Tourists – They were travelers due to business reasons or meetings or product exhibition, etc.

2. Specific Tourists – such as travelers to serve their specific needs such as visual education.

3. Leisure Tourists – They were travelers who visited any place for pleasure or without any reason of visiting except spending their free time during holidays.

2.2.6 Impact of Tourism

Wanna Wongvanich (1996: 144-146) stated that whenever the number of tourists in any tourist attraction increased until it was beyond the physical capabilities of that location, this event would cause the deterioration of basic resources, and the following problems would occur:

1. Deterioration of Natural Resources

- Impact to natural plants – Natural plants are easy-losable resources, especially flowers and some trees. A large number of tourists visiting those areas

would damage them such as collecting flowers, bending tree branches, stepping on sprouts, or throwing rubbish until those areas caused diseases.

- Impact to water resources – Releasing the great amount of waste into rivers, canals, or sea that was out of natural capacity to balance it, the water in those areas would be polluted. Serious water pollution could affect plants, animals living in water sources, and humans.
- Impact to climate – Traveling by using various vehicles could cause air pollution.
- Impact to wild animals – Nowadays, under the tourism promotion, tourists were permitted to visit or drive into the meadow and where was full of wild animals or wild animal reserved areas. These activities certainly gave bad effects to wild animals in respect of the decreasing number of wild animals, their behavior, and the extinction of some animals. In some areas, tourists set up their camps and left some food. Then, wild animals might come to rummage in camps to have that food and they might harm tourists; hence, more wild animals were killed. In addition, purchasing and collecting souvenirs made from animal organs or eating wild animal meat all affected the killing of some wild animals and caused their extinction.
- Impact to the countryside condition – Tourism could affect the countryside and balance of ecological system. For example, if the coral reef line in the sea were destroyed, waves would attack the coastline more seriously; as a result, the coastline might collapse. Drawing or breaking stalagmite or stalactite in cave would cause great damages since stalagmite and stalactite would not form itself anymore. Cutting trees on mountains to build roads or buildings would erode away soil that dropped into the river and would shallow it.

2. Deterioration of Tourist Attractions and Pollutions

Problems regarding deteriorating and dirty tourist attractions, scattered rubbish and waste in tourist attractions, polluted water, plants and wild animals were destroyed until their amount has sharply decreased or been extinct quickly all came from tourists and tourist entrepreneurs. Additionally, air pollution, dust, and loud noise from vehicles could deteriorate the quality of tourist attractions and attractiveness.

Forms of specific tourism and occurrence of environmental impact (study to set up the form of marine eco-tourism, 1998).

2.2.6.1 Jungle Tourism

Jungle tourism was a form of tourism held in forest areas and a part of tourism to gain knowledge, recreation, and adventure. Characteristics of this tourism form would be walking into the forest to study the ecological system of the forest by cutting some paths to cut across forest areas. Jungle tourism was usually traveling from one point to another or walking in a short and long circle. Jungle tourism might be held to see birds, insects, or other animals.

Impact to the environment from such kind of tourism was as follows:

- Stepping on small plants and animals
- Destroying some plants on the ground level in the areas visited by a lot of tourists
- Destroying more forest areas opened to be walking paths due to the shortage of systematic management for jungle tourism
- Wildfire might occur, which came from the overnight staying
- Increasing amount of rubbish due to food and dessert taken tourists during their visits
- Interrupting wild animals while visiting the forest, and loud noise would interrupt ways of life of animals in those areas

2.2.6.2 Beach Tourism

Sand beach was an area covered with sand (0.5-2.0 mm. Size). Sand might be so rough that it became muddy. In some areas, sand might be so fine that it looked like powder. Due to the fineness of sand and the gentle slope of beaches, they were suitable for tourism in general. Moreover, according to unclear ecological features, animals were able to live there, and several kinds of tourist activities could be set up. Beach activities consisted of relaxation, sun bathing, beach sports, swimming, sailing, windsurf, and water skiing, etc. For areas close to the beaches, they were locations for

other activities of general people such as accommodation, fishery communities, entertainment services, etc.

The impact to the environment caused by the above activities was:

- Destroying to construct the accommodations and other facilities for tourists
- Cutting trees on the beaches to make tourists notice the front side of service businesses, collecting the shell remains and coral reef remains
- Improving accommodations without the establishment of suitable system; as a result, accommodations were so crowded that led to ugly scenery and disorder.
- From the improvement of accommodations without good wastewater system, the wastewater was directly released into the sea. Such action would certainly cause worse quality of seawater in the future.
- A lot of tourists would cause a great amount of rubbish. If it was not managed properly, it might lead to bad smell and dirtiness in those areas.
- Continual activities and utilization of beaches have affected the physical structure such as the erosion of beaches, stepping on animals and plants because beaches would be changing naturally.

2.2.6.3 Waterfall Tourism

Waterfall tourism was one of tourism activities in the forest areas because waterfalls were part of those areas. Consequently, waterfall tourism usually consisted of jungle walking, swimming at the waterfall, and climbing the cliff. Furthermore, on the joint areas leading to the waterfalls, restaurants and many shops were established to provide services to tourists, which took effects to the environment as described below:

- When waterfalls were developed to be tourist attractions, restaurants and other service shops would be set up, but they led to rubbish and leavings problems.
- When a number of tourists have been visiting there, if they had not the conscious mind to take care of tourist attractions, forest areas around the waterfalls

would be more destroyed, especially the paths to the waterfall. The ground-level trees would be affected most.

- Waterfall areas consisted of islets and hillocks that might be scraped or marked by tourists. These actions made hillocks more deteriorate and have less attractiveness.
- When tourists visited waterfalls, they took some food and plastic bottles there and did not take them back. This would further cause the rubbish problem.
- If a large number of tourists have been visiting any area, the forest would be destroyed, which might result in the destruction of headwaters and drought in the dry season.

2.3 Concepts of Knowledge

2.3.1 Definitions of Knowledge

Bloom (Bloom: 1971: 271) gave the meaning of knowledge that knowledge related to the recognition of a specific matter or a general matter, the recognition of methods, procedures, or locations by memorizing.

Dictionary of Education (Carter V. Good, 1973: 325) defined knowledge that it was fact, truth, regulations, and information that humans gained and collected by their experience.

Prapapen Suwan (1977: 10) gave the meaning of knowledge that it was the primary behavior that learners could remember based on thinking or looking, hearing, memorizing. Knowledge at this stage consisted of knowledge about definitions, facts, theories, rules, structure, solutions, etc.

Thawatchai Chaijirachayakul (1984: 45) said that knowledge meant the learning with a focus on necessity and recognition to thought, objectives, and situations. Knowledge was the memory starting from easy and independent matters to difficult, complicated, and related matters.

Pursuant to the definitions mentioned above, it could be said that knowledge referred to facts or information that a person gained by studies, observation, or direct

and indirect experience, which have been collected before being shown out as the behavior that could be observed and measured. In this study, knowledge about eco-tourism was defined as facts of information about eco-tourism, that is, tourism with aims at studying, appreciating, and enjoying the scenery and natural environment under knowledge as well as responsibilities for the ecological system while that person also studied, observed, or collected all experience for further uses when he/she had tourist activities.

2.3.2 Level of Knowledge

Benjamin S. Bloom (cited in Boontham Kijpreedaborisuth, 1991: 72) divided the behavior with regard to knowledge or intelligence capability or cognitive domain into the following types:

1. Knowledge or recall such as knowledge behavior showing one's memory and recognition.

2. Comprehensive or understanding such as knowledge behavior showing the capability of explaining and expanding the content by one's own words.

3. Application such as knowledge behavior showing the capability of applying existing knowledge in new and different situations.

4. Analysis – Knowledge behavior that enabled to divide sections into sub-sections meaningfully and noticed the relationship between those sub-sections.

5. Synthesis such as knowledge behavior showing the capacity of collecting all knowledge and information systematically to get new alternatives for further solutions.

6. Evaluation such as knowledge behavior showing the capacity of deciding value of anything or choosing the alternative rightly.

2.3.3 Types of Knowledge

Bloom et al. classified knowledge into 3 steps (cited in Boontham Kijpreedaborisuth, 1992: 7-8) as follows:

1. Knowledge of Specifics – It was the capability of recognizing or memorizing in relation to:

1.1 Terminology

1.2 Specific facts

2. Knowledge of Ways and Means of Dealing with Specifics – It was the knowledge about ways and means regarding:

2.1 Conventions

2.2 Trends and Sequences

2.3 Classification and Categories

2.4 Criteria

2.5 Methodology

3. Knowledge of Universals and Abstracts in a Field – It was the knowledge about important principles and patterns that were structures, theories, and conclusion such as capabilities of:

3.1 Principle and Generalizations

3.2 Theories and Structures

2.3.4 Knowledge Evaluation

Chaval Paerattanakul (1993: 201-205) explained that knowledge evaluation was the evaluation of brain capabilities regarding the recognition of memory, the evaluation of experienced matters, or the evaluation of what one used to see or act earlier. In the knowledge evaluation, questions could be formed in several ways. In this study, each test used to evaluate knowledge would be mentioned. The test could be counted as the systematic method used to compare the behavior of 2 persons up at one time or the behavior of a person or persons at the different periods of time.

Boontham Kijpredaborisuth (1991: 70) stated that tests were different in part of patterns, applications, and purposes. Types of tests, so, could be categorized by criteria. In this study, tests would be categorized by the characteristics of answers as follows:

1. Performance Test – It was the test by performance such as playing drama, handcrafting, typewriting, etc.

2. Paper-pencil Test – It was the test widely used, and paper and pencil were instruments in answering. The respondents had to write the whole answers by themselves.

3. Oral Test – It was the test that the respondent had to speak out instead of writing, and it was usually the discussion between inquirer and respondent such as interview.

2.4 Concepts of Attitude

"Attitude" was an educational terminology, and it was defined in many ways as described below:

2.4.1 Definitions of Attitude

Dictionary of Education defined attitude as "tendency or manner to anything or situation or value, and, normally, feeling and emotions would be included in opinion, but attitude could not be observed, but could be estimated from behavior, wordings, and manners."

Prapapen Suwan (1983: 14) concluded the definitions of attitude that "attitude was opinion encouraged by emotions. Attitude took role in helping us improve ourselves, prevent ourselves, helped ourselves express moral values, and helped understand our surroundings. Past experience of a person would help him/her form his/her attitude and determine his/her attitude."

Thurstone (Thurstone, 1967: 77) stated that "attitude was the overall outcome of humans concerning emotions, opinion, fear of something, expression by words such as opinion. Then, this opinion was the symbol of attitude. Therefore, if we wanted to evaluate attitude, we could do that by evaluating people's opinion towards stimulus."

Allport (Allport: 1953: 810) said that "attitude was the readiness of brain and nerve ordered systematically under the assistance of experience, which would have

direct effect or influence on a person's response to many matters or situations that related with that person.

Hilgard (Hilgard: 1971: 523) said that "attitude was the readiness for making decision on responding the target, concept, or situation."

Gilford (cited in Sawas Sukontharungsri, 1974: 231) defined attitude as "the tendency of mind to like, agree, support, or dislike, disagree, not support to any action or anything in the society."

Sutho Charoen (1976:30) gave the meaning of attitude that "attitude was our emotions to present our opinion to our surroundings with a focus on feelings of "like", "dislike", "agree", or "disagree".

Chedsak Kowasindhu (1979: 93) gave the meaning of attitude that "attitude was one's feeling to anything as a result of learning and experience, and attitude would encourage one to express behavior or tendency to respond to that stimulus in either direction, which might support or object.

Carter V. Good (1973: 49 cited in Chinda Khwaengmuang, 1998) said that attitude referred to the readiness of an individual to express in either way that might approach or protest some situations or something.

Puangrat Taveerat (2000: 106) defined attitude as emotions of an individual as a result of learning and experience, and it stimulated that person to express the behavior to many things in any direction, which might either support or object.

From the above definitions, it could be concluded that attitude referred to thought, emotions, and tendency of response by an individual to anything that might be in different ways.

2.4.2 Attitude towards Environmental Conservation

In the past, attitude towards environmental conservation was defined by many persons as follows:

Utsanee Srisuk (1978: 1) and Vichien Kumchan (1979: 7) (cited in Chinda Khwaengmuang: 1998) consistently gave the meaning of attitude towards natural resources and environmental conservation that it concerned an individual's emotions that related to the environment, his/her study on natural mechanism, and situations relating to the protection of environmental resources by expressing his/her behavior as follows: have knowledge, comprehension, pleasure, agreement, enthusiasm, and readiness to assist, protect, and care of the environment, or express in the contrary way or in the neutral way.

Sunanta Lim-aree (1979: 7) defined attitude towards environmental conservation as manger, emotions, and opinion of students to the natural resources conservation in positive manners (pleased, agree, support), or negative manners (unpleased, disagree, and did not support), or neutral manners (no tendency to sway to either way, whether pleased or unpleased).

According to the opinion mentioned above, the researcher concluded the definitions of attitude towards environmental conservation to be used in this study that it concerned manners, emotions, and tendency to express behavior to prevent and maintain the environment to stay in the same and suitable condition. The behavior might be expressed in form of supporting, not supporting, or being indifferent.

2.4.3 Attitude Evaluation

The evaluation of attitude mostly used by psychologists was usually in form of questionnaire or survey, or someone might call it the attitude test, which consisted of several types such as the attitude test as per Thurstone's equal-appearing interval

scale, the attitude test as per Likert's summated rating scale, and attitude test as per semantic differential scale of Osgood.

Moreover, Suriya Changplaikhaew (1990: 30 cited in Chinda Khwaengmuang, 1998: 30) mentioned important components to be considered in the attitude evaluation, which could be concluded as follows:

1. Content – Content or stimulus was the first thing to be understood in the evaluation of attitude. The structure of content or stimulus had to be definitely set up and relevant to the attitude to be evaluated.

2. Direction – In general, for attitude evaluation, attitude would be set up as a straight and continuous line to the right or left side or positive/negative. This meant that the level of opinion regarding the extreme agreement would be ordered respectively to the last level of opinion regarding the extreme disagreement.

3. Intensity – It was actions/manners or emotions responded to stimulus, and the amount of intensity might be less or more.

From details given above, it could be concluded that the evaluation of attitude was the evaluation of opinions that an individual had to anything. Attitude could not be measured directly, but it could be measured by observing the tendency of behavior that that person responded to the stimulus. The evaluation of attitude should be done in terms of direction of attitude, level of attitude, and intensity of attitude.

2.5 Information about Studied Areas

2.5.1 Physical Features

All areas of Koh Chang were 212 square kilometers in total. Most areas were mountains and steep slope. Its average height from the sea level was moderate between 300 – 743 meters. The remaining areas were plains or only 6% of the total areas. The abundance in soil was low, usually used in farming coconut trees, rubber trees, and fruit farms. Due to the limitation of plains, the planting areas have been expanded up to the mountains and steep slope, which were located in the national

park areas. The coastline around the island was erosive, so there were bays, capes, and beaches suitable for fishery boats to shelter the wind.

The climate at Koh Chang partially obstructed the tourism although it was quite cold. The average temperature was between 26.3 to 28.7C, but the average monthly humidity was higher than 75% for 10 months because of the abundant rain with the average rain about 4,709.9 millimeters per year. The rain would be most abundant during May to October, and the number of raining days per year was 190.4, so the tourist season at Koh Chang was quite short.

The water source was the main restriction in developing Koh Chang. Although Koh Chang gained the huge amount of rain each year, most areas of Koh Chang were steep slope; as a result, rain was released into the sea so quickly. The development of water sources could be done difficultly due to the limitation of plains where have been used for populations' accommodation locations. Mountain and steep slope areas were located in the national park.

2.5.2 Economics

The economic status of Koh Chang was subject to the main production sectors, that is, the agricultural sector mainly consisting of farming and fishery, and the service sector mainly consisting of tourism businesses.

Most households were in the agricultural sector whose occupations were both fishery and agriculture. Except, in some areas where were not close to the sea, those households might do agricultural activities only. Households that did the fishery only were quite few because the amount of aquatic animals was likely to be less whereas the fishery costs were high and this job could not be done all the year. There are main planting areas about 17.6 square kilometers; most were used to grow coconut trees for 7.1 square kilometers, second was rubber trees for 6 square kilometers, and durian for 4.5 square kilometers. For fishery, 140 fishermen did small-sized fishery, and there are only 11 fishermen who did big-sized fishery, and another 56 persons bred aquatic animals.

Tourism was the very important economic branch for Koh Chang and the country. It was expected that, for the year 1997, Koh Chang generated tourism income amounting to Baht 290.3 million. In addition, it led to the direct employment in hotel businesses and accommodations not less than 700 titles. About 200,722 tourists have been visiting Koh Chang on that year and have stayed in 1,329 accommodation rooms located on 61 beaches on the island.

2.5.3 Populations

In 1998, the populations of King Amphoe Koh Chang, pursuant to the census, totaled 4,454 or 20.1% of Trat populations. The average population density was 10 persons per square kilometer. The changes of population amount at King Amphoe from 1993 – 1998 have been increasing at the rate of 1.016% per year. However, pursuant to the field survey and questionnaire, it was estimated that there were hidden populations at King Amphoe Koh Chang about 18% of registered populations.

The average size of household was 3.3 persons. For the population structure, populations at the ages of 0-15 were 24.88%, and the ages of 16-60 were 65.27. Most populations were at the ages of 21-35, and populations at the age of 60 up were 9.85%.

2.5.4 Communication and Transport Network

Communities located on Koh Chang were able to connect the main land by service boats providing their services at the public or private piers, and ferryboats that transferred both passengers and vehicles at private piers to several destinations. It could be said that traveling and transport of goods were very convenient. But, such convenience made the numbers of cars taken by tourists who visited Koh Chang increased rapidly, especially in the tourism season and holidays, which made Koh Chang become crowded like other tourist attractions. Main public piers included Baan Dan Mai Public Pier, which was the center of King Amphoe in case boats could not pull up the piers during the ebb, Sapparod Bay Pier, and Than Mayom Pier. Moreover, there were other small piers of communities around the island.

Communities located on Koh Chang were connected together by the network of main roads at the distance of 43 kilometers and the network ended up at Baan Map Kang Kao. But, at Baan Bang Bao, the road to be extended has not yet been completed, so the road was the narrow one lane. Moreover, by this network of roads, it was used to line up the basic infrastructure such as electricity and pipeline to many parts of the island. The main highway was quite narrow or only 15 meters wide, which supported the traffic between communities and in the communities. Consequently, vehicles running in different speed on the same highway caused the accident easily. Most traffic surfaces did not meet the standard and it was inconvenient during the rainy season because the abundant rain always damaged the road surface. Additionally, there was not any control of entrance and exit ways and the space between buildings and the highway until many buildings have been developed along both sides of highway, which further caused the accidents easily, and, in the long run, it obstructed the expansion of road surface.

For traveling between communities on the island, local people preferred using small trucks and motorcycles. Bus services on the island were provided to reduce the use of personal cars, but its services have not yet met the standard services and quality, especially the bus fares, bus schedules, and routes to connect from piers to communities on the island, tourist accommodations, and tourist attractions.

2.5.5 Water Management

Water sources on Koh Chang have been developed to provide sufficient water for communities' needs and future need likely to be increasing, depending on needs for consumption by communities and tourism. There was still not any problem for water required by the agricultural sector, which was horticulture farming and could not be expanded otherwise the farming would trespass the National Park areas.

Upon the projection for the next 20 years, populations on Koh Chang increased sharply to be 7,039 persons and 500,000 tourists. If water needs for consumption and tourism were estimated to be 300 liters per person per day and tourism duration was 3 days, water needs should equal to 1,220,771 cubic meters per year.

The main water source on Koh Chang was rain. If each household prepared some water containers, they would have sufficient water for all consumption. Regarding the ground water sources, there would be full water in brooks during the rainy season only, but water dried up in the dry season because existing brooks were quite short and so steep; as a result, rain was released into the sea so quickly. Up to now, few ground water sources have been developed. Some barrages were constructed, but there has not yet been any reservoir because the flood plains were in the National Park areas where reservoirs could not be built up. Consequently, water shortage always occurred in the dry season. Regarding the underground water sources, they gave little amount of water that was sufficient for household consumption only.

2.5.6 Wastewater Management

The environment on Koh Chang was so fine and sensitive. The expansion of communities on land and areas affected by flood tide and ebb tide, farming the aquatic animals on land, and improvement of tourist accommodations on beaches certainly took effect to ground and underground water sources, as well as seawater. Since the location of communities was scattered and toilets were still squat toilets or septic tank or seepage pit, so there was not the wastewater treatment. The wastewater from kitchens or buildings were usually released out without any treatment.

Pursuant to the study on suitability and initial design of wastewater collection and treatment at King Amphoe Koh Chang conducted by Cleanland Consultant Co., Ltd., it was expected that the amount of wastewater per day would be 1,991 cubic meters by the year 2008 and would be increasing to 2,085 cubic meters per day by the year 2017.

2.5.7 Rubbish Management

Rubbish on Koh Chang came from houses, accommodations, facilities provided for tourists, and agricultural activities. Collection and eradication of rubbish were the

duty of the local agency particularly established at Tambon Koh Chang where many accommodations and facilities for tourists have been set up.

In accordance with the study on suitability and initial design of rubbish collection and treatment at King Amphoe Koh Chang conducted by Cleanland Consultant Co., Ltd., it was anticipated that the amount of rubbish in the future would be increasing from its amount in the year 1998 with the rate of rubbish at 0.45 kilogram per person per day or the total rubbish was 3.08 tons per day. In the next 20 years or in the year 2018, the rate of rubbish per person per day shall be 0.69 or the total amount would equal 7.45 tons per day. The Company proposed the rubbish management methods by collecting all rubbish from dustbins along alleys or roads, and delivering it to the eradication place. Concerning the rubbish eradication, there was the comparison between hygienic burying and burning. It was agreed that rubbish burying should be the most suitable. Rubbish would be delivered and buried at Laem Ngop because areas on Koh Chang was not suitable for such undertaking.

2.5.8 Area Landscape

The management of landscape had to contain the quality, both visual quality and efficient land use. The important issue was that the use of areas had to fit to their potential, especially the conservation of nature that was the core tourism resources on Koh Chang had to be emphasized.

2.5.8.1 Intensive Conservation Areas

Intensive conservation areas consisted of areas under prohibition of any development except for education or promotion of natural conservation and ecological system only. Such areas consisted of forest areas, other natural areas, and agricultural areas. In these areas, the overall scenery would be maintained, the unique-characteristics areas would be conserved, and they were also important as the eco-tourist attractions.

Apart from forest areas and some parts of seaside, areas along all water streams full of water throughout the year or in some particular seasons were also

counted as intensive conservation areas by separating these areas from other agricultural areas and community areas because their ecological system was so sensitive, and they were the connecting line between land ecological system and the sea ecological system. These areas might be fixed as the buffer zone or the ecological system protection areas along both banks. The distance of each intensive conservation area would be based on the water stream size.

2.5.8.2 Landscape Controlled Areas

Most of these areas were agricultural areas, communities, and other attractive natural areas, which were also important components of landscape environment. In these areas, changes of landscape had to be controlled or landscape development might be done to be in consistence with nature or rural areas.

2.5.8.3 Areas for Landscape Improvement

These areas consisted of areas where landscape was changed and visual pollution occurred, including inappropriate use of land. These areas would extremely damage tourist environment, so it was essential to have the improvement. These areas comprised:

1. Community Areas where the deterioration of landscape was so serious:
    - Roadside along Sai Khao Beach
    - Group of buildings located at the end of Chaichet Cape
    - Baan Khai Bae Community
    - Some areas of Baan Dan Kao
    - Some areas of Baan Saluk Petch
2. Areas along the thoroughfares and others areas:
    - Ferry boat piers at Supparod Bay
    - Shrimp farms at Baan Saluk Kok
    - Rubbish sorting area at Baan Khlong Takien

2.5.9 General Conditions of Tourist attractions

2.5.9.1 Tourist season: The period of tourism season was from November to May of each year. Tourists usually visited Koh Chang on April most, and May, March, February, and January respectively because those months were the period of school summer and were not the monsoon time, which was convenient for traveling or during the end of winter and the beginning of summer. For other periods of the year, few tourists would visit Koh Chang (Basic information containing in the Master Plan for the Management of Koh Chang National Marine Park Areas, Trat Province: 97).

2.5.9.2 Tourist Trend: Pursuant to the report of situations and trend of tourism market of Trat Province and Koh Chang by the Tourism Authority of Thailand, the Central Regional Office 5, and the statistics of in-bound tourism, it was found that Koh Chang islands were locations in Trat Province most favorably by tourists.

Furthermore, if comparing the favor of visiting the national marine parks, it was found that Koh Chang National Marine Park was nationally ranked in Number 5 with the average tourists between 200,000 – 300,000 per year. About 80% of visitors who visited Trat Province would visit Koh Chang, and it was likely to be increasing respectively.

The tendency of favor to visit Koh Chang has been extended from recreation on beaches, diving, and fishing, which might be restricted by the tourism season, to other ecological tourist activities and agricultural activities. Although the tourist season of Koh Chang was between November and May when a lot of Thai tourists would visit there, due to the potential of Koh Chang that was verdurous throughout the year, it was the important factor to attract tourists all over the year. Consequently, it was likely that foreign tourists would visit Koh Chang continuously and stayed there longer. This tendency included tourists with specific interest such as sports, agricultural tourism, jungle walking, etc. (The Master Plan for the Specific Areas Development of Koh Chang, Trat Province: 2-20).

2.5.9.3 Tourist attractions: Koh Chang contained 23 natural tourist attractions in total, and 12 of them were beaches and islands, and 6 were waterfalls. In addition, there were coral reef sources and interesting neighboring islands. Main

tourist attractions were Sai Khao Beach, Khlong Prao Beach, Khai Bae Beach, Than Mayom Waterfall, and Khkong Plu Waterfall, etc.

2.5.10 Koh Chang ‘s Tourist Forms

Reasons attracting tourists to visit Koh Chang consisted of natural conditions, and abundant natural resources that were still beautiful such as forest, mountain, waterfall, sea, beach, coral reef.

Table 2 : Reasons of Tourists’ Decision to Visit Koh Chang

Reasons of Visiting	Thai Tourists (%)	Foreign Tourists (%)	Total (%)
Accommodation	8.3	10.7	8.9
Nature, forest, mountain, and waterfall	67.9	64.3	66.9
Coral reef, islands	21.4	7.1	17.9
Historical legend	11.9	3.6	9.8
Convenient traveling	2.4	-	1.8
Good surroundings	2.4	64.3	17.9
Calmness	2.4	7.1	3.6

Source: The Thailand Institute of Scientific and Technological Research (1994)

Regarding activities during tourists’ visits could be classified into 2 cases: activities during their visits, and activities in tourist attractions. In case of activities during tourists’ visits, they involved general activities done by tourists in tourist attractions consisting of main activity, that is, swimming in the sea, and other activities were swimming at the waterfall and jungle walking respectively because those tourist attractions contained all beaches, waterfalls, and forest. Hence, tourists did all three kinds of activities.

Table 3 : Forms of Tourists' Activities

Type of Activity	Thai Tourists (%)	Foreign Tourists (%)	Total (%)
Swimming in the sea	10.9	32.1	21.4
Swimming at the waterfall	20.2	7.1	17
Jungle walking	64.3	53.6	61.6
Sailing around the island	9.5	7.1	8.9
Fishing	56	17.9	46.4

Source: The Thailand Institute of Scientific and Technological Research (1994)

2.5.11 Evaluation of Potential of Tourist attractions in Koh Chang and Occurring Impact (Trat Provincial Office: 1999)

2.5.11.1 Physical

Buildings and Land Use

1. Service areas such as residence and tourist areas. In the year 1999, there were such areas about 1,760 rai, and the potential development might reach 3,360 rai to serve tourists at the maximum of 65,000 tourists per day/day or about 21,000 tourists/day.

2. Beach areas such as coastline tourist attractions including sand beaches, muddy beaches, and rock/pebble beaches in the total length of 6 kilometers. They enabled to serve tourists at the maximum of 10,000 persons-day/day or about 25 persons/rai compared with the accommodation rooms at 4,000-5,000.

2.5.11.2 Environmental

Water Resources

Now, many Thai and foreign tourists have been visiting Koh Chang each year; thus, a huge amount of wastewater had to be treated. But, the current problems were that there was not any suitable wastewater treatment system to solve this

problem whereas the existing wastewater methods were not based on correct principles, and caused the side effects regarding the spread-out of diseases. This problem also affected communities by means of bad smell, visual pollution, and polluted water released to ground and underground water sources. Then, populations' earning for living and health were also affected. Moreover, it might damage the economic and social development including the quality of life of residents around those areas, as well as the tourism of King Amphoe Koh Chang and Trat Province.

By the estimate of future community growth at King Amphoe Koh Chang, it was found that by the year 2008 and 2017, wastewater would be released into the sea about 1,991 and 2,085 cubic meters per day. The existing water sources had to burden organic substances in the amount of 281 and 294 kilograms per day respectively. These would certainly affect all communities located at King Amphoe Koh Chang and the environment of the sea around Koh Chang and its neighboring islands, and tourism would be also affected. Therefore, wastewater of communities had to be solved urgently.

2.5.11.3 Water Quality

For the quality of consumption water and seawater, most water consumed in service areas on Koh Chang came from waterfalls and natural brooks. Some wells and artesian wells might be dug to have supplementary water when brooks dried up in the hot season. Most water from many water sources was taken for consumption without any treatment before consumption. Pursuant to the survey of water quality used in bungalows (Table 5.1), it was found that water quality was still in the standard criteria, clean, soft water, and not so high Fecal Coli Form Bacteria was found in some places. In general, water in these areas could be consumed, but it should not be consumed directly before passing the filter methods or bacteria killing methods.

Table 4 : Consumed-Water Quality of Bungalows Located on Koh Chang

Place	PH	Turbidity N.T.U	Hardness Mg/I	Fecal Coli from MPN/10ml	Water Sources
1. National Marine Park Office	8.8	0.2	88	Not found	Waterfall
2. Than Mayom Resort	6.4	0.2	74	Not found	Waterfall
3. Pla Loma Cliff Resort	6.8	0.5	34	Not found	Waterfall
4. Coconut Beach Resort	6.6	0.5	74	400	Waterfall, underground water
5. Koh Chang Resort	6.2	1	44	Not found	Waterfall
6. Magic Bungalow	7.5	2	120	2300	Waterfall
7. Khai Bae Hut	6.2	0.2	62	4300	Underground water
8. Khai Bae Beach	6.5	6.2	42	Not found	Underground water

Source: The Thailand Institute of Scientific and Technological Research, surveyed on October 1993

For the seawater around the island, pursuant to the survey of seawater quality around the island far from the seaside about 50 meters as the analysis shown in Table 5.2, it was found that the seawater in every surveyed place was suitable for swimming, that is, the DO value was higher than 4 milligram/liter. According to the examination of Fecal Coli Form Bacteria, the value of MPN/100 ml at every place was lower than 1000, except the seawater at Saluk Petch Bay where the value of Fecal Coli Form Bacteria was 15,000 MPN/100 ml because of the direct release of wastewater from Saluk Petch Community to the sea and indirect release of wastewater from other communities located along the coastline.

Table 5: Seawater Quality at the Coastal Areas around Koh Chang

Place	PH	DO Mg/ 1	Salinity Ppt.	Turbidity N.T.U.	Fecal Coliform MPN/100 ml
1. Tha Than Mayom	8.1	6.3	13.0	1.2	Not found
2. Supparod Bay	8.2	6.0	12.8	1.1	Not found
3. Sai Khao Bay	8.2	6.2	14.0	1.0	Not found
4. Khai Bae Beach	8.1	7.0	18.2	1.1	Not found
5. Saluk Petch Bay	7.6	5.7	12.2	1.5	15,000

Source: The Thailand Institute of Scientific and Technological Research, surveyed on October 1993

2.5.11.4 Rubbish

At present, King Amphoe Koh Chang has been visited by a lot of Thai and foreign tourists; consequently, there was a huge amount of rubbish to be handled. Therefore, existing problems included the insufficient rubbish eradication areas to handle increasing amount of rubbish each day, inappropriate rubbish management system, and shortage of devices, machines, and equipments.

Rubbish eradication methods that were not relevant to hygienic and standard principles also took effects to surrounding areas, and might cause the spread-out of diseases transmitted by flies and other insects. This problem also affected the communities in regard with smell, scenery, polluted water from rubbish piles to ground and underground water sources. The problem might be expanded to earning for living and health of the public. Moreover, it might cause the damage to the economic and social development including the quality of life of people living nearby (2001) and tourism at King Amphoe Koh Chang and Trat Province.

2.5.11.5 Forrest and Wild Animals

Koh Chang was still full of abundant forest areas, particularly on large and so steep mountains. There was abundant mangrove forest at the mouth of canals and coastlines. In most areas, wild animals were abundant (10-20 animals per 100 meters according to the survey by The Thailand Institute of Scientific and Technological Research, 1994) and birds were abundant in all areas. There was one kind of very rare wild animal, and 3 rare wild animals. Regarding tourism, seaside areas were mainly used, so the impact was still little except some kinds of plants on beaches that might be cut to improve those areas. Cutting roads through the National Park areas also affected trees and caused the soil erosion. The effect made by tourists to the forest and wild animals was still little because activities in relation to jungle walking have not been emphasized yet; just visiting 2-3 waterfalls.

However, if jungle walking were promoted more, this would affect the ground-level trees and some animals. Hence, in respect of jungle walking management, the subsequent effects had to be focused and realized for further right management.

2.5.11.6 Coral Reef

Coral reef areas of Koh Chang could be found at the northern, southern, and western coastline. But, at the eastern coastline, coral reef line would be found on the top and at the bottom of the island only. The total coral reef areas of Koh Chang were 2.2 square kilometers.

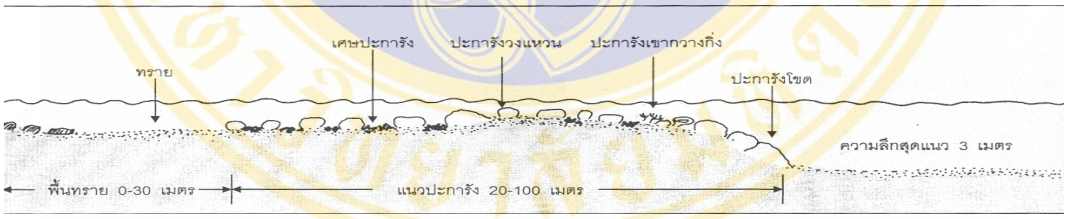
On the South of Koh Chang, almost coral reef line along the coastline could be developed, except inside Saluk Petch Bay and Bang Bao Bay where conditions were not suitable for the coral reef growth because some fresh water was released into those areas and the bottom of the sea was muddy and sandy. Almost coral reef line at this side was 100-200 meters wide and 2-3 meters deep, and they were so damaged. In the steep zone, only 10-20% of alive coral reef was found.

Since the west of Koh Chang was completely influenced by the Southwestern monsoon, most coastlines were steep rock and sand beaches. The coral reef lines were often found at bays and heads of capes sheltered by wind. Most coral

reefs would grow on hillocks at 4-6 meters from the sea surface. The overall coral reef condition was moderately perfect, and the most found coral reef was Porites Iutea. Except the coral reef line in front of Baan Khai Bae, its width was 100-200 meters and grew at 2-3 meters from the sea surface; coral reefs here were so damaged, and only 15-25% of alive coral reefs were found at steep zones.

On the north and east of Koh Chang, coral reef lines could be found from Son Bay to the north to Chang Noi Cape, Supparod Bay and ended at Baan Dan Kao. For the first section from Baan Ao Son to Chang Noi Cape, the coral reef line was narrow and close to the coastline about 20 meters, but its condition was perfect with 50% of alive coral reefs at steep zones. From Chang Noi Cape to Baan Dan Kao, the coral reef line was 100 meters wide and ended at 3-meter depth. The coral reef line at this section was moderately perfect with 30-40% of alive coral reefs at steep zones (Figure 2.6).

Chart 2: Horizontal Pictures Illustrating Characteristics and Structure of Coral Reef on the East of Koh Chang



Source: Map of Coral Reef Lines in Thailand's Territorial Waters No. 1 (The Gulf of Thailand (1995)

According to coral reef lines found at many islands, all were affected by human activities, whether by tourism or coastline development. For example, islands located on the west of Koh Chang, broken coral reefs were found since they were attacked by the bilges and rudders, or the long-tailed boats transferred the tourists so close to the beaches. But, some coral reefs might be damaged by storms and the global weather changes.

Table 6 : Illustration of Coral Reef Areas, Coral Reef Conditions, and Usages

Location	Coral Reef Areas (Sq. Kilo)	Coral Reef Condition on 1996	Benefit for Fishery	Benefit for Tourism	Coral Reef Condition on 1999
Koh Chang	2.223	Damaged	Y	Y	-
Koh Saluk-Lim	0.057	Damaged	Y		Moderate
Koh Chang Noi	0.054	Perfect	Y	Y	Damaged
Koh Ma Pring	0.012	Perfect	Y	Y	So Damaged
Koh Plee	0.022	Moderate	Y	Y	Moderate
Koh Yuak	0.037	Moderate	Y	Y	Damaged
Koh Rom	0.022	Perfect	Y	Y	Damaged
Koh Suwan	0.036	Perfect	Y	Y	Damaged
Koh Mun Nok	0.03	So perfect	Y	Y	Moderate
Koh Mun Nai		Damaged	Y		-
Koh Prao Nok	0.109	Moderate	Y	Y	So Damaged
Koh Ngam	0.178	Moderate	Y	Y	Damaged

Y = The location was utilized for that particular aspect.

Source: Surveyed Information by the Project of Coral Reef Resource Management, Department of Fishery, the Social Sector

The social potential of developing tourist attractions often involved the attitude of local people in service areas whose lives were affected such as higher costs of living, crowded travelers, etc. But, it was found from the survey that most people were able to accept such events and had positive attitude towards tourism. For tourists, they might have annoyance due to increasing number of tourists.

2.5.11.7 Economic

At present, tourism on Koh Chang could generate the revolving income in the amount of Baht 478.04 million/year. The investment on tourism ranged from Baht 300,000 to Baht 30 million: by personal investment at 75%, on-shore loans at 20%, and off-shore loans at 5%, and there were 30% of outside investors. Due to tourist potential of Koh Chang that could be greatly developed, it would certainly attract more tourism investment in the future, especially another 2,000 available accommodation rooms. This potential also attracted the following investment in other areas such as restaurants, bus services, etc. In addition, if the requirement for accommodation rooms still existed when all service areas for tourism were fully developed, homestay and farmstay businesses shall take important roles in serving more tourists.

According to the area potential mentioned above and existing problems, it might be concluded that problems of Koh Chang were not subject to its unlimited capacity of serving tourists, but it was subject to the efficient management of tourism. Therefore, efficient tourist management should be based on the cooperation among local people to get the sustainable tourism of Koh Chang.

2.6 Conceptual Framework regarding the Management of Tourist attractions at Koh Chang National Marine Park

2.6.1 Tourism Development Overview

Tourism and subsequent businesses in areas of the eastern region of Thailand were businesses generating great income for this region in the amount of Baht 50,000 million per year, by which Baht 1,500 million came from Trat Province, even during the economic crisis. The number of Thai and foreign tourists was likely to be increasing continuously. In 1999, 6.5 tourists have been visiting the eastern region by which 3.0 million were foreigners. These tourists went into main targeted tourist areas, especially Muang Pattaya about 2.4 million tourists or 80% of all foreign tourists. Another main target natural tourist location preferred by foreign tourists was

Koh Chang Islands. At present, about 250,000 tourists have been visiting it each year, and among these tourists, 25% were foreign tourists traveling from Europe, Japan, and China respectively. The high expansion of tourist numbers encouraged service businesses in relation to tourism to expand sharply.

Traveling network of tourists to Koh Chang

By car: Most Thai tourists would start from Bangkok, by personal car, by the highway No. 344 (Ban Bueng-Klaeng), pass Chanthaburi Province, and arrive Laem Ngop, Trat Province. Then, tourists have to get on ferryboats or hire high-speed boats to go to Supparod Bay, Koh Chang. There are two service piers: one owned by the private company and another owned by the Provincial Administration Organization of Trat. For foreign tourists, they usually bought the package tour from tourist agencies or used service vans running for the route of Bangkok-Trat. Another group of tourists came from Pattaya.

By boat: The starting point of journey was at Laem Chabang Seaport by getting on the tourist service boat provided by Star Cruise. This service boat would be sailing to let tourists appreciate the beauty of islands located on the top of the Gulf of Thailand before arriving Koh Chang and finally visited islands located in Cambodia and Vietnam (Phu Cock Islands).

By air: Now, some groups of foreign tourists would have the chartered flight to U-Tapao Airport and separated to visit Pattaya, Koh Samed, and Koh Chang.

The Tourism Authority of Thailand (TAT) had two studies on the development framework for supporting the tourism expansion on Koh Chang as detailed below:

The first study concerned the capacity of supporting tourism development and preparation of operation plan for tourism development of coastline islands, Trat Province, 1994 and the study details were as follows:

1. To set up areas appropriate for tourism and most appropriate areas were located on the western coastline. However, areas on the eastern side were long and narrow in some places.

2. To evaluate the capacity of supporting the tourism development. By the physical features, Koh Chang had sufficient areas in the amount of 3,360 rai that were suitable for tourism and the reserved areas were Koh Kut for 2,700 rai and some

dependent islands, which were able to serve 10,000 tourists/day or 4,000 accommodation rooms. Under current management up to the year 1990, there were not any environmental problems, but the number of tourists should be restricted not to exceed 50 tourists/1 rai of coral reef area or 1 kilometer of jungle walking.

3. To propose directions and operation plans for tourism development such as setting up areas of land use/tourism, control of buildings, coral reef management, basic infrastructure system, environment management, and proposals for total 6 project plans under the amount of budget at Baht 118.20 million. The first stage of project shall be from the year 1995 to 1997, and the second stage shall be from the year 1999 to 2001. The Master Plan for the Specific Area Development for Tourism at Koh Chang, Trat Province, 1999 emphasized on planning for future use of land on Koh Chang, control of land utilization, and control of buildings, utilities system, infrastructure, and proposals of total 6 project plans under the amount of budget at Baht 1,133.75 million, by which the operation would be separated into 2 stages.

4. The first stage from the year 2002 to 2006 emphasized on the communication network, infrastructure system, and utilities in the total of 22 projects amounting to Baht 325.82 million.

5. The second stage from the year 2007 to 2011 emphasized on the development of community areas and tourist attractions in the total of 17 projects amounting to Baht 807.926 million.

The Tourism Authority of Thailand pushed such projects proposed in that master plan to the actual practice by asking the regular budget support for the year 1999 from the Office of the Budget for two projects under the budget amounting to Baht 14 million: project on developing the landscape of Khlong Plue Waterfall, and project on constructing the monument of Koh Chang Marine War. TAT also received the development budget for the third phase from OECF amounting to Baht 10 million to solve damaged tourist attractions as a result of rubbish and wastewater in the National Park.

2.6.2 Roles and Importance of Koh Chang and Neighboring Islands

Koh Chang and neighboring islands (Koh Chang National Marine Park) were natural marine tourist attractions in form of island tourism consisting of 40 islands in 650 square kilometers. Koh Chang had the total area of 429 square kilometers (268,125 rai) and far from Laem Ngop about 8 kilometers. It was the starting point (center) of tourists before separating to visit other islands.

There were several types of tourist attractions at Koh Chang consisting of beaches, waterfalls, and islands with the marine attractive points composing coral reefs, beautiful sea animals, and fishing sources (pursuant to the Attached Map 2).

The original economic structure was agriculture with few farming at plains located on the coastline, and fishery. But, after Koh Chang became favorable by foreign tourists, tourism business took the main role in generating the income for this area in the amount of Baht 1,000 million and the amount of income was likely to be increasing.

Koh Chang had the potential as being the entrance to the Indochina region, which led to tourism opportunities to connect with other neighboring countries (Cambodia) as proposed in the study on the economic cooperation plan and operation plan between Thailand and Cambodia. By sea, Laem Chabung Port and Trat were used as bases connecting with beach tourist attractions at Srihanu Vill and attractive islands of both countries. By land, traveling would start from Bangkok through tourist attractions in the eastern part in Chantaburi-Trat, passing the border Trating points at Khlong Yai to Koh Kong, Kum Pong Som, and Panom Pehn. Moreover, there was a plant to extend the connection between Trat and Bodhisattva and Battambong. By air, the Trat Airport was under construction at Amphoe Khao Saming, it was expected to build up the tourism network to connect with Phuket, Koh Samui, Sukhothai, and Panom Pehn by private service airlines.

2.6.3 Main Problems

2.6.3.1 Physical Aspect and Basic Infrastructure

Basic structure and infrastructure could not be developed timely to serve the expansion of tourists and communities, especially:

1. Road network connecting communities and tourist attractions around the island. At present, it has not yet been completed as per the proposal of the Master Plan by the Tourism Authority of Thailand and the local area under the concept of connecting the road network around the island. This road network had to be controllable and reserved for bicycles only (to appreciate ways of life of communities and the sunset and sunrise) to prevent too many cars fluxing into the island, which would interrupt the nature and community ways of life.

2. Route for tourist activities by bicycle and foot to tourist attractions. This route No. 4017 has been constructed by the economic stimulus budget on the year 1999, 2.5 meters wide for 10 kilometers. But, at present, many resorts were expanded and constructed along this route while the traffic was so crowded; consequently, they obstructed the promotion of tourist activities by bicycle.

3. Shortage of water for consumption in tourist attractions and accommodations located on the west of the island, Sai Khao Beach, and Khlong Prao Beach from February to April each year.

Nowadays, there has not yet been the overall city mapping, specific rules or regulations on Koh Chang and neighboring islands to control the appropriate use of land and other construction whereas the construction and land development have been expanding rapidly, unsystematically, and inconsistence with environmental condition and tourist environment.

With regard to environment and communities, Sai Khao Beach and Khlong Prao Beach were still the main tourist attractions, and, now, they were also accommodations of both tourists and communities. The disorder expansion of service activities took effects to environmental and social quality; for example,

1. Local ways of life and nature started deteriorating.

2. Rubbish management – Although this island received the budget

granted by the Tourism Authority of Thailand to construct 4 incinerators, but their operation could not start up due to high operation costs and the local area lacked the operation budget.

3. Wastewater released directly into the sea by resorts and communities.

4. Arranging the landscape along the roads to promote the tourism environment.

Economic and Tourist Business Aspects

1. There were shortages of setting the navigation network and establishing suitable tourist and commercial piers. Moreover, due to tourism promotion and opening ferryboat services, they attracted more cars to Koh Chang, especially during the tourism seasons and holidays. If there were not good controlling measures or the amount of tourists was beyond the supporting the capacity of the island, they could cause the traffic chaos and accidents, and accelerate the destruction of tourist and environmental resources. Besides, several private piers on Koh Chang did not meet the standard, and some piers were in the National Park areas, so they were not permitted by the Department of Forestry and their undertaking became illegal (but undertaking under the permission by the Department of Harbor).

2. Although studies, planning, and the master plan for overall area development on Koh Chang have been taken. But, because of the abundance of underworld resources such as coral reefs and pretty sea animals, increasing number of tourists started destroying and deteriorating them. Besides, the expansion and distribution of tourists to many islands were so quick, so it was necessary to conduct studies on these matters, which were beyond the Term of Reference studied by the Tourism Authority of Thailand under its plan for undersea world management. The control of tourist distribution could enhance systematic balance, and measures had to be set up and undertaken seriously.

3. Areas on the east side of the island were food production sources and occupation and income sources of local people, especially farming the coastline aquatic animals and fruit farms. It was possible to expand the production, but there was still the lack of serious promotion.

Administration Organization and Budget Aspect

The allocation of budget for developing Koh Chang was under the control of 2 Tambon Administration Organizations, and the support of central entities and Provincial Administration Organization. The budget was allocated regularly pursuant to procedures and mechanism of annual budget without any special budget allocation. As a result, Koh Chang got little budget for investment and the investment could not be done continuously if compared with the expansion of tourism, so all problems could not be solved. If compared with the tourism income and use of local resources by tourists, the allocation to these areas seemed so little that the balance of tourism resource utilization could not be maintained or tourism resources could not be kept unchanged or there was not sustainable development there.

2.6.4 Past Actions by Governmental Sector

The governmental entities by the Tourism Authority of Thailand set up the direction of developing Koh Chang as the physical plan as detailed below:

2.6.4.1 A study on capacity of eastern islands in supporting the tourism development conducted by the Tourism Authority of Thailand 1994.

2.6.4.2 A study on the Master Plan for Specific Area Development for Tourism at Koh Chang, Trat Province conducted by the Tourism Authority of Thailand 1999; the undertaking to push the project planning as proposed in the Master Plan; and the undertaking before the establishment of the Master Plan by which local administration organizations and central governmental entities had the support by allocating some budget for the improvement of facilities and conservation and improvement of tourist attractions, environmental management, construction of basic social structure, as well as the improvement of quality of life. In the past, the allocation of budget has been done for urgent projects in order to solve facing obstacle. Since the year 1990 up to now, the budget amounting to Baht 134.9 million was allocated by relevant agencies such as the Tourism Authority of Thailand, the acceleration of rural development, and supports by economic stimulus projects (1999).

2.6.4.3 Infrastructure network (roads around the island, piers, sign posts, and gutters) amounting to Baht 50.0 million.

2.6.4.4 Environmental management and landscape (incinerator, floating pontoon in coral reef areas, boats, and rubbish collecting trucks) amounting to Baht 46.0 million.

2.6.4.5 Tourism promotion and development of Koh Chang (bicycle and walking paths with 2.5 meters wide and 10.7 kilometers long, Tourism Information Service Center) amounting to Baht 38.9 million.

Moreover, the National Economic and Social Development Board (NESDB) prepared the Joint Development Study for Economic Cooperation Plan between Thailand and Cambodia that proposed the cooperative strategy in respect of tourism to connect the coastline of both countries (crystal coast of South China Sea), and the negotiation for the promotion of commercial tourist businesses and tourist activities in Koh Chang group of islands between Thailand-Cambodia-Vietnam.

2.6.5 Actions to be Undertaken for the Next-Stage Development

Urgent phase – To solve the existing crisis in the areas as proposed in the Master Plan of the Tourism Authority of Thailand and other local organizations.

Physical aspect – total 11 projects amounting to Baht 253.84 million.

1. To fulfill the road network around the island under the responsibility of the Accelerated Rural Development Department (As per the Attached Map 4).

2. Roads around the island on the eastern side that were made from laterite (No. To.Ro. 4008) would be under the responsibility of Ko.So.Lo. at the distance of 10 kilometers amounting to Baht 60.6 million to connect the communication network on the island.

3. Roads around the island on the western side for the route between Baan Map Kang Kao – Baan Bang Bao (bicycle path), by which traffic surfaces would be expanded from 2.5 meters to 5.0 meters at the distance of 10 kilometers under the budget amounting to Baht 18.0 million to solve the bottleneck traffic.

4. To improve the ancient path on the southern side along roads around the island for the route connecting Baan Bang Bao – Baan Rong Than to be motorcycle or

bicycle path at the distance of 7.17 kilometers in the budget of Baht 19.7 million. Therefore, cars would not be able to run around the island, and the environment and ecological system of the island would be maintained while there were additional tourist activities such as appreciating the sunrise and sunset.

5. Besides, some asphalt roads connecting Baan Saluk Petch Community – Baan Rong Than, and Baan Saluk Kok – Baan Jek Bae should be improved under the responsibility of Kor.Sor.Lor. To provide all-the-year transportation convenience for communities.

Improvement of roads to access tourist attractions and ways of life of communities:

1. Improvement of access path to Kiripetch Waterfall and Khlong Nueng Wasterfall budgeting Baht 14.0 million.

2. Improvement of Kor.Sor.Lor. roads to Baan Map Kang Kao Community-Baan Bang Bao, Tambon Koh Chang Tai at the distance of 10.83 kilometers budgeting Baht 16.0 million.

3. Laying gutters and walking paths at Sai Khao Beach budgeting Baht 55.0 million.

4. Improvement of Kor.Sor.Lor. roads to Baan Bang Bao Community and the construction of Kor.Sor.Lor. bridge across Khlong Phak, Tambon Koh Chang Tai budgeting Baht 3.0 million.

Improvement of sightseeing points and traffic paths under the responsibility of Trat Provincial Administration Organization:

1. Improvement of areas and construction of sightseeing at Sai Khao Beach (High hills) Tambon Koh Chang budgeting Baht 15.0 million.

2. Installing the public lights along Sai Khlong Son Road, Tambon Koh Chang-Baan Bang Bao, Tambon Koh Chang Tai at the distance of 17 kilometers budgeting Baht 8.64 million.

3. Construction of Kor.Sor.Lor. road for the route of Baan Khlong Son-Baan Bon Moo 3, Tambon Koh Chang, King Amphoe Koh Chang at the distance of 2 kilometers and the road was 2.0 meter wide including the public lights along the road under the total budget at Baht 14.5 million.

4. Construction of Kor.Sor.Lor. road for the route of Baan Saluk Petch-Baan Rong Than, Tambon Koh Chang Tai at the distance of 5 kilometers. The road was 6.00 meters wide including the public lights along the road under the total budget at Baht 33.90 million.

City mapping measures and control of land use:

1. Acceleration of two Tambon Administration Organizations to issue the local legislation regarding the control of buildings for Tambon Koh Chang and Tambon Koh Chang Tai to make beaches, tourist attractions, accommodations, and communities in order, as well as to prevent the trespass into beaches.

2. Acceleration and pushing the Department of Thailand City Planning to prepare and prescribe the city planning at Koh Chang by using the Master Plan for Specific Area Development of Tambon Koh Chang and Tambon Koh Chang Tai conducted by the Tourism Authority of Thailand as the framework of undertaking, and to prepare the controlling plan for use of land in neighboring islands.

Environmental Management

1. Setting up the direction and measures of charging fees for providing rubbish collecting services, and improving the rubbish delivery method in order to collect all rubbish from Koh Chang and neighboring islands to be buried at Tambon Wang Krajae, Amphoe Muang Trat, where hygienic rubbish burying system has already been set up. Moreover, all tourist entrepreneurs would be ordered to install on-site wastewater treatment system in accordance with Environment Promotion and Quality Protection Act B.E. 2539.

2. Setting up measures of anchoring boats with provided pontoons, and setting up additional pontoons in coral reef areas, including prescribing severe penalties for any anchored boats that destroyed the coral reefs.

Economic and Tourism Aspect

1. The Department of Fishery and the Department of Agricultural Extension encouraged farmers (fishery/fruit) in the collaboration with resorts to feed some fish in floating baskets and to plant some fruits, and to sell these local products to tourists staying in those resorts.

2. Middle stage and long-term stage

Infrastructure Aspect

To study the suitable direction for pipeline system development so that it was sufficient for communities and tourists' consumption by comparing two methods between the transmission of fresh water from Trat Province through water pipelines and the installation of water pipeline production system made from seawater (reverse osmosis: RO).

Environmental and Ways of Life Aspect

1. To study the plan for integrated wastewater treatment management in order to cover all wastewater sources.

2. To study the community participation by which local communities gained benefit from tourism while their ways of life were still maintained.

There was an agreement that the Master Plan for Specific Area Development for Tourism at Koh Chang conducted by the Tourism Authority of Thailand was practised continually by sequencing the level of importance all projects, studying their suitability, designing the project construction in a form of packaged project development. In addition, there were agreements to set up the Master Plan for Development of land and marine tourist attractions, the connection among Chantaburi, Trat, Koh Chang, and Koh Kut, and other national tourist attractions with neighboring countries such as Cambodia, etc.

2.6.6 Study on Capacity of Supporting Tourism Development and Preparation of Working Plan for Coastal Islands, Trat Province for the Year 1994

1. To set up appropriate tourist areas at Koh Chang by adding some appropriate areas most located on the western side. The characteristics of eastern coastline were long, narrow, and clustered.

2. To assess the capacity of supporting tourism development in respect of physical, environmental, and social features. For example, Koh Chang enabled to serve 10,000 tourists/day or 4,000 accommodation rooms under current management up to the year 1999. It was expected that tourist attractions with maximum capacity to serve tourists were Khlong Prao Beach, Sai Khao Beach, and Khai Bae Beach. For Than Mayom Beach, it was likely that it would be able to serve more tourists. There

were shallow swamps containing water about 400 cubic meters/day to serve 2,000 tourists/day. Additionally, there were plenty of ground water sources to serve tourists. There has not yet been any environmental problem. For tourist attractions, the number of tourists should be limited by the average of 50 persons/1 rai of coral reef area or 1 kilometer of jungle walking. At Koh Kut, it held high capacity to serve tourists or about 8,000 persons/day or 3,200 accommodation rooms up to later than Year 2013. However, such capacity was up to the management efficiency, but the development of Koh Kut should not depend on its serving capacity; accommodation rooms should be limited to be 1,600 rooms or only a half of its existing potential. For other satellite islands such as Koh Klum and Koh Mak, they contained limited serving capacity, especially the physical development should not be so high.

3. To propose the direction and tourism operation plan such as setting up tourist areas, setting up land use areas, control of buildings, coral reef management, infrastructure system, and environmental management.

4. To propose 6 project plans budgeting Baht 118.20 million for periods from 1995 – 1997 and 1999-2001 consisting of the Master Plan for Specific Area Development for Tourism at Koh Chang, Trat Province 1999, the Master Plan of Koh Chang: Emphasis on Planning for the Future Land Use of Koh Chang Areas, the Control of Land Utilization and Buildings, and Infrastructure and Facilities Development.

4.1 To separate land utilization on Koh Chang into 2 parts: top and western areas to be arranged for tourism and subsequent businesses, and bottom and eastern areas to be arranged for communities, agriculture, and coastline fishery.

4.2 To set up the development centers: Baan Khlong Nontree Community and Baan Dan Mai as the entrance to Koh Chang. Then, communities as the centers of Tambon were Baan Khlong Prao and Baan Saluk Petch.

4.3 To set up measures of controlling buildings beside beaches that had to be away from beaches at least 10 meters.

4.4 To undertake the integrated improvement of roads around the island, especially on the south of the island. The improvement of ancient paths had to be accelerated to be bicycle path, and, in the next stage, the traffic surfaces had to be expanded to serve the crowded traffic.

4.5 To propose alternatives of water resource development by constructing barrages and reservoirs in environmental potential areas. There should be the study on designing and constructing the central wastewater system with operation charges. Regarding the rubbish, there should be a plan to bury it at Laem Ngop.

4.6 To urgently improve the landscape of main locations, tourist attractions, communities, and thoroughfares such as Sai Khao Beach, Chaiyachet Cape, Baan Khai Bae.

The total 6 project plans were proposed with the budget amounting to Baht 1,133.75 million for 2 phases of operation: the first phase from 2002 to 2006, and the second phase from 2007 to 2011.

The first phase from 2002 to 2006 – This period would focus on the development of communication network, utilities and infrastructure system in the total of 22 projects under Baht 325.82 million budgets.

The second phase from 2007 – 2011 - This period would focus on the development of specific areas, communities, and tourist attractions in the total of 17 projects under Baht 807.926 million budgets.

2.7 Related Researches

Pursuant to literature review, human behavior and many related issues have been studied by several persons, which were the guideline of this study as described below:

Naowarat Plainoi (1994: 67-68) conducted a study on “Thai Tourists’ Tourism Behavior in the Country”. She got the information that, nowadays, Thai people were likely to have tourist traveling more at the average of 2.7 times a year, 3-4 days per each traveling, the average tourist days were 7.2 days per year with expenses about 624 Baht per person per day. In addition, it was found that different economic, social, and population status would make Thai tourists have different tourist objectives, behavior, needs, and taste.

Lalita Pochanapan (1996: Abstract) conducted a study on “Tourists’ Eco-Tourism Behavior in Khao Yai National Park”. She found that most tourists had suitable eco-tourism behavior and also found that such behavior would vary depending on the size of tourist groups, patterns of tourism management, types of tourist groups, main objectives in tourism, and persons providing environmental knowledge to tourist groups at a 0.05 level of significance.

Kamala Supan (1996: Abstract) studied on “Bangkok Youths’ Tourism Behavior towards Environmental Conservation in Tourist Attractions”. She also found that the tourism behavior of the sample group was in the moderate level. The difference of gender, studying results, value given to the environment, main objectives in tourism, groups of persons participating in tourism, and knowledge about environmental conservation could take effects to the different level of tourism behavior.

Somsakul Alfred (1997: Abstract) had a study on “Local People’s Behavior in Natural Tourist Resource Conservation: Case Study of Koh Lan, Muang Pattaya”, and found that local people’s behavior in natural tourist resource conservation at Koh Lan, Muang Pattaya was in the moderate level. The difference of gender, age, receipt of information about natural tourist resource conservation via radio, knowledge about natural tourist resource conservation, and attitude towards natural tourist resource conservation of those local people at Koh Lan, Muang Pattaya made them have different behavior in natural tourist resource conservation.

Saowaluk Navacharoenkul (1998: Abstract) conducted a study on “Thai Tourists’ Eco-tourism Behavior in Sai Yok National Park Areas, Kanchanaburi Province”, and found that the right eco-tourism behavior of Thai tourists was in the moderate level. Factors regarding age, level of education, value given to the environment and natural resources, monthly average income, knowledge about eco-tourism, occupation, main objectives in tourism, and receipt of information about eco-tourism could lead to different eco-tourism behavior.

Vittaya Kiettiwat (2000: Abstract) had a study on “Being Eco-Tourists by Thai Tourists: Case Study of Amphoe Umphang, Tak Province”. He found that Thai tourists’ eco-tourism behavior and eco-tourists were in the moderate level. The difference regarding occupation, level of education, income, tourism duration, tourist expenses, favor on tourist activities, receipt of information and participation in environmental activities, experience in natural tourism, gender, age, marital status, tourists’ original locations, traveling vehicles, persons participating in tourism, accommodations, and experience in visiting Umphang all affected being eco-tourists of Thai tourists.

Wanpen Ungkasirisap (2000: Abstract) had a study on “Tourism Behavior in connection with Deterioration of Coral Reef Lines: Case Study of Koh Tao Islands, Surat Thani Province”. It was found that knowledge, attitude, and behavior relating to the deterioration of coral reef lines related with each other at a 0.01 level of significance. In part of tourists, it was found that the difference of age, diving experience, number of visits, diving training, tourism duration, receipt of information, and knowledge about coral reefs all took effects to their different tourism behavior in connection with the deterioration of coral reef lines. For local people, it was found that their different education, income, receipt of information, and attitude made them have different tourism behavior in relation to the deterioration of coral reef lines.

Therefore, the study on “Tourism Behavior of Tourists who Visited Koh Chang National Marine Park” would focus on tourism behavior of tourists in order to learn their various tourism behavior in visiting tourist attractions for the benefit for other tourist attractions. Learning real needs of these tourists could be further used by relevant agencies to improve and remedy their tourism behavior, and to encourage tourists to have conscious mind and responsibilities, which would result in right tourism behavior, and the development of tourism could be done together with the natural resource conservation.

CHAPTER III
RESEARCH METHODOLOGY

This study was the survey research by collecting the data from the sample group as the representative of populations to explain tourism behavior of tourists who visited Koh Chang, and the research instrument for data collection was the questionnaire. The study direction was as follows:

3.1 Populations and sampling

3.2 Research instruments

3.3 Construction of research instruments

3.4 Data Collection

3.5 Procedures of data analysis and used statistics

3.1 Populations and Sampling

Sampling Method

The populations of this research were Thai tourists at the age of 15 and up who visited Koh Chang. The number of sample group was limited at 200 tourists selected by the purposive sampling at 4 tourist attractions to get equal number of tourists for each tourist location as shown in Table 9 below.

Table 7 : Number of Sample Groups Classified by Tourist Locations

Tourist Attractions	Number of Sample Group
Sai Khao Beach	50
Khai Bae Beach	50
Khlong Plu Waterfall	50
Than Mayom Waterfall	50
Total	200

3.2 Research instruments

Research instruments for data collection were questionnaire and observation, which were main instruments in collecting data, documents, and relevant researches that have been reviewed as the guideline of constructing the questionnaire formed by the combination between the open-ended questions and close-ended questions. The questionnaire for this study consisted of the following parts:

Part 1: General information about tourists such as gender, age, occupation, income, level of education, size of tourist groups, tourism duration, receipt of information about tourism development plans of Koh Chang.

Part 2: Knowledge test concerning ecotourism. This test was the proficiency test to measure the memory and understanding gained by studying, applying, analyzing, synthesizing, and evaluating. There would be two alternative answers: yes or no for 20 questions. One score would be given if answering correctly and 0 score if answering wrongly.

The results from the evaluation of knowledge about ecotourism were used to categorize tourists into 3 levels (Patra Nikmanon, 1985: 9):

Good-knowledge group referred to tourists who got over 70% of the total scores

Moderate-knowledge group referred to tourists who got 50-69% of the total scores

Low-knowledge group referred to tourists who got less than 50% of the total scores

Part 3: Attitude questionnaire to measure the tourists' attitude towards the natural resource conservation. The questionnaire consisted of 5 levels of attitude: strongly agree, agree, not sure, disagree, and strongly disagree. There were 18 questions in the questionnaire and there were both positive and negative questions, and scores would depend on each question as follows:

	Positive Questions	Negative Questions
Strongly agree	5	1
Agree	4	2
Not sure	3	3
Disagree	2	4
Strongly disagree	1	5

In measuring the levels of attitude towards the natural resource conservation, the scores were classified into 3 groups (Patra Nikmanon, 1985: 9):

High level of attitude group referred to tourists who got over 70% of the total scores

Moderate level of attitude referred to tourists who got 50-69% of the total scores

Low level of attitude referred to tourists who got less than 50% of the total scores

Part 4: Tourism behavior in connecting with the conservation of natural resources in tourist attractions. The 25 questions were set to evaluate the opinion (rating scale) with alternative answers in 5 levels: always practice, frequently practice, practice sometimes, seldom practice, and never practice. The questions consisted of both positive and negative patterns, and scores would depend on each question as follows:

	Positive Questions	Negative Questions
Always practice	5	1
Frequently practice	4	2
Practice Sometimes	3	3
Seldom practice	2	4
Never practice	1	5

In measuring the levels of tourism behavior of tourists in tourist attractions, the scores were classified into 3 levels:

High level of tourism behavior group referred to tourists who got over 70% of the total scores

Moderate level of tourism behavior referred to tourists who got 50-69% of the total scores

Low level of tourism behavior referred to tourists who got less than 50% of the total scores

Part 5: Questionnaire regarding problems, obstacles, and suggestions about visiting tourist attractions, and receipt of information about the tourism development plans of Koh Chang National Marine Park. The questions were open-ended ones.

3.3 Construction of research instruments

Research instruments for this study were constructed by the researcher by the following procedures:

3.3.1 Studying textbooks, documents, and related researches, as well as suggestions by thesis advisors and other experts.

3.3.2 Setting the scope of questionnaire and related variables in accordance with the research concepts.

3.3.3 Constructing the questionnaire and tests to cover all content to be studied.

3.3.4 Testing the quality of instruments by undertaking as follows:

1. Knowledge Test about Conservation

1.1 The test was tested with 30 tourists who visited Koh Chang National Park, who were not the sample group. Scores from the Knowledge Test about conservation would be calculated by getting 1 score if answering correctly and 0 score if answering wrongly. Scores got by each of 30 tourists, then, were sorted out and divided into 27% of the high group and the low group. The quality of difficulty and value of item analysis of each question in the test would be examined by 27% technique to separate the high group and the low group by the following formulas (cited in Boontham Kijpreedaborisuth (1997: 213):

Level of Difficulty (P)

$$(P) = \frac{P_H + P_L}{2n}$$

when P represented Difficulty

P_H represented 27 % of persons who answered correctly in the high group

P_L represented 27 % of persons who answered correctly in the low group

n represented all persons who answered the questions in both high and low groups

Value of Item Analysis (r)

$$r = \frac{P_H - P_L}{n}$$

when r represented Item Analysis

P_H represented 27 % of persons who answered correctly in the high group

P_L represented 27 % of persons who answered correctly in the low group

n represented all persons who answered the questions in both high and low groups

After that, questions with the level of difficulty (P) between .20 - .80 and value of item analysis (r) higher than .20 would be selected to be questions in the real test consisting of 20 criteria questions.

1.2 The test was examined with 30 tourists who were not members of the

sample group. The results were then analyzed to examine the reliability value by finding out the internal consistency of the test from KR-20 Formulas pursuant to Kuder-Richardson means:

$$r_{tt} = \frac{n}{n-1}\left\{1 - \frac{\sum pq}{s_t^2}\right\}$$

when n represented number of questions in the test

p represented proportion of persons who answered that particular question correctly or the proportion between persons who answered a question correctly and the total persons

q represented proportion of persons who answered that particular question correctly or 1-p.

s_t^2 represented score variation of that instrument.

The results of examining the reliability value of the knowledge test regarding the conservation was 0.75 with 20 questions in the test.

2. Attitude Test and Behavior Test regarding Natural Resource Conservation

2.1 Both tests mentioned above were examined with 30 tourists who were not members of the sample group. After both tests were analyzed to have the Item Analysis value by using 25% technique of the high group and the low group. The questions by which t value had a 0.5 level of significance would be selected (cited in Boontham Kijpreedaborisuth, 1997: 213) as follows:

$$t = \frac{\overline{X}_H - \overline{X}_L}{\sqrt{\frac{S_H^2}{n_H} + \frac{S_L^2}{n_L}}}$$

when t represented index of item analysis for each question.

$\overline{X}_H$	represented	average scores of the high group in answering that particular question.
$\overline{X}_L$	represented	average scores of the low group in answering that particular question.
S_H^2	represented	score variation of the high group.
S_L^2	represented	score variation of the low group.
n_H	represented	number of persons who sat the test in the high group.
n_L	represented	number of persons who sat the test in the high group.

From finding out the Item Analysis value for each question in the attitude test regarding natural resource conservation, any question that held the value more than .20 would be selected to be actual questions, and, in this study, 18 questions were selected.

From finding out the Item Analysis value for each question in the behavior test regarding natural resource conservation, any question that held the value more than .20 would be selected to be actual questions, and, in this study, 25 questions were selected.

2.2 The questionnaire was tested with 30 tourists who were not members of the sample group. The results were then analyzed to have its reliability value by means of Cronbach's Alpha-Coefficient.

$$\alpha = \frac{n}{n-1}\left\{1-\frac{\sum s_i^2}{s_t^2}\right\}$$

when	α	represented	coefficient of reliability.
	n	represented	number of questions in the instrument.
	s_i^2	represented	score variation for each question.
	s_t^2	represented	score variation for the whole instrument.

The results from finding out the reliability value of the attitude test regarding natural resource conservation was 0.75, and 18 questions were selected.

The results from finding out the reliability value of the behavior test regarding natural resource conservation was 0.76, and 25 questions were selected.

3.4 Data Collection

3.4.1 The researcher asked permission from tourists who visited Koh Chang National Marine Park.

3.4.2 Upon such permission, the researcher distributed the questionnaire to each tourist, provided some advice on answering the questions, and got all questionnaires back. Then, the researcher checked out the completeness of each questionnaire returned by tourists before going into the stage of data analysis.

3.4.3 For data collection, the questionnaire were distributed to Thai tourists at the age of 15 and up selected by the purposive sampling.

3.5 Data Analysis and Statistics Used in Data Analysis

All collected data were computerized and analyzed by means of Statistical Package for the Social Science/Personal Computer Plus (SPSS/PC+) under the following statistical methods:

3.5.1 Analysis of gender, age, occupation, income, level of education, tourism duration, receipt of information about tourism development plans of Koh Chang by means of percentage, mean, and standard deviation.

3.5.2 Analysis of knowledge level regarding natural resource conservation, attitude towards natural resource conservation, and behavior towards natural resource conservation in tourist attractions by means of percentage, mean, and standard deviation.

3.5.3 Analysis of relationship of age, occupation, income, level of education, tourism duration, receipt of information about tourism development plans of Koh Chang, knowledge about natural resource conservation, attitude towards natural

resource conservation, and behavior towards natural resource conservation in tourist attractions by means of Chi-Square Test.

CHAPTER IV
RESULTS

The objectives of this study were to examine the relationships between tourism behavior of tourists who visited Koh Chang National Marine Park and variables including problems, obstacles, suggestions, and opinion of tourists after the development of Koh Chang. The data collection was done by means of questionnaire. The received data was then analyzed and findings were shown below:

4.1 General information of the sample group

4.2 Knowledge about environmental conservation

4.3 Attitude towards environmental conservation

4.4 Behavior towards the conservation of natural resources at Koh Chang National Marine Park

4.5 Analysis of relationships between behavior towards the conservation of natural resources at Koh Chang National Marine Park and gender, age, occupation, education, income, tourism duration, size of tourist groups, receipt of information about tourism development plans of Koh Chang National Marine Park, knowledge about environmental conservation, and attitude towards environmental conservation

4.1 General Information of the Sample Group

The sample group of this research consisted of 200 Thai tourists who visited Koh Chang National Marine Park on April 2004 and their ages were 15 and up. Details of this finding are as follows:

Table 8 : General Information of Tourists at Koh Chang National Marine Park

General Information	Number	Percentage
Gender		
Male	75	37.5
Female	125	62.5
Total	200	100.0
Age		
Younger than 25	94	47.0
26-30 years old	40	20.0
31-35 years old	29	14.5
Older than 35	37	18.5
Total	200	100.0
Occupation		
Pupils/Students	68	34.0
Private Company Officials	51	25.5
Governmental/State Enterprise Officials	44	22.0
Merchants/Business Owners	30	15.0
Farmers and Employees	7	3.5
Total	200	100.0
Level of education		
Lower than bachelor degree	50	25.0
Bachelor degree or higher	150	75.0
Total	200	100.0
Income		
Less than 5,000 Baht	65	32.5
5,001 – 10,000 Baht	55	27.5
10,001 – 15,000 Baht	36	18.0
Higher than 15,000 Baht	44	22.0
Total	200	100.0

Table 8 : General Information of Tourists at Koh Chang National Marine Park (Cont.)

General Information	Number	Percentage
Tourism Duration		
1 day	24	12.0
2-3 days	176	88.0
Total	200	100.0
Size of Tourist Groups		
1-5 persons	74	37.0
6-10 persons	43	21.5
11 persons up	83	41.5
Total	200	100.0
Receipt of Information about Tourism development plans at Koh Chang		
Yes	114	57.0
No	86	43.0
Total	200	100.0

It was found from the study that there were more female tourists than males ones, that is, 62.5% were female tourists while 37.5% were males ones. Most tourists at 47% were under 25 years old, 20.0% were in the range of 26-30 years old, 18.5% were older than 35, and 14.5% were in the range of 31-35 years old respectively. For tourists' occupations, most of them (34.0%) were pupils/students, 25.5% were private company officials, 22.0% were governmental and state enterprise officials, 15.0% were merchants/business owners, and 3.5% were farmers/employees. In respect of level of education, 75.0% completed the bachelor degree or higher, and 25.0% completed their education lower than the bachelor degree. Most tourists (32.5%) had the average monthly income less than Baht 5,000, 27.5% had the income in the range of Baht 5,001 – 10,000, 22.0% had the monthly income more than Baht 15,000, and 18.0% had the income in the range of Baht 10,001 – 15,000 respectively. Most tourists spent their time at Koh Chang for 2-3 days (88.0%) while only 12.0% spent

only 1 day there. Regarding the size of tourist groups, 41.5% had the group members more than 11 persons, 37.0% had the group members from 1-5 persons, and 21.5% had the group members from 6-10 persons respectively. Most tourists (57.0%) used to receive the information about the tourism development plans of Koh Chang National Marine Park while 43.0% have never know about this.

4.2 Knowledge about Environmental Conservation

According to the analysis of finding, it was found that the average scores of knowledge about the environmental conservation of the sample group were 16.7 of 20 scores and the sample group's lowest scores were 8 of 20. Most members of the sample group (96.5%) had knowledge about environmental conservation regarding the conservation of tourist resources or knowledge about long-lasting utilization of natural tourist attractions and maintenance, the most important reason of extinction or decreases of wild animals is that wild animals cannot adjust themselves to environmental changes (94.5%), "Conservation" refers to the application and, at the same time, trying best to maintain it in the original condition (93.5%), and catching only big fish for consumption and not catching too small fish to let it grow up and replace the consumed fish are another conservation ways called environmental and efficient use (82.5%) as per details in Table 11.

Table 9 : Number and Percentage of the Sample Group Classified by Answers concerning Knowledge about Environmental Conservation of the Sample Group

Statements	Right		Wrong	
	Number	Percentage	Number	Percentage
1. "Conservation" refers to the application and, at the same time, trying best to maintain it in the original condition.	187	93.5	13	6.5

Table 9 : Number and Percentage of the Sample Group Classified by Answers concerning Knowledge about Environmental Conservation of the Sample Group (Cont.)

Statements	Right		Wrong	
	Number	Percentage	Number	Percentage
2. Environmental conservation will deal with the conservation of exhaustive resources only.	179	89.5	21	10.5
3. Conservation of tourism resources refers to long-lasting utilization and maintenance of natural tourist attractions.	193	96.5	7	3.5
4. The most important reason of extinction or decreases of wild animals is that wild animals cannot adjust themselves to environmental changes.	189	94.5	11	5.5
5. Setting up headwaters forest areas to be national parks is another way of conserving the forest.	121	60.5	79	39.5
6. Wildlife reserved areas refer to areas under prohibition of hunting all kinds of wild animals, or collecting/harming eggs or nests of those wild animals, as well as accessing into those locations for any study or educational researches.	168	84.5	32	16.0

Table 9 : Number and Percentage of the Sample Group Classified by Answers concerning Knowledge about Environmental Conservation of the Sample Group (Cont.)

Statements	Right		Wrong	
	Number	Percentage	Number	Percentage
7. Utilization of natural and environmental resources needs knowledge about the maintenance of natural and environmental resources in order to prevent the waste caused by uses of resources and environment.	181	90.5	19	9.5
8. Food leavings after meals should be left until all breaks down naturally.	169	84.5	31	15.5
9. Forest planting is currently another way of forest conservation.	163	81.5	37	18.5
10. Noting your name on the hillock or tree is to confirm that you arrive that tourist attraction already.	178	89.0	22	11.0
11. Catching only big fish for consumption and not catching too small fish to let it grow up and replace the consumed fish are another conservation ways called environmental and efficient use.	185	92.5	15	7.5

Table 9 : Number and Percentage of the Sample Group Classified by Answers concerning Knowledge about Environmental Conservation of the Sample Group (Cont.)

Statements	Right		Wrong	
	Number	Percentage	Number	Percentage
12. If driving into the beach, car wheels will scratch the sand up, and blew up by wind to the land, which results to the reduction of sand on the beach.	169	84.5	31	15.5
13. It is essential to provide knowledge about environmental conservation to tourists.	169	84.5	31	15.5
14. Collecting souvenirs made from animal organs is a way of conserving wild animals.	157	78.5	43	41.5
15. Not stepping on trees or walking away from provided paths is the conservation of natural resources.	138	69.0	62	31.0
16. Releasing the huge amount of waste into the sea will not pollute the seawater around the beaches because the seawater is able to dilute the waste.	161	80.5	39	19.5
17. Using products that do not harm the environment is another kind of conservation.	182	91.0	18	9.0

Table 9 : Number and Percentage of the Sample Group Classified by Answers concerning Knowledge about Environmental Conservation of the Sample Group (Cont.)

Statements	Right		Wrong	
	Number	Percentage	Number	Percentage
18. Throwing food leavings into the waterfall is to feed some fish and reserve fish breeds.	184	92.0	16	8.0
19. Practice in compliance with rules and prohibitions set in each tourist attraction where you visit is another way of natural resource environment.	90	45.0	110	55.0
20. Making a bonfire on the beach is not the destruction of environment in that area.	176	88.0	24	12.0

If considering the level of knowledge about environmental conservation, it was found that most members of the sample group had knowledge about environmental conservation in the high level (92.5%) by achieving the scores of knowledge about environmental conservation between 14-20 scores of 20 scores in total. Only 6.55 and 1.0% of the sample group had knowledge about environmental conservation in the moderate level and low level respectively as detailed in Table 12.

Table 10: Number and Percentage of the Sample Group Classified by Knowledge about Environmental Conservation of the Sample Group

Level of Knowledge	Number	Percentage
High (14-20 scores)	185	92.5
Moderate (10-13 scores)	13	6.5
Low (0-9 scores)	2	1.0
Total	200	100.0

Min = 8 Max = 20 Mean 16.7 S.D. = 2.213

4.3 Attitude towards Environmental Conservation

Pursuant to the analysis, it was found that the average scores of attitude towards the environmental conservation of the sample group were 80.06, the maximum scores were 96, and the minimum scores were 56 of 90 scores in total. Most members of the sample group had attitude towards the environmental conservation regarding providing knowledge to the public to make general people understand the importance of maintaining the environment is a direction of environmental conservation to keep the environment in a good condition (61.0%), when tourists visit any tourist attraction, they should have proper practice and manner to time and place (58.0%), letting investors or tourists destroy plants or other environment as they like will make that tourist attraction hold the risk of maintaining its proper condition (53.0%), and giving opportunities to local people to have involvement or give suggestions and set tourism plans will make them fell concerned in natural tourist attractions and local areas (49.0%) as details in Table 13.

Table 11 : Number and Percentage of the Sample Group Classified by Attitude towards Environmental Conservation

Statement	Strongly agree		Agree		Not Sure		Disagree		Strongly Disagree	
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen tage
1. Tourism promotion is always in the converse direction to the environmental conservation.	44	22.0	65	32.5	31	15.5	48	24.0	12	6.0
2. Environmental conservation in tourist attractions including natural and historical tourist attractions, ancient buildings, and relics is not the duty of general people, but the governmental agencies only.	5	2.5	15	7.5	8	4.0	53	26.5	119	59.5
3. Closing some national parks or limiting the number of tourists to some national parks will give the environment opportunities of recovery from damages/deterioration	79	39.5	88	44.0	19	9.5	11	5.5	3	1.5

Table 11 : Number and Percentage of the Sample Group Classified by Attitude towards Environmental Conservation (Cont.)

Statement	Strongly agree		Agree		Not Sure		Disagree		Strongly Disagree	
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen tage
4. Construction of accommodations such as hotels or other buildings in tourist attractions is one kind of environmental conservation since it will encourage many people to visit there.	14	7.0	26	13.0	24	12.0	81	40.5	55	27.5
5. Humans adapt natural environment beyond its capacity/limitation until it causes the loss of natural balance.	83	41.5	89	44.5	15	7.5	7	3.5	6	3.0
6. Nature always makes everything on balance by creating new environment to replace damaged one. Therefore, taking the coral reef or natural items back, or taking them for sales is not the destruction of environment.	19	9.5	12	6.0	7	3.5	46	23.0	116	58.0

Table 11 : Number and Percentage of the Sample Group Classified by Attitude towards Environmental Conservation (Cont.)

Statement	Strongly agree		Agree		Not Sure		Disagree		Strongly Disagree	
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen tage
7. When tourists visit any tourist attraction, they should have proper practice and manner to time and place.	116	58.0	71	35.5	7	3.5	2	1.0	4	2.0
8. National parks contain a variety of plants. If the tourists take those plants out from national parks, they help spreading those plants.	14	7.0	14	7.0	17	8.5	57	28.5	98	49.0
9. Providing knowledge to the public to make general people understand the importance of maintaining the environment is a direction of environmental conservation to keep the environment in a good condition.	122	61.0	64	32.0	8	4.0	5	2.5	1	0.5

Table 11 : Number and Percentage of the Sample Group Classified by Attitude towards Environmental Conservation (Cont.)

Statement	Strongly agree		Agree		Not Sure		Disagree		Strongly Disagree	
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen tage
10. Thailand is a country having attractive coral reefs, so souvenirs should be made from coral reefs as the indirect advertisement for Thailand.	21	10.5	53	26.5	40	20.0	49	24.5	37	18.5
11. Giving opportunities to local people to have involvement or give suggestions and set tourism plans will make them fell concerned in natural tourist attractions and local areas.	98	49.0	84	42.0	11	5.5	3	1.5	4	2.0
12. Due to accumulated rubbish and no sufficient areas for burying all, that rubbish, so, should be firmly packed and dropped into the sea.	14	7.0	9	4.5	10	5.0	22	11.0	145	72.5

Table 11 : Number and Percentage of the Sample Group Classified by Attitude towards Environmental Conservation (Cont.)

Statement	Strongly agree		Agree		Not Sure		Disagree		Strongly Disagree	
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen tage
13. Entrepreneurs should not fill the riverbanks to construct buildings because this action can change the water current and shallow the rivers.	84	42.0	84	42.0	20	10.0	7	3.5	5	2.5
14. Building the incinerators is the right way of rubbish eradication.	23	11.5	44	22.0	45	22.5	62	31.0	26	13.0
15. Now, food leavings and a lot of food containers in forms of paper bags, plastic bags, cans, glass bottles, etc. have been accumulated on the island. These containers should be sorted out, sent to the factory for the recycle process, and reused.	77	38.5	98	49.0	15	7.5	7	3.5	3	1.5

Table 11 : Number and Percentage of the Sample Group Classified by Attitude towards Environmental Conservation (Cont.)

Statement	Strongly agree		Agree		Not Sure		Disagree		Strongly Disagree	
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen tage
16. Tourism should be more promoted and conservation should be done later because tourism takes so few effects to the environment.	14	7.0	17	8.5	17	8.5	67	33.5	85	42.5
17. Letting investors or tourists destroy plants or other environments as they like will make that tourist attraction hold the risk of maintaining its proper condition.	106	53.0	71	35.5	6	3.0	3	1.5	14	7.0
18. Tourism industry is the only industry that has not any impact to the environment.	18	9.0	21	10.5	27	13.5	72	36.0	62	31.0

When considering the level of attitude towards environmental conservation, it was found that most members of the sample group had the attitude towards environmental conservation in the high level or 81.5% by gaining the 70-90 scores of 90 scores in total. The sample group that had the attitude towards environmental

conservation in the moderate and low levels was at 18.5% and 0% respectively as per details in Table 14.

Table 12 : Number and Percentage of the Sample Group Classified by Level of Attitude

Level of Attitude	Number	Percentage
High (63-90 scores)	163	81.5
Moderate (45-62 scores)	37	18.5
Low (0-44 scores)	0	0.00
Total	200	100.0

Min = 56 Max = 96 Mean 80.06 S.D. = 9.202

4.4 Behavior towards the conservation of natural resources at Koh Chang National Marine Park

In accordance with the analysis, it was found that the average scores for the sample group's behavior towards the conservation of natural resources were 97.30 while the maximum scores were 121, and the minimum scores were 65 of 125 scores in total. Most members of the sample group had the behavior towards the conservation of natural resources regarding paying attention to and comply to rules and prohibitions of tourist attractions you visit (55.5%), if finding wild animals, they would observe them in the far distance and did not have a loud noise to make them frightened (48.5%), when seeing the signpost of that tourist attraction, they stopped to read it (44.5%), and they put up camp and stay in the areas set up by that tourist attraction (34.5%) as details in Table 15.

Table 13 : Number and Percentage of the Sample Group Classified by Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park

Statements	Practice									
	Always		Frequently		Sometimes		Seldom		Never	
	Num-ber	Percen-tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-ber	Percen-tage
1. Before visiting any tourist attraction, you study the information about that place such as accommodations, prohibition, rules and regulations.	44	22.0	19	14.5	75	37.5	19	9.5	33	16.5
2. You do not take difficult-breakdown food containers such as foam or plastic to tourist attractions.	62	31.0	42	21.0	54	27.0	22	11.0	20	10.0
3. You usually have food/buy products from shops located in tourist attractions.	50	25.0	59	29.5	60	30.0	17	8.5	14	7.0

Table 13 : Number and Percentage of the Sample Group Classified by Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park (Cont.)

Statements	Practice									
	Always		Frequently		Sometimes		Seldom		Never	
	Num-ber	Percen-tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-ber	Percen-tage
4. You usually have food on the beach or close to the waterfall.	22	11.0	36	18.0	70	35.0	44	22.0.	28	14.0
5. When you take some food and have it at any place, you will leave food leavings there to let them break down naturally.	11	5.5	2	1.0	16	8.0	18	9.0	153	76.5
6. You take food containers for cleaning in water sources, waterfalls, or tourist attractions.	17	8.5	17	8.5	56	28.0	29	14.5	81	40.5
7. You usually take a bath in the water source of that tourist attraction such as waterfall.	11	5.5	6	3.0	17	8.5	22	11.0	144	72.0

Table 13 : Number and Percentage of the Sample Group Classified by Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park (Cont.)

Statements	Practice									
	Always		Frequently		Sometimes		Seldom		Never	
	Num-ber	Percen-tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-ber	Percen-tage
8. You sort out types of rubbish before throwing it away.	50	25.0	44	22.0	54	27.0	23	11.5	29	14.5
9. You drop the rubbish along the way you pass by.	11	5.5	3	1.5	9	4.5	19	9.5	158	79.0
10. You break/withdraw tree branches in the tourist attractions.	10	5.0	5	2.5	4	2.0	13	6.5	168	84.0
11. You collect strange or attractive or rare flowers growing in the tourist attractions to be souvenirs.	13	6.5	2	1.0	4	2.0	12	6.0	169	84.5

Table 13 : Number and Percentage of the Sample Group Classified by Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park (Cont.)

Statements	Practice									
	Always		Frequently		Sometimes		Seldom		Never	
	Num-ber	Percen-tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-ber	Percen-tage
12. You note your name on the hillock or tree to show that you arrive that place already.	10	5.0	2	1.0	2	1.0	6	3.0	180	90.0
13. You give some food to animals living in tourist attractions for which that food is not one for animals.	8	4.0	4	2.0	25	12.5	27	13.5	136	68.0
14. You pay attention to and comply with rules and prohibitions of tourist attractions you visit.	111	55.5	74	37.0	10	5.0	3	1.5	2	1.0

Table 13 : Number and Percentage of the Sample Group Classified by Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park (Cont.)

Statements	Practice									
	Always		Frequently		Sometimes		Seldom		Never	
	Num-ber	Percen-tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-ber	Percen-tage
15. When you see the signpost of that tourist attraction, you stop to read it.	89	44.5	66	33.0	37	18.5	5	2.5	3	1.5
16. You take music instruments, tape cassette, or stereo to play in tourist attractions.	17	8.5	11	5.5	30	15.0	38	19.0	104	52.0
17. While traveling, you have a loud chatting and loud noise so that your tourism is enjoyable and have a complete relaxation.	20	10.0	34	17.0	31	15.5	42	21.0	73	36.5

Table 13 : Number and Percentage of the Sample Group Classified by Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park (Cont.)

Statements	Practice									
	Always		Frequently		Sometimes		Seldom		Never	
	Num-ber	Percen-tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-ber	Percen-tage
18. If you find wild animals, you will observe them in the far distance and do not have a loud noise to make them frightened.	97	48.5	48	24.0	21	10.5	13	6.5	21	10.5
19. You collect some rock, shells, and coral reefs for your memorial items.	9	4.5	6	3.0	12	6.0	39	19.5	134	67.0
20. You make a bonfire on the beach.	9	4.5	5	2.5	18	9.0	36	18.0	132	66.0
21. You put up camp and stay in the areas set up by that tourist attraction.	68	34.0	35	17.5	21	10.5	27	13.5	49	24.5

Table 13 : Number and Percentage of the Sample Group Classified by Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park (Cont.)

Statements	Practice									
	Always		Frequently		Sometimes		Seldom		Never	
	Num-ber	Percen-tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-ber	Percen-tage
22. If the toilet is located so far or dirty, you will have a bowel movement or urine in tourist attractions.	14	7.0	3	1.5	8	4.0	14	7.0	161	80.5
23. You inform the officials when you see any action causing damages to tourist attractions.	26	13.0	36	18.0	54	27.0	44	22.0	40	20.0
24. You inform the officials when you see any damages or wreckages of tourist attractions.	34	17.0	42	21.0	54	27.0	31	15.5	39	19.5

Table 13 : Number and Percentage of the Sample Group Classified by Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park (Cont.)

Statements	Practice									
	Always		Frequently		Sometimes		Seldom		Never	
	Num-ber	Percen-tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-Ber	Percen-Tage	Num-ber	Percen-tage
25. You use the services provided by tourist entrepreneurs who have the cooperation with officials of that tourist attraction regarding the conservation.	62	31.0	68	34.0	44	22.0	13	6.5	13	6.5

If considering the level of behavior towards the conservation of natural resources, it was found that most members of the sample group (85.0%) had behavior towards the conservation of natural resources in the high level by achieving the scores of behavior towards the conservation of natural resources between 88-125 of 125. About 15.0% and 0% of the sample group had the behavior towards the conservation of natural resources respectively as details in Table 16.

Table 14 : Number and Percentage of the Sample Group Classified by Level of Behavior

Level of Behavior	Number	Percentage
High (87-125 scores)	170	85.0
Moderate (62-86 scores)	30	15.0
Low (0-61 scores)	0	0.00
Total	200	100.0

Min = 65 Max = 121 Mean 97.30 S.D. = 10.410

4.5 Analysis of Relationships between Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park and Gender, Age, Occupation, Education, Income, Tourism Duration, Size of Tourist Groups, Receipt of Information about Tourism development plans of Koh Chang National Marine Park, Knowledge about Environmental Conservation, and Attitude towards Environmental Conservation

Findings of analysis of relationships between independent variables consisting of gender, age, occupation, education, income, tourism duration, size of tourist groups, receipt of information about tourism development plans of Koh Chang National Marine Park, knowledge about environmental conservation, and attitude towards environmental conservation and tourism behavior by means of Chi-Square were as follows:

Table 15 : Relationship between Behavior towards Conservation of Natural Resources and Gender

Gender	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage
Male	62	82.7	13	17.3	0	0.00	75	100.0
Female	108	86.4	17	13.6	0	0.0	125	100.0
Total	170	85.0	30	15.0	0	0.0	200	100.0

(χ^2) = 0.512 df = 1 Significance = 0.311

From Table 17 above, it was found that most female members of the sample group (86.4%) had the behavior towards the conservation of natural resources in the high level while 13.6% of them had the behavior towards the conservation of natural resources in the moderate level. This was the same to most male members of the sample group (82.7%) who had behavior towards the conservation of natural resources in the high level while 17.3% of them had behavior towards the conservation of natural resources in the moderate level. The sample group, both male and female, who had behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's gender at a 0.05 level of significance.

Table 16 : Relationship between Behavior towards Conservation of Natural Resources and Age

Age	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage
Younger than 25	78	83.0	16	17.0	0	0.00	94	100.0
26-30 years old	32	80.0	8	20.0	0	0.0	40	100.0
31-35 years old	26	89.7	3	10.3	0	0.0	29	100.0
Older than 35	34	91.9	3	8.1	0	0.0	37	100.0
Total	170.0	85.0	30	15.0	0	0.0	200	100.0

(χ^2) =2.957 df = 3 Significance = 0.398

From Table 17 above, it was found that the sample group at all ages (younger than 25, 26-30 years old, 31-35 years old, older than 35) had behavior towards the conservation of natural resources in the high level at 83.0%, 80.0%, 89.7%, and 91.9% respectively. This was similar to behavior towards the conservation of natural resources in the moderate level found at all ages at 17.0%, 20.0%, 10.3%, and 8.1%. At all ages of the sample group, behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's age at a 0.05 level of significance.

Table 17 : Relationship between Behavior towards Conservation of Natural Resources and Occupation

Occupation	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage
Pupils / Students	57	83.8	11	16.2	0	0.00	68	100.0
Private Company Officials	45	88.2	6	11.8	0	0.0	51	100.0
Governmental/State Enterprise Officials	37	84.1	7	15.9	0	0.0	44	100.0
Merchants/Business Owners	24	80.0	6	20.0	0	0.0	30	100.0
Total	163	84.5	30	15.5	0	0.0	193	100.0

(χ^2) = 1.634 df = 3 Significance = 0.793

From Table 19 above, it was found that the sample group who were pupils/students had behavior towards the conservation of natural resources in the high level at 83.8%, and in the moderate level at 16.2%. The sample group who were private company officials had behavior towards the conservation of natural resources in the high level at 88.2% and in the moderate level at 11.8%. The sample group who were governmental and state enterprise officials had behavior towards the conservation of natural resources in the high level at 84.1% and in the moderate level at 15.9%. For the sample group who was merchants and business owners, they had behavior towards the conservation of natural resources in the high level at 80.0% and in the moderate level at 20.0%. In all occupations, the sample group who had behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's occupation at a 0.05 level of significance.

Table 18 : Relationship between Behavior towards Conservation of Natural Resources and Level of education

Level of education	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage
Lower than bachelor degree	41	82.0	9	18.0	0	0.00	50	100.0
Bachelor degree or higher	129	86.0	21	14.0	0	0.0	150	100.0
Total	170	85.0	30	15.0	0	0.0	200	100.0

(χ^2) = 0.471 df = 1 Significance = 0.493

From Table 20 above, it was found that the sample group whose level of education was lower than the bachelor degree had behavior towards the conservation of natural resources in the high level at 82.0%, and in the moderate level at 18.0%. The sample group who completed the bachelor degree or higher had behavior towards the conservation of natural resources in the high level at 86.0% and in the moderate level at 14.0%. In all level of educations of the sample group, behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's level of education at a 0.05 level of significance.

Table 19 : Relationship between Behavior towards Conservation of Natural Resources and Income

Income	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage
Lower than 5,000 Baht	55	84.6	10	15.4	0	0.00	65	100.0
5,001 – 10,000 Baht	46	83.6	9	16.4	0	0.0	55	100.0
10,0001 – 15,000 Baht	30	83.3	6	16.7	0	0.0	36	100.0
Higher than 15,000 Baht	39	88.6	5	11.4	0	0.0	44	100.0
Total	170	85.0	30	15.0	0	0.0	200	100.0

$(\chi^2) = 0.623$ df = 3 Significance = 0.891

From Table 21 above, it was found that the sample group who had the income lower than 5,000 Baht had behavior towards the conservation of natural resources in the high level at 84.6%, and in the moderate level at 15.4%. The sample group who had the income between 5,001 – 10,000 Baht had behavior towards the conservation of natural resources in the high level at 83.6% and in the moderate level at 16.4%. For the sample group who had the income from 10,000 – 15,000 Baht had behavior towards the conservation of natural resources in the high level at 83.3% and in the moderate level at 16.7%. Finally, the sample group who had the income more than 15,000 Baht had behavior towards the conservation of natural resources in the high level at 88.6% and at the moderate level at 11.4%. In all groups of the sample group, behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's income at a 0.05 level of significance.

Table 20 : Relationship between Behavior towards Conservation of Natural Resources and Tourism Duration

Tourism Duration	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1 day	20	83.3	4	16.7	0	0.00	24	100.0
2-3 days	150	85.2	26	14.8	0	0.0	176	100.0
Total	170	85.0	30	15.0	0	0.0	200	100.0

(χ^2) = 0.077 df = 2 Significance = 0.962

From Table 22 above, it was found that the sample group who visited Koh Chang for 1 day had behavior towards the conservation of natural resources in the high level at 83.3%, and in the moderate level at 16.7%. The sample group who visited Koh Chang 2-3 days had behavior towards the conservation of natural resources in the high level at 85.2% and in the moderate level at 14.8%. In all groups, behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's tourism duration at a 0.05 level of significance.

Table 21 : Relationship between Behavior towards Conservation of Natural Resources and Size of Tourist Groups

Size of Tourism Groups	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1-5 persons	61	82.4	13	17.6	0	0.00	74	100.0
6-10 persons	18	41.9	25	58.1	0	0.0	43	100.0
More than 11 persons	71	85.5	12	14.5	0	0.0	83	100.0
Total	170	85.0	30	15.0	0	0.0	200	100.0

(χ^2) = 32.286 df = 2 Significance = 0.000**

From Table 23 above, it was found that the sample group who visited Koh Chang with group members about 1-5 persons had behavior towards the conservation of natural resources in the high level at 82.4%, and in the moderate level 17.6%. The sample group who visited Koh Chang with group members about 6-10 persons had behavior towards the conservation of natural resources in the high level at 41.9% and in the moderate level at 58.1%. The sample group who visited Koh Chang with group members more than 11 persons had behavior towards the conservation of natural resources in the high level at 85.5%, and in the moderate level 14.5%. In all groups, behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's tourism duration at a 0.01 level of significance.

Table 22 : Relationship between Behavior towards Conservation of Natural Resources and Receipt of Information about Tourism development plans of Koh Chang National Marine Park

Receipt of Information	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Yes	93	81.6	21	18.4	0	0.00	114	100.0
No	77	89.5	9	10.5	0	0.0	86	100.0
Total	170	85.0	30	15.0	0	0.0	200	100.0

$(\chi^2) = 2.434$ df = 1 Significance = 0.119

From Table 24 above, it was found that the sample group who used to receive the information about tourism development plans of Koh Chang had behavior towards the conservation of natural resources in the high level at 81.6%, and in the moderate level 18.4%. The sample group who has never received the information about tourism development plans of Koh Chang had behavior towards the conservation of natural resources in the high level at 89.5% and in the moderate level at 10.5%. In all groups, behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's receipt of information about tourism development plans of Koh Chang at a 0.05 level of significance.

Table 23 : Relationship between Behavior towards Conservation of Natural Resources and Knowledge about Environmental Conservation

Level of Knowledge	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
High (14-20 scores)	164	88.6	21	11.4	0	0.00	185	100.0
Moderate – Low (0-13 scores)	6	40.0	9	60.0	0	0.0	15	100.0
Total	170	85.0	30	15.0	0	0.0	200	100.0

(χ^2) = 25.936 df = 2 Significance = 0.112**

From Table 25 above, it was found that the sample group who had knowledge in the high level about the conservation of natural resources had behavior towards the conservation of natural resources in the high level at 88.6%, and in the moderate level 11.4%. The sample group who had such knowledge in the moderate – low levels had behavior towards the conservation of natural resources in the high level at 40.0% and in the moderate level at 60.0%. In all groups, behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's knowledge at a 0.01 level of significance.

Table 24 : Relationship between Behavior towards Conservation of Natural Resources and Attitude towards Environmental Conservation

Level of Attitude	Level of Behavior towards Conservation of Natural Resources						Total	
	High		Moderate		Low			
	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage	Num-ber	Percen-tage
High (70-90 scores)	151	83.6	12	7.4	0	0.00	163	100.0
Moderate – Low (50-69 scores)	19	51.4	18	48.6	0	0.0	37	100.0
Low (0-49 scores)	0	0.0	0	0.0	0	0.0	0	100.0
Total	170	85.0	30	15.0	0	0.0	200	100.0

(χ^2) =40.315 df = 1 Significance = 0.011**

From Table 26 above, it was found that the sample group who had attitude in the high level had behavior towards the conservation of natural resources in the high level at 92.6%, and in the moderate level 7.4%. The sample group who had such knowledge in the moderate level had behavior towards the conservation of natural resources in the high level at 51.4% and in the moderate level at 48.6%. In all groups, behavior towards the conservation of natural resources in the low level was not found. Therefore, according to Chi-Square Test, it was found that behavior towards the conservation of natural resources did not depend on the sample group's attitude at a 0.01 level of significance.

CHAPTER V
DISCUSSION

For the study of the behavior towards natural resource conservation of tourists at Koh Chang National Marine Park, the data was collected from 200 tourists and the findings of the study were discussed as follows:

5.1 Analysis of behavior levels in the conservation of natural resources

5.2 Analysis of relationships between tourists' behavior towards natural resource conservation at Koh Chang National Marine Park and gender, age, occupation, education, income, tourism duration, size of tourist groups, receipt of information about tourism development plans of Koh Chang National Marine Park, knowledge about environmental conservation, and attitude towards environmental conservation.

5.1 Analysis of Behavior Levels in the Conservation of Natural Resources at Koh Chang

According to the study, it was found that the average scores of tourists' behavior towards natural resource conservation were 97.3 . Most members in the sample group or 170 tourists had the conservation behavior in the high level (85.0%), and the remaining 30 tourists had the conservation behavior in the moderate level (15.0%). Due to tourists' responsibility and consciousness, although they had different gender, age, occupation, level of education, income, tourism duration, size of tourist groups, knowledge, and attitude, they had the behavior towards natural resource conservation in the high level, and so their tourism in connection with natural environment was practised rightly. However, such behavior was up to an individual's intention; thus his/her behavior towards natural resource conservation was in the high level. Such results were consistent to the research results conducted by Soontaree Cheentham (1988: Abstract) regarding the study on components relating

to the behavior towards environmental conservation of residents in Pathom Asoke Project Village, Tambon Prapathon, Amphoe Muang, Nakhon Pathom Province, which found that behavior of most residents towards environmental conservation was in the high level. This research was consistent to another research conducted by Suthsuda Kriengwattapong (2000: Abstract) on knowledge and behavior towards work art environmental conservation of students at Nakhon Pathom Rajabhat Institute, which found that students at Nakhon Pathom Rajabhat Institute had serious behavior towards the conservation of work cultural environment.

5.2 Analysis of Relationships between Tourists' Behavior towards Natural Resource Conservation at Koh Chang National Marine Park and Gender, Age, Occupation, Education, Income, Tourism Duration, Size of Tourist Groups, Receipt of Information about Tourism Development Plans of Koh Chang National Marine Park, Knowledge about Environmental Conservation, and Attitude towards Environmental Conservation

It was found from the study that tourists' behavior towards the conservation of natural resources was not subject to gender at a 0.05 level of significance because, at present, both male and female tourists had the same interest in ecotourism, and they gained related knowledge from many publications, television, and radio, as well as from studying in their educational institutes. Consequently, the different gender did not take any effect to behavior towards the environmental conservation. This result was relevant to the research result conducted by Suthsuda Kriengwatanapong (2000: Abstract) regarding knowledge and behavior towards work cultural environmental conservation of students at Nakhon Pathom Rajabhat Institute, which found that tourists' behavior towards the environmental conservation did not depend on gender at a 0.05 level of significance. This study was also consistent to the research conducted by Pises Samitanon (1986: 69) regarding knowledge and practice in environmental conservation by airhostesses of Thai Airways International Airlines and Japan Airlines, which found that such behavior was not different according to gender at a 0.05 level of significance.

Upon the research finding, tourists' behavior towards natural resource conservation was not up to age at a 0.05 level of significance because age was not an important factor indicating management capabilities about oneself, habit, learning, interpretation, understanding, and decision. Persons in different ages might have similar responding behavior when facing problems. It was found from the study that tourists at all ages had similar behavior, which was consistent to the research of Pol.Lt. Thammanoonrat Thaveekul (1983: Abstract) regarding the study on behavior towards the conservation of park environment by the general public. It was found that age did not relate to the behavior towards the conservation of park environment at a 0.05 level of significance, and also consistent to the research of Soontaree Cheentham (1988: Abstract) regarding the study on components relating to the behavior towards environmental conservation of residents in Pathom Asoke Project Village, Tambon Prapathon, Amphoe Muang, Nakhon Pathom Province, which found that age did not relate to the behavior towards the environmental conservation at a 0.05 level of significance, and also consistent to the research of Suchada Boonprasop (1986: Abstract) regarding the general public's behavior towards solutions of polluted Tha Chin River: Case Study of Amphoe Sampran, Nakhon Pathom Province. It was found from such study that the difference of ages did not relate to the real practice in solutions of polluted Tha Chin River at a 0.05 level of significance.

In this study, it was found that tourists' behavior towards the conservation of natural resources was not up to occupation at a 0.05 level of significance because the occupations of most tourists was not resulted by the destruction of natural resources. For the occupations resulted by the destruction of nature such as farmers, they did not have any knowledge about the outcome of the destruction of natural resources; hence, they did not have so much interest in natural conservation. This finding was consistent to the research conduced by Songphon Saengpragai (2001: Abstract) regarding behavior towards the conservation of natural resources and environment by local people: case study of Bueng Borapet: Nakorn Sawan Province, which found that occupation did not result in the difference of behavior towards the conservation of natural resources and environment at Bueng Borapet. The above mentioned research was also consistent to the research of Suwimol Pakpiboon (1992: Abstract) regarding factors influencing Bangkok housewives' behavior that resulted in the eradication of

rubbish. It was found that housewives in different occupations did not have different behavior in eradicating the rubbish at a 0.05 level of significance.

According to the research, it was found the tourists' behavior towards the conservation of natural resources did not depend on education at a 0.05 level of significance. Although education would make people learn more, the natural conservation was not recorded in textbooks; students had to search it from other sources. However, main information sources were usually released by governmental agencies; hence, the conservation of natural resources was seldom known by students whether in any level of education if each student did not have learning enthusiasm. This finding was consistent to the research conducted by Pongchit Jamchumras (1985: Abstract) regarding tourists and local people's values to the conservation of natural resources in Cha-um holiday residence. It was found that the level of education did not have any effect to changes of values in the conservation. This is also consistent to the research of Pol.Lt. Thammanoonrat Thaveekul (1983: Abstract) regarding the study on behavior towards the conservation of park environment by the general public. It was found that level of education did not result in the behavior towards the conservation of park environment at a 0.05 level of significance, and also consistent to the research of Daranee Apornpattana (1990: Abstract) regarding knowledge and awareness of the general people towards the conservation of work art environment in local areas: case study of the great pagoda of Nakhon Pathom, Nakhon Pathom Province, and it was found that level of education did not have any relation with knowledge and awareness.

Pursuant to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not depend on income at a 0.05 level of significance. Income was the very important factor influencing individuals' living in respect of serving his/her basic needs, setting up benefit sources of people in the society, and indicating financial and social status. But, searching the knowledge about natural conservation, it could be done without any restriction by income spent in daily life. This finding was relevant to the research conducted by Pongchit Jamchumras (1985: Abstract) regarding tourists and local people's values to the conservation of natural resources in Cha-um holiday residence. It was found that the income gained by business operation at Cha-um did not have any effect to changes of values in the

conservation. The research was consistent to the research of Songphon Saengpragai (2001: Abstract) regarding behavior towards the conservation of natural resources and environment by local people: case study of Bueng Borapet: Nakorn Sawan Province, which found that monthly income did not result in the difference of behavior towards the conservation of natural resources and environment at Bueng Borapet. It was consistent to the research conducted by Wanpen Ungkasirisap (2000: Abstract) regarding the relation between tourism behavior and deterioration of coral reef lines: case study of Koh Tao, Suratthani Province. It was found from the study that the different income did not result in the different tourism behavior towards the deterioration of coral reef lines at a 0.05 level of significance.

In this study, it was found that tourists' behavior towards the conservation of natural resources did not depend on tourist visit at a 0.05 level of significance. It could be said that each person' tourism duration did not determine tourists' behavior because tourists with 1-day and 2-3-day visits had the same behavior towards the conservation of natural resources. This finding was relevant to that of Thiva Boondamnern (1996: Abstract) who found that the different duration of living did not result in different opinion about problems and obstacles regarding rubbish handling at a 0.05 level of significance. In addition, it was found in the research of Panarat Puangboonplook (1996: Abstract) that the different duration of living did not result in different opinion about problems and obstacles regarding rubbish handling in Sansuk Municipal area at a 0.01 level of significance. The sample group who lived in their local areas so long might be used to their practice, or did not have knowledge or comprehension in maintaining natural resources and environment.

In this study, it was also found that tourists' behavior towards the conservation of natural resources depended on the size of tourist groups at a 0.01 level of significance. This could be explained that sizes of tourist groups could determine tourists' behavior because tourists joining the tourist groups with members about 1-5, 6-10, and more than 11 would have different tourism behavior. Also, this finding was consistent to the research of Lalita Pochanapan (1996: Abstract) regarding eco-tourism behavior of tourists in Khao Yai National Park, and she found that eco-tourism behavior would depend on sizes of tourist groups, pattern of tourist arrangements, types of tourist groups, main objectives of tourism, and persons who

provided environmental knowledge to tourist groups at a 0.05 level of significance. Her finding was relevant to the work of Kamala Supan (1996: Abstract) regarding Bangkok youths' tourism behavior towards the environmental conservation in tourist attractions. She found that participating groups in tourism and knowledge about environmental conservation took effect to the different level of tourism behavior.

In this study, it was also found that tourists' behavior towards the conservation of natural resources did not depend on receipt of information about tourism development plans of Koh Chang National Marine Park at a 0.05 level of significance. It could be explained that although, at present, a large amount of information has been released widely by both governmental and private sectors, persons who received the information about such plan might have any interest in the conservation of natural resources. This was consistent to the work done by Somsakul Alfred (1997: Abstract) regarding local people's behavior towards the conservation of tourism resources: case study of Koh Lan, Muang Pattaya. She found that the different receipt of information about the conservation of natural resources, and attitude towards the conservation of natural resources by local people, Koh Lan, Muang Pattaya did not have different behavior towards the conservation of tourism resources. It was also relevant to the research of Saowaluck Navacharoenkul (1998: Abstract) regarding Thai tourists' eco-tourism behavior in Sai Yok National Park, Kanchanaburi Province. She found that the different receipt of information about eco-tourism was not the factor affecting different eco-tourism behavior.

In this study, it was also found that tourists' behavior towards the conservation of natural resources depended on knowledge about the environmental conservation at a 0.05 level of significance. This could be explained that knowledge and behavior related with each other. When one had knowledge and understanding about environmental conservation, they would lead to right behavior. This finding was consistent to the research of Pises Samitanon (1986: 69) regarding knowledge and practice in environmental conservation by airhostesses of Thai Airways International Airlines and Japan Airlines, which found that knowledge and practice in environmental conservation depended on the receipt of information about environment at a 0.05 level of significance. This was also relevant to the research conducted by Kamala Supan (1996: Abstract) regarding Bangkok youths' tourism

behavior towards the environmental conservation in tourist attractions. She found that tourists who had knowledge about environmental conservation resulted in the different level of tourism behavior.

In this study, it was also found that tourists' behavior towards the conservation of natural resources depended on attitude towards the environmental conservation at a 0.05 level of significance, that is, attitude and behavior towards the conservation of natural resources related with each other. When one had positive attitude towards the conservation of natural resources, it would lead to right behavior. This was relevant to the research of Kitti Boonratnet (2002: Abstract) regarding behavior towards the conservation of coastline resources of entrepreneurs in the area of Muang Pattaya, Chonburi Province. He found that attitude towards the conservation of coastline natural resources related to behavior towards the conservation of coastline resources at a 0.01 level of significance. This was also consistent to the research of Somsakul Alfred (1997: Abstract) regarding local people's behavior towards the conservation of tourism resources: case study of Koh Lan, Muang Pattaya. She found that the different attitude towards the conservation of natural resources of local people at Koh Lan, Muang Pattaya resulted in different behavior towards the conservation of tourism resources.

CHAPTER VI
CONCLUSION AND RECOMMENDATIONS

The objective of this study was to examine tourism behavior of tourists who visited Koh Chang National Marine Park, and variables that related to tourism behavior of tourists involving gender, age, occupation, education, income, tourism duration, size of tourist group, receipt of information about tourism development plans, knowledge about environmental conservation, and attitude towards environmental conservation of tourists who visited Koh Chang National Marine Park after the development of this island. The findings of this study can be applied for the structure development of Koh Chang. The findings can also be used to encourage tourists' consciousness, and then their good responsibility will result in right pattern of tourism behavior and enhance the tourism development in parallel with the conservation of natural resources, and campaign the maintenance of environment to prevent it from damages before it proper time. The research results could be concluded as follows:

6.1 Conclusion of the study

6.2 Suggestions of the study

6.3 Recommendations for further studies

6.1 Conclusion of the Study

6.1.1 General Information of the Sample Group

The sample group of this study consisted of 200 Thai tourists at the ages of 15 and up who visited Koh Chang National Marine Park on April 2004. From the total number of the sample group, if categorized by gender, most were female tourists or 62.5% while 37.5% were male tourists. Most members of the sample group (47%) were under 25 years old, the second biggest group was in the range of 26-30 years old (20.0%), and older than 35 years old at 18.5%, and in the range of 31-35 years old at

14.5% respectively. For occupation, most of them (34.0%) were pupils and students, 25.5% were officials of private companies, 22.0% were governmental officials or state enterprise officials, 15.0% were merchants or had personal businesses, and 3.5% were farmers and general employees respectively. Regarding the level of education, 75.0% completed the bachelor degree or higher, and the remaining (25.0%) completed their education lower than the bachelor degree respectively. Most members in the sample group or 32.5% had the average monthly income less than Baht 5,000, 27.5% of them had income in the range of Baht 5,001-10,000, 22.0% had income higher than Baht 15,000, and 18.0% had income in the range of Baht 10,001-15,000 respectively. Most tourists (88.0%) spent their tourism duration about 2-3 days while only 12.0% had the one-day visit. In regard with size of tourist groups, most of them (41.5%) had the group members more than 11, 37.0% had 1-5 group members, and 21.5% had 6 - 10 group members respectively. Most tourists or 57.0% used to receive the information about tourism development plans of Koh Chang National Marine Park while others (43.0%) have never known such information as detailed in Table 10.

6.1.2 Knowledge about Environmental Conservation

It was found from the study that the tourists gained the average scores of environmental conservation at 16.7% from the total of 20 scores. About 185 tourists or 92.5% of all tourists had knowledge about environmental conservation in the high level, 13 tourists or 6.5% had such knowledge in the moderate level, and only 2 of all or 1.0% had such knowledge in the low level respectively.

6.1.3 Attitude towards Environmental Conservation

From the research finding, it was found that tourists had the average scores of environmental conservation at 80.06 from the total of 90 scores. Most tourists (163) or 81.5% of them had high-level attitude towards environmental conservation, and 37 tourists or 18.5% had moderate-level attitude towards environmental conservation.

6.1.4 Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park

According to the research, it was found that tourists had the average scores of behavior towards the conservation of natural resources at 97.3 of 125. Most members in the sample group (170 tourists or 85.0%) had the behavior towards the conservation

in the high level whereas only 30 tourists or 15.0% had such behavior in the moderate level.

6.1.5 Relationships between Behavior towards the Conservation of Natural Resources at Koh Chang National Marine Park and Gender, Age, Occupation, Education, Income, Tourism Duration, Size of Tourist Groups, Receipt of Information, Knowledge about Environmental Conservation, and Attitude towards the Environmental Conservation

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to gender at a 0.05 level of significance as detailed in Table 17.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to age at a 0.05 level of significance as detailed in Table 18.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to occupation at a 0.05 level of significance as detailed in Table 19.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to education at a 0.05 level of significance as detailed in Table 20.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to income at a 0.05 level of significance as detailed in Table 21.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to tourism duration at a 0.05 level of significance as detailed in Table 22.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to size of tourist groups at a 0.01 level of significance as detailed in Table 23.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to receipt of information at a 0.05 level of significance as detailed in Table 24.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to knowledge about environmental conservation at a 0.01 level of significance as detailed in Table 25.

According to the research finding, it was found that tourists' behavior towards the conservation of natural resources did not related to attitude towards environmental conservation at a 0.01 level of significance as detailed in Table 26.

6.2 Recommendations

Suggestions of this study are as follows:

6.2.1 Relevant authorities and agencies such as the Tourism Authority of Thailand should release knowledge about environmental conservation to tourists through various media such as radio, television, new broadcasting tower, video tapes, leaflets, etc.

6.2.2 There should be training and campaigns set for entrepreneurs at Koh Chang to provide them knowledge about the environmental conservation such as rubbish collection.

6.2.3 The Government should have strict measures of controlling the construction of accommodations not be too close to the beaches because it can damage natural resources, and people may be harmed by natural disasters such as storms or Tsunami.

6.3 Recommendations for Further Studies

6.3.1 Behavior of people in communities and store operators towards the conservation of nature and environment should be studied.

6.3.2 Tourists should be provided some knowledge about environmental conservation. Relevant authorities should be provided this knowledge so that they will be able to advise tourists correctly and the environment is not damaged.

6.3.3 In-depth problems and obstacles in selecting tourist attractions by tourists should be studied.

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APPENDIX

แบบสอบถาม
เรื่อง

พฤติกรรมการอนุรักษ์ทรัพยากรธรรมชาติของนักท่องเที่ยว
ณ อุทยานแห่งชาติหมู่เกาะช้าง

คำชี้แจง แบบสอบถามนี้เป็นส่วนหนึ่งของการศึกษาเรื่อง พฤติกรรมการอนุรักษ์ทรัพยากรธรรมชาติของนักท่องเที่ยว ณ อุทยานแห่งชาติหมู่เกาะช้าง โดยมีวัตถุประสงค์เพื่อประกอบการทำวิทยานิพนธ์ตามหลักสูตรปริญญานิพนธ์ตามหลักสูตรปริญญาศึกษาศาสตรมหาบัณฑิต สาขาสิ่งแวดล้อมศึกษา คณะสังคมศาสตร์และมนุษย์ศาสตร์ มหาวิทยาลัยมหิดล

ในการศึกษาครั้งนี้ได้แบ่งแบบสอบถามออกเป็น 5 ส่วน คือ

ส่วนที่ 1 ข้อมูล ทั่วไป

ส่วนที่ 2 ความรู้เกี่ยวกับการอนุรักษ์

ส่วนที่ 3 เจตคติที่มีต่อการอนุรักษ์สิ่งแวดล้อม ณ อุทยานแห่งชาติหมู่เกาะชาติหมู่เกาะช้าง

ส่วนที่ 4 พฤติกรรมการท่องเที่ยวของนักท่องเที่ยว ณ อุทยานแห่งชาติหมู่เกาะชาติหมู่เกาะช้าง

ส่วนที่ 5 ปัญหาอุปสรรคและข้อเสนอแนะเรื่องการท่องเที่ยวในสถานที่ท่องเที่ยว

จึงใคร่ขอความกรุณาช่วยตอบแบบสอบถามตามความเป็นจริง โดยคำตอบนี้จะไม่มีผลใดๆ ต่อท่าน และขอขอบพระคุณในการให้ความร่วมมือ

นางสาวธนิยา แตงจั่น

นักศึกษาปริญญาโท สาขาสิ่งแวดล้อมศึกษา
คณะสังคมศาสตร์และมนุษย์ศาสตร์ มหาวิทยาลัยมหิดล

ส่วนที่ 1 ข้อมูลทั่วไป

คำชี้แจง กรุณาใส่เครื่องหมาย ✓ลงใน ❒ และเติมข้อความลงในช่องว่างให้ตรงกับความเป็นจริง

1. เพศ

❒ ชาย ❒ หญิง

2. ปัจจุบันท่าน อายุ _____ปี

3. ท่านจบการศึกษาสูงสุดระดับใด

❒ ประถมศึกษา ❒ มัธยมศึกษาตอนต้น
❒ มัธยมศึกษาตอนปลายหรือเทียบเท่า ❒ อนุปริญญาหรือเทียบเท่า
❒ ปริญญาตรีหรือเทียบเท่า ❒ สูงกว่าปริญญาตรี

4. ปัจจุบันท่านประกอบอาชีพ

❒ นักเรียน / นักศึกษา ❒ ข้าราชการ / พนักงานรัฐวิสาหกิจ
❒ พนักงานบริษัทเอกชน ❒ ค้าขาย / ธุรกิจส่วนตัว
❒ รับจ้าง ❒ เกษตรกร
❒ อื่นๆ ระบุ _____

5. ปัจจุบันท่านมีรายได้เฉลี่ยต่อเดือน _____บาท

6. คณะเดินทางที่มาเที่ยว ณ อุทยานแห่งชาติหมู่เกาะช้าง ร่วมกับท่านมีจำนวน ____ท่าน

7. ท่านมีระยะเวลาในการมาท่องเที่ยว ณ อุทยานแห่งชาติหมู่เกาะช้าง เป็นเวลา_____วัน

8. ท่านทราบข้อมูลข่าวสารเกี่ยวกับ แผนการพัฒนาการท่องเที่ยวอุทยานแห่งชาติหมู่เกาะช้าง

❒ เคย ❒ ไม่เคย

ส่วนที่ 2 ความรู้เกี่ยวกับการอนุรักษ์

<u>คำชี้แจง</u> กรุณาใส่เครื่องหมาย ✓ลงในช่องว่างท้ายข้อคำถามเพียงช่องเดียวที่ตรงตามความเป็นจริง

ข้อคำถาม		ถูก	ผิด
1	คำว่าอนุรักษ์ หมายถึงการนำมาใช้ประโยชน์และในขณะเดียวกันก็พยายามรักษาให้คงสภาพเดิมมากที่สุด		
2	การอนุรักษ์สิ่งแวดล้อมจะอนุรักษ์เฉพาะทรัพยากรที่ใช้แล้วหมดเท่านั้น		
3	การอนุรักษ์ทรัพยากรการท่องเที่ยว คือ การรู้จักใช้ประโยชน์จากสถานที่ท่องเที่ยวทางธรรมชาติ โดยใช้ให้ยาวนาน และบำรุงรักษา		
4	สาเหตุสำคัญที่สุดของการสูญพันธ์หรือลดน้อยของจำนวนสัตว์ป่า คือ เกิดจากสัตว์ไม่สามารถปรับตัวให้เข้ากับการเปลี่ยนแปลงของสภาพแวดล้อมได้		
5	การกำหนดพื้นที่ป่าต้นน้ำก่อนให้เป็นอุทยานแห่งชาติ ถือว่าเป็นการอนุรักษ์ป่าไม้วิธีหนึ่ง		
6	เขตอนุรักษ์พันธุ์สัตว์ป่า คือ เขตที่ห้ามไม่ให้ผู้ใดล่าสัตว์ป่าทุกชนิด หรือเก็บทำอันตรายแก่ไข่หรือรังของสัตว์ป่าเหล่านั้น รวมทั้งห้ามเข้าไปทำการศึกษาหรือวิจัยทางวิชาการใดๆ ทั้งสิ้น		
7	การใช้ทรัพยากรธรรมชาติและสิ่งแวดล้อมจำเป็นต้องมีความรู้ในการรักษาทรัพยากรธรรมชาติและสิ่งแวดล้อมด้วย เพื่อป้องกันการสูญเปล่าอันจะเกิดจากการใช้ทรัพยากรและสิ่งแวดล้อมด้วย		
8	การทิ้งขยะที่เป็นเศษอาหารที่เหลือจากการบริโภคควรให้ย่อยสลายไปเอง		
9	การปลูกป่า เป็นการอนุรักษ์ป่าไม้วิธีหนึ่งที่ใช้อยู่ในปัจจุบัน		
10	การเขียนชื่อไว้ตามโขดหินหรือต้นไม้เป็นการยืนยันว่าท่านได้มาถึงสถานที่ท่องเที่ยวนั้นๆ แล้ว		
11	การเลือกจับปลาที่มีขนาดใหญ่มาใช้ในการบริโภค ไม่จับปลาที่มีขนาดเล็กเกินไปเพื่อให้ปลาเหล่านั้นได้มีโอกาสโตขึ้นมาแทนปลาที่ถูกจับมาบริโภคแล้ว ถือว่าเป็นวิธีการอนุรักษ์ที่เรียกว่า การปรับปรุงและใช้อย่างมีประสิทธิภาพ		
12	เมื่อขับรถย่ำลงไปในชายหาด ล้อจะชุ่ยทรายขึ้นมาและถูกลมพัดเข้ามาตกในแผ่นดิน เป็นผลให้ทรายลดจำนวนลง		
13	การให้ความรู้ในเรื่องการอนุรักษ์สิ่งแวดล้อมแก่นักท่องเที่ยวเป็นสิ่งจำเป็น		
14	การสะสมของที่ระลึกจากผลิตภัณฑ์สัตว์เป็นการอนุรักษ์สัตว์ป่า		
15	การไม่เหยียบย่ำบนต้นไม้หรือเดินออกนอกเส้นทางที่จัดไว้ให้เป็นการอนุรักษ์ทรัพยากรธรรมชาติ		
16	การปล่อยของเสียลงทะเลมากๆ จะไม่ทำให้น้ำทะเลบริเวณชายหาดเป็นน้ำเน่าเสีย เพราะน้ำทะเลสามารถเจือจางของเสียได้		

ข้อคำถาม		ถูก	ผิด
17	การเลือกใช้สินค้าที่ไม่เป็นภัยต่อสิ่งแวดล้อมเป็นการอนุรักษ์อย่างหนึ่ง		
18	การทิ้งเศษอาหารลงในน้ำตกเป็นการให้อาหารปลาและอนุรักษ์พันธุ์ปลา		
19	การปฏิบัติตัวตามกฎและข้อห้ามต่างๆ ของสถานที่ที่ท่านไปท่องเที่ยวเป็นการอนุรักษ์ทรัพยากรธรรมชาติวิธีหนึ่ง		
20	การก่อกองไฟบริเวณหาดทรายไม่เป็นการทำลายสิ่งแวดล้อมในบริเวณนั้น		

ส่วนที่ 3 เจตคติที่มีต่อการอนุรักษ์สิ่งแวดล้อม

<u>คำชี้แจง</u> กรุณาใส่เครื่องหมาย ✓ลงในช่องว่างท้ายข้อคำถามเพียงช่องเดียวที่ตรงตามความเป็นจริง

ข้อความ		เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1*	การส่งเสริมการท่องเที่ยวมักสวนทางกับการอนุรักษ์สิ่งแวดล้อมอยู่เสมอ					
2*	การอนุรักษ์สิ่งแวดล้อมที่เป็นแหล่งท่องเที่ยวทั้งประเภทธรรมชาติและประวัติศาสตร์ โบราณสถาน โบราณวัตถุ ไม่ใช่หน้าที่ของประชาชน แต่เป็นหน้าที่ของหน่วยงานรัฐเท่านั้น					
3	การปิดอุทยานแห่งชาติบางแห่งหรือการจำกัดจำนวนนักท่องเที่ยวไม่ให้เข้าไปท่องเที่ยวมากเกินไป เป็นการเปิดโอกาสให้สิ่งแวดล้อมได้ฟื้นตัวจากความเสียหาย / ความเสื่อมโทรม					
4*	การสร้างที่พักอาศัย เช่น โรงแรม หรือมีสิ่งก่อสร้างภายในแหล่งท่องเที่ยวจำนวนมาก เป็นการอนุรักษ์สิ่งแวดล้อม เพราะเป็นการส่งเสริมให้คนเดินทางไปสถานที่นั้นมากขึ้น					
5	มนุษย์ได้ดัดแปลงสภาพแวดล้อมทางธรรมชาติจนเกินขอบเขตทำให้สมดุลทางธรรมชาติต้องสูญเสียไป					
6*	ธรรมชาติมักจะสร้างให้สิ่งต่างๆ สมดุลอยู่เสมอ โดยสร้างเสริมส่วนที่ขาดหายไปขึ้นมาทดแทน ดังนั้นการนำปากะรังหรือสิ่งของจากธรรมชาติกลับมาด้วย หรือนำไปขายบ้างจึงไม่เป็นการทำลายสิ่งแวดล้อม					
7	เมื่อนักท่องเที่ยวเข้าชม สถานที่ท่องเที่ยวควรจะประพฤติตัวให้เหมาะสมกับกาลเทศะและสถานที่					
8*	อุทยานแห่งชาติมีพันธุ์ไม้หลายชนิด การที่นักท่องเที่ยวนำพันธุ์ไม้เหล่านั้นออกมาจากอุทยานจะเป็นการช่วยแพร่กระจายพันธุ์ไม้ต่างๆ ให้มีมากขึ้น					

	ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
9	การให้ความรู้แก่ประชาชนเพื่อให้เข้าใจถึงความสำคัญของการรักษาของสิ่งแวดล้อม เป็นแนวทางการอนุรักษ์สิ่งแวดล้อมที่จะทำให้สิ่งแวดล้อมอยู่ในสภาพดี					
10*	ประเทศไทยเป็นประเทศที่มีแนวปะการังสวยงามแห่งหนึ่ง ฉะนั้นสินค้าของที่ระลึกควรจะเป็นสินค้าที่ทำมาจากซากปะการังเพื่อเป็นการโฆษณาประเทศไทยทางอ้อม					
11	การให้ประชาชนในท้องถิ่น มีส่วนร่วมหรือเสนอแนะและวางแผนการท่องเที่ยวจะทำให้ประชาชนรู้สึกห่วงใยในสถานที่ท่องเที่ยวทางธรรมชาติและท้องถิ่น					
12*	เนื่องจากปริมาณขยะที่สะสมมากขึ้น ไม่มีพื้นที่เพียงพอให้ขุดหลุมฝังขยะอีกต่อไป ควรจะนำขยะเหล่านั้นห่อให้แน่นแล้วนำไปทิ้งกลางทะเล					
13	ผู้ประกอบการไม่ควรถมดลิ่งเพื่อสร้างอาคารเพราะจะทำให้กระแสน้ำเปลี่ยนทิศทางและเกิดการตื้นเขิน					
14	การสร้างที่เผาขยะเป็นการกำจัดขยะที่ถูกต้อง					
15	ปัจจุบันเศษอาหาร ภาชนะประเภทถุงกระดาษ ถุงพลาสติกกระป๋อง ขวดแก้ว ฯลฯ สะสมอยู่บนเกาะนี้จำนวนมากควรนำไปแยกประเภทขาย เพื่อเข้าโรงงานรีไซเคิลกลับมาใช้ใหม่					
16*	ควรส่งเสริมให้มีการท่องเที่ยวมากขึ้น ส่วนการอนุรักษ์เอาไว้ที่หลังเพราะการท่องเที่ยวมีผลกระทบต่อสิ่งแวดล้อมน้อยมาก					
17	การปล่อยให้นักลงทุนหรือนักท่องเที่ยวทำลายพันธุ์พืช ไม้หรือทำลายสิ่งแวดล้อมอื่นๆ ตามอำเภอใจ เสี่ยงต่อการที่สถานที่ท่องเที่ยวนั้นๆ จะรักษาสภาพที่เหมาะสมไว้ได้					
18*	อุตสาหกรรมท่องเที่ยวเป็นอุตสาหกรรมเดียวที่ไม่ส่งผลกระทบต่อสิ่งแวดล้อม					

ส่วนที่ 4 พฤติกรรมการท่องเที่ยวของนักท่องเที่ยว ณ อุทยานแห่งชาติหมู่เกาะชาติหมู่เกาะช้าง

คำชี้แจง กรุณาใส่เครื่องหมาย ✓ลงในช่องว่างท้ายข้อคำถามเพียงช่องเดียวที่ตรงตามความเป็นจริง

ข้อความ		การปฏิบัติ				
		ทุกครั้ง	บ่อยครั้ง	บางครั้ง	นานๆ ครั้ง	ไม่เคย
1	ก่อนที่จะเดินทางมาท่องเที่ยวท่านศึกษาข้อมูลต่างๆ เกี่ยวกับสถานที่นั้น เช่น ที่พัก ข้อห้าม กฎระเบียบต่างๆ					
2	ท่านไม่นำภาชนะที่ย่อยสลายยาก เช่น โฟม พลาสติกเข้าไปใช้ใส่อาหาร สิ่งของในสถานที่ท่องเที่ยว					
3	ท่านมักจะรับประทานอาหาร / ซื้อสินค้าจากร้านค้าที่อยู่ในบริเวณแหล่งท่องเที่ยว					
4	ท่านมักจะรับประทานอาหารบนชายหาด หรือบริเวณที่ใกล้น้ำตก					
5	เมื่อท่านนำอาหารมารับประทานท่านทิ้งเศษอาหารไว้ในบริเวณที่ท่านรับประทานเพื่อให้อาหารเหล่านั้นย่อยสลายเอง					
6	ท่านนำภาชนะไปล้างในแหล่งน้ำ น้ำตก ในสถานทีท่องเที่ยว					
7	ท่านมักจะอาบน้ำในแหล่งน้ำในแหล่งท่องเที่ยว เช่น น้ำตก					
8	ท่านแยกประเภทขยะก่อนทิ้ง					
9	ท่านมักทิ้งขยะตามข้างทางที่ท่านเดินผ่าน					
10	ท่านหัก / ถอน กิ่งไม้ภายในสถานที่ท่องเที่ยว					
11	ท่านเก็บดอกไม้ที่แปลกๆ หรือสวยงามหายากจากสถานที่ท่องเที่ยวมาเป็นที่ระลึก					
12	ท่านมักจะสลักหรือขีดเขียนชื่อไว้ตามโขดหินหรือต้นไม้เพื่อเป็นการแสดงว่าท่านได้มาถึงสถานที่นั้นแล้ว					
13	ท่านให้อาหารแก่สัตว์ในสถานที่ท่องเที่ยว โดยที่อาหารนั้นไม่ใช่อาหารของสัตว์					
14	ท่านเอาใจใส่และปฏิบัติตามกฎ ข้อห้ามของสถานที่ที่ท่านเข้าไปท่องเที่ยว					
15	เมื่อท่านพบป้ายประกาศของทางสถานที่ ท่านจะหยุดอ่าน					
16	ท่านนำเครื่องดนตรี วิทยุเทป เครื่องเสียงไปเปิดในสถานที่ท่องเที่ยว					

ข้อความ		การปฏิบัติ				
		ทุกครั้ง	บ่อยครั้ง	บางครั้ง	นานๆครั้ง	ไม่เคย
17	ในขณะที่เดินทางท่องเที่ยวท่านมักจะพูดคุยและส่งเสียงดังเพื่อให้การท่องเที่ยวเป็นไปอย่างสนุกสนานและเป็นการพักผ่อนเต็มที่					
18	ถ้าพบสัตว์ป่าท่านจะดูห่างๆ และไม่ส่งเสียงดังให้สัตว์ตกใจ					
19	ท่านเก็บก้อนหิน เปลือกหอย ปะการังกลับมาเป็นที่ระลึก					
20	ท่านก่อกองไฟในบริเวณชายหาด					
21	ท่านมักจะกางเต็นท์หรือพักในบริเวณที่ ทางสถานที่กำหนดไว้					
22	ถ้าหากส้วมของทางสถานที่อยู่ไกลหรือสกปรก ท่านจะถ่ายอุจจาระและปัสสาวะในบริเวณแหล่งท่องเที่ยว					
23	ท่านจะแจ้งแก่เจ้าหน้าที่ เมื่อพบเห็นผู้อื่นได้กระทำการใดๆ ที่ก่อให้เกิดความเสียหายแก่สถานที่ท่องเที่ยว					
24	ท่านแจ้งเจ้าหน้าที่ เมื่อพบเห็นความเสียหาย การชำรุดของสถานที่ท่องเที่ยว					
25	ท่านมักจะเลือกใช้บริการของผู้ประกอบการธุรกิจการท่องเที่ยวที่แสดงให้เห็นถึงความร่วมมือกับทางสถานที่เกี่ยวกับ เรื่องการอนุรักษ์					

ส่วนที่ 5 ปัญหาอุปสรรคและข้อเสนอแนะเรื่องการท่องเที่ยวในสถานที่ท่องเที่ยว

คำชี้แจง กรุณาเติมข้อความลงในช่องว่างให้ตรงกับความเป็นจริง

1. ท่านคิดว่าท่านมีปัญหาและอุปสรรคในการมาท่องเที่ยว ณ อุทยานแห่งชาติหมู่เกาะช้างอย่างไรบ้าง และท่านคิดว่าควรมีแนวทางการแก้ไขอย่างไร

1.1 ปัญหา / อุปสรรค

1.2 แนวทางการแก้ไข

2. ท่านมีข้อเสนอแนะเกี่ยวกับสถานที่ท่องเที่ยวอย่างไรบ้าง (อุทยานแห่งชาติหมู่เกาะช้าง)

2.1 ที่พัก

2.2 ห้องน้ำ ห้องส้วม

2.3 ร้านค้าต่างๆ

2.4 การเดินทาง

2.5 เจ้าหน้าที่

2.6 อื่นๆ

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