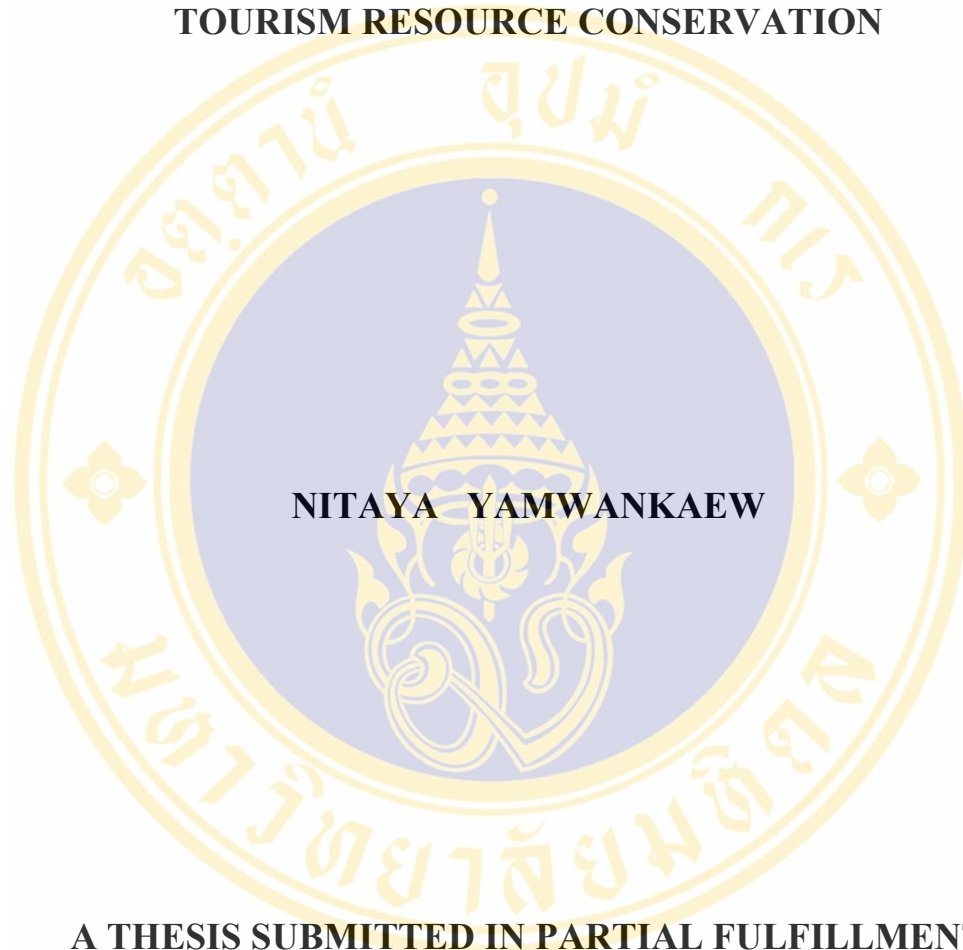# KNOWLEDGE AND ATTITUDE OF UNDERGRADUATE TOURISM MANAGEMENT STUDENTS TOWARDS MARINE TOURISM RESOURCE CONSERVATION

NITAYA YAMWANKAEW

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
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KNOWLEDGE AND ATTITUDE OF UNDERGRADATE TOURISM MANAGEMENT STUDENTS TOWARDS MARINE TOURISM RESOURCE CONSERVATION

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ABSTRACT

The research aimed to observe knowledge and attitude of undergraduate tourism management strdents towards marine tourism resource conservation, to compare different means of the knowledge and attitude between sex, age educational level, hometown, grade point average, marine tourism information received, experience in marine tourism interested in environmental conservation, and educational institution, and to determine correlation coefficient of the knowledge and attitude towards marine tourism resource conservation.

The sample of thes study was 342 students of Rajabhat institute and other state universities, who were selected by stratified random sampling. Data were administered by self questionnaires and analyzed by percentage, mean, standard deviation, t-test, one-way analysis of variance, and Pearson product moment correlation.

The results showed that the mean score of students ‰ɹ"knowledge in marine tourism resource conservation was moderate level but the mean score of their attitude was high level. Their knowledges had different with their ages significantly at level 0.05. Their attitude had different with the educational level and educational institution significantly at level 0.05. Knowledge correlated positively with the attitude at level 0.01.

Suggestions from this study were to give guidelines on marine tourism resources conservation in a guidebook for students including invitation to the authority involved to provide more information on resources conservation. Besides, arrangement should be made for conservation activities, so that the students could have direct experience in marine tourism resources conservation.

KEY WORDS :   KNOWLEDGE / ATTITUDE / MARINE TOURISM RESOURCE/
                 CONSERVATION

ความรู้และเจตคติในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล ของนักศึกษาปริญญาตรี สาขาการโรงแรมและการท่องเที่ยว (KNOWLEDGE AND ATTITUDE OF UNDERGRADUATE TOURISM MANAGEMENT STUDENTS TOWARDS MARINE TOURISM RESOURCE CONSERVATION)

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บทคัดย่อ

        การวิจัยนี้ต้องการศึกษา ความรู้และเจตคติในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล ของนักศึกษาปริญญาตรี สาขาวิชาการโรงแรมและการท่องเที่ยว เปรียบเทียบความรู้และเจตคติของนักศึกษาดังกล่าวระหว่างนักศึกษาที่มี เพศ อายุ ชั้นปี ที่อยู่อาศัยเดิม ระดับคะแนนเฉลี่ยสะสม การได้รับข้อมูลข่าวสารเกี่ยวกับการท่องเที่ยวทางทะเล ประสบการณ์ในการท่องเที่ยวทางทะเล ความสนใจในการอนุรักษ์สิ่งแวดล้อม และสถาบันการศึกษาที่แตกต่างกัน และศึกษาความสัมพันธ์ระหว่างความรู้ กับเจตคติในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล
        เป็นการวิจัยเชิงสำรวจจากกลุ่มตัวอย่างนักศึกษา ปริญญาตรี342 คน ในสถาบันราชภัฏและมหาวิทยาลัยของรัฐที่เปิดสอนสาขาวิชาการจัดการ โรงแรมและการท่องเที่ยว ที่ตั้งอยู่ในจังหวัดติดชายทะเล เก็บข้อมูลด้วยการส่งแบบสอบถาม และวิเคราะห์ด้วย ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน เปรียบเทียบคะแนนเฉลี่ยความรู้และเจตคติด้วยการทดสอบ t-test , และการวิเคราะห์ความแปรปรวน หาความสัมพันธ์ระหว่างความรู้และเจตคติของนักศึกษาด้วยการวิเคราะห์สัมประสิทธ์สหสัมพันธ์แบบเพียร์สันผลจากการวิจัยได้ข้อค้นพบว่า
        นักศึกษาสาขาวิชาการ โรงแรมและการท่องเที่ยวมีความรู้ ในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเลในระดับปานกลางแต่มีเจตคติในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเลในระดับสูง นักศึกษาที่มีอายุต่างกันมีความรู้ในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเลต่างกัน อย่างมีนัยสำคัญที่ 0.05 นักศึกษาที่เรียน ชั้นปี และสถาบันการศึกษาต่างกันมีเจตคติในการอนุรักษ์ทรัพยากรการ ท่องเที่ยวทางทะเลแตกต่างกันอย่างมีนัยสำคัญที่ 0.05 ความรู้กับเจตคติของนักศึกษาในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเลสัมพันธ์กันในเชิงบวกอย่างมีนัยสำคัญที่ 0.01
        ฉะนั้นจึงควรเพิ่มเติมความรู้ด้วยการทำคู่มือในเรื่องของการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเลให้กับนักศึกษา รวมทั้งให้หน่วยงานที่เกี่ยวข้องมีส่วนใน การจัดกิจกรรมการอนุรักษ์แหล่งท่องเที่ยวทางทะเล ให้กับนักศึกษาได้มีประสบการณ์โดยตรงที่ดีในการนำไปเผยแพร่ต่อไป

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CHAPTER 1
INTRODUCTION

1. Background of the study

The past statistics on tourism in Thailand showed that tourism in Thailand had gradually grown since 2000. There were 9,508,623 foreign tourists visiting Thailand. This brought Thailand in 285,272 million bath (Statistics and Research on Tourism of Thailand, 2001: 1). Although Thailand had tourism competition with several countries in Asia Pacific, these countries could hardly make a success of tourism. Many factors supported tourism in Thailand. For example, Thailand had the safety from natural disaster, the stability of politics and the availability of natural resources. And 53.62 million Thai tourists traveled within country. The income from tourism cost approximately 203,858 million bath.

According to a policy on the development of tourism during 1997-2003, the tourism Authority of Thailand campaigned for tourism as the following:

1. To promote conservation of tourism resources and natural environment with regard to the effective development of tourism in a long term.

2. To encourage local people participating in solving problems of tourism, developing and managing tourism resources.

3. To instill a sense of conservation of tourism resources and natural environment.

Thailand was geographically bordered between two seas ; that is, Andaman sea was lined along the western coast while Thai gulf was lined along the eastern coast. It covered twenty-four provinces of Thailand such as Trat, Chanthaburi, Rayong, Chon Buri, Chachoengsao, Bangkok, Samut Prakan, Samut Sakhon, Samut Songkhram, Phetchaburi, Prachuap Khirikhan, Chumphon, Ranong, Surat Thani, Nakhon Si Thammarat, Songkhla, Phangnga, Phuket, Krabi, Trang, Satun, Phatthalung, Pattani and Narathiwat.

The coast of Thailand was 2,614 kilometers in total length. It was a plentiful source of natural resource and marine creature and biological and physical resource. It included coral reef, sea grass, algae, sand beach, stone beach and several islands. These marine resources were invaluable to ecosystem, economy and society. Also, they maintained a balance in natural environment and they were basic resources for economic and social development of Thailand (Maneemitreejit, 1991).

In addition to beautiful sand beach and seaside, the undersea world was one of the most important marine resources. The beautiful and perfect undersea world was found in the coast of Thai gulf. It covered the areas in Chumphon, Ko Tao and Ko Nang Yuan. Morcover, the undersea world was discovered in the coast of Andaman sea. It covered Ko Surin, Ko Similans, Ko Phiphi, Ko Rok and Ko Tarutao. Ko Surin and Ko Similans were accepted as one of the most beautiful islands in the world (Suwanrangsi, 1995).

Nowadays, the marine tourism resources were attractive to Thai and foreign tourists but these resources were easily destroyed by tourists. Marine tourism was very popular among Thai and foreign tourists. These tourists could destroy tourism resources without being aware of it. The influences from tourism on the natural resources were explained in detail below.

1. Coral was an important marine resource. It was a natural habitat for marine animals and plants. In the past, the coral reef was the source of food but nowadays it become a popular place of tourism. Therefore, the coral reef was legally conserved.

Coral was an ecosystem which was easily damaged ; however, it was a valuable resource in biology. Coral had different colors and it was also the habitat of marine creatures. The coral reef was a beautiful and lively location so it become an important place of undersea tourism. Furthermore, the coral reef was a sanctuary and habitat of marine animals and plants. The coral reef also generated sand to the sea-shore, and decreased the friction force of sea waves so the surface of sea-shore did not fall down.

The coral reef was the greatest ecosystem of marine creatures, it was gathered with several animals and plants. Although the coral reef was available at 0.17 per cent in all oceans of the world, it was the food source and habitat for one-third of all types of marine animals (Thammatha, 1999) The composite of creatures in the coral reef was complex. There was a change and movement of natural force in the coral reef all the time. The coral reef become the source of food for people. Moreover, the advantage of coral reef could be demonstrated as the following :

1. The coral reef was as the wall the provent the erosion of sea-shore from waves and currents.

2. The coral reef produced pure and clean sand for beaches.

3. The coral reef could be changed into building materials for several types of construction.

4. Some creatures in the coral reef could produce toxin to prevent themselves from dangers. The toxin could be extracted as medicine for curing some illnesses.

5. The coral reef was like an important laboratory for ecology.

6. More importantly, the coral reef was a place of undersea tourism. The Thai coral reef was one-tenth of the most beautiful coral reef in th world. It was a very popular place of tourism. This tourism brought a huge income to local community and Thailand (Office of Environmental Policy and Planning, 1998)

2. Shore was a border between sea and coast. It was an area abundant in food from nature. The shore was appropriate for marine animals to lay eggs and to raise their embryo, and it was the habitat of marine animals in some cycles of their lives. The shore was a place to establish the mineral and heavy metal mines. Also, the shore was used to locate dock and harbour. More importantly, the shore had a beautiful view which attracted a lot of tourists to visit.

Whenever, the shore was slightly damaged by outside factors, this damage could destroy the balance of nature which had evolved for a long time. Nature was degenerating rapidly. The restoration of nature was fairly difficult when people demanded to use shore as a location for tourism, or take advantage of natural resources.

3.   Mangrove forest was covered with several types of trees which were not deciduous, or had green leaves throughout the year. The important type of tree was mangrove. In Thailand, mangrove forest was found on the coast, the estuary of rives and canals and the mud area surrounding the island. The mangrove forest was scattered on the eastern coast or Thai Gulf, from Trat to Narathiwat. Moreover, the mangrove forest was found on the western coast or Andaman sea, from Ranong to Satun. The importance of mangrove forest could be listed as follows :

1.   To use trees for burning charcoal and making foundation pile.

2.   To maintain product from fishery.

3.   To keep the balance of ecosystem.

4.   Sea grass was the habitat and source of food for marine animals such as shrimp, shell, crab and several kinds of fish. These marine animals were important to economy and the balance of ecosystem. Moreover, the sea grass could be a sanctuary and a place for marine animals such as crab and several kinds of shrimp, to live, lay eggs and raise their embryo. Therefore, sea grass was an important place for fishery.

5. Marine animals for tourism were various and beautiful. The popular marine animals were mostly fish. There were various kinds of fish in the sea. They had different shapes, colours and behavior. The beauty of undersea world attracted a large number of tourists to visit.

Coral reef, shore, mangrove forest, sea grass and marine animals were regarded as an important marine tourism resources. The abundance and variety of resources were the natural legacy which was important and invaluable to Thailand. The marine resources gave certain advantage in consumption and also provided beautiful scenery. The beauty of marine resources attracted a large number of tourists to visit. These marine resources were not only the source of food for people, but they were also the source of income for local people. Hence, the marine resources had a great impact upon the economy of Thailand.

Marine tourism caused a lot damage to nature, since it leaded to the construction of hotels, service centers other facilities. The increase of construction was the same proportion to the amount of tourists accessing to tourism areas. These

would cause a lot of damage to nature and pollution. And the worst effect was the damage to ecosystem of marine resources such as coral reef, small islands and water resources (Samphorn Maneemitreejit, 1991: 44).

Because of the expansion of tourism and a large number of tourists, there were a lot of damage on marine tourism resources. Tourists could destroy marine tourism resources without being aware of it.

The research of United Nations (Guidelines on Environmentally Sound Development of Coastal Tourism, 1995: 24) showed that natural tourism resource, especially beach, was degenerating because of the behavior of the tourism business's owner. The tourism business leaded to the erosion of the shores. Moreover, a lot of construction and facilities resulted in sediment in water. The water was polluted by engine oil from water-sports machine, traveling ship and garbage. The behavior of the tourism business's owner also influenced on the ecosystem of marine resources. For example, tourists brought the boat into the sea and dropped the anchor striking violently against the coral reef, or tourists liked to buy the coral reef and turtle for decoration and souvenir. The tourism business' owner trespassed on mangrove forest in order to get land for trade and tourism. The extravagant use of water resources had influenced on the ecosystem on islands used for tourism. Therefore, the behavior of the tourism business's owner leaded to the imbalance of nature.

Natural resources were used to satisfy people's needs, while these natural resources were degenerating and finally using up. It would take a long time to restore natural resources. If the problems were still, marine resource, especially coral reef, would be exhaustible or the coral reef would not attract tourists to visit. Thailand and local community would lose income from tourism. The damage of marine ecosystem was gradually severe when we did not find solution for it.

Tourists and the tourism business's owners were an important factor which helped proceeding on the business of tourism in a long term. The shortage of knowledge, good attitude and responsibility of tourists and the tourism business's owners would influence on marine tourism resources. The instillation of knowledge,

good attitude and a sense of responsibility in tourists and the tourism business's owners would decrease damage from tourism.

The tourism management students usually involved with tourists and the tourism business's owners. After the students had graduated, they would do the job as guides. They could show interesting sights on a visit to the tourists. And they had to be responsible for tour and the place of tourism. The guides studied the behavior of tourists and also wrote articles for traveling books and journals. They acted as representatives of mass communication for providing information about tourism and hotel. The guides could instill a sense of responsibility for tourism resources in tourists. Moreover, they could provide information about the damage of marine resources caused by tourism, and encouraged tourists and the tourism business's owners to preserve marine tourism resources in a long term.

In this study, the researcher aimed to analyze knowledge and attitudes of undergraduate tourism management student from Rajchadhat Institute and university towards the conservation of marine tourism resources. This research encouraged the students to point out the importance and value of marine tourism resources for tourists when they did the job as guides. They were able to give knowledge on the conservation of marine tourism resources to the tourists so the tourists could realize the importance of marine tourism resources and damage caused by tourism. This would solve the problem of natural degeneration and decrease a severe impact upon marine tourism resources; therefore, the marine tourism resources could long last.

2. Objectives of the Research

1. To studied knowledge and attitude of undergraduate tourism management students towards marine tourism resources conservation.

2. To compare knowledge and attitude of undergraduate tourism management students towards marine tourism resources conservation among difference groups of variables as follow : - sex, age, educational level, hometown, grade point average,

marine tourism information received, experience in marine tourism, interested in environmental conservation, and education institution .

3. To investigate the relationship between knowledge and attitude of undergraduate tourism management students towards marine tourism resources conservation .

3. Scope of the Research

This study was a survey research. The researcher had grouped the undergraduate tourism management students from four Rajabhat Institutes and four universities as the sample. All institutes and universities were located at the coastal zone. As the listed below:-

1. Kasetsart University, Sriracha Campus, Chon Buri
2. Walailak University, Nakhon Si Thammarat
3. Prince of Songkhla University,(Phuket Campus)
4. Burapha University, Chon Buri
5. Rajabhat Institute Phuket, Phuket
6. Rajabhat Institute Phetchaburi, Phetchaburi
7. Rajabhat Institute Rajchanakharin, Chachoengsao
8. Rajabhat Institute Surat Thani, Surat Thani

The researcher selected student these institutes and universities located at the coastal zone as a sample in this study, since the students were familiar with marine tourism resource and usually saw their beauty and value.

Moreover, the researcher had specified independent and dependent variables, and the scope of this study as were follow : -

Independent variables were sex, age, educational level, hometown, grade point average, marine tourism information received, experience in marine tourism, interested in environmental conservation, and education institution .

Dependent variables were knowledge and attitude towards marine tourism resource conservation.

Independent Variables   Dependent Variables
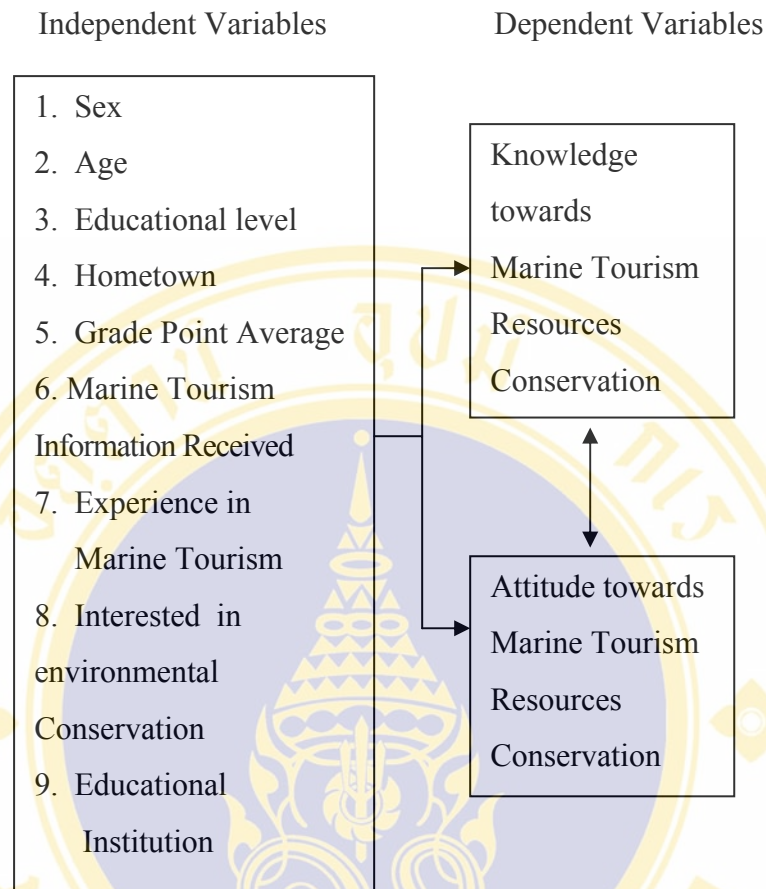
Figure 1 :   Conceptual Framework of this study

4. Hypotheses of the Research

1. The undergraduate tourism management students had good knowledge towards marine tourism resource conservation.

2. The undergraduate tourism management students had good attitude towards marine tourism resource conservation.

3. The undergraduate tourism management students that had differences in sex, age, educational level, hometown, grade point average,   marine tourism information received, experience in marine tourism, interested in environmental conservation, and education institution .

4. Knowledge and Attitude towards Marine Tourism Resources Conservation of students had positive correlation.

5. Operational Definition

Knowledge refer an understanding of facts, information, rules and details of conservation of marine tourism resource. This knowledge included he definition of marine tourism resource, conservation, causes of tourism resource degeneration (garbage in tourism places), the degeneration of marine tourism resource impect and guide-lines on conservation.

Attitude refer an opinion, belief and idea of marine tourism resources, their degeneration (using coral as souvenir) and guide-lines on conservation.

Marine tourism resource refer a beautiful tourism place andnatural resource such as coral, shore, mangrove forest, sea grass and marine animals.

Conservation refer the preservation of marine tourism resources in a long term. The use of marine tourism resource should be mostly reasonable and efficient. Also, the degeneration of marine tourism resource should be at least.

Interested in environmental conservation meant an behavior, feeling and action of people which show interest, impression and realization on the importance and value of natural resources and environment.

Educational Institution refer places providing the programme of tourism management. These places are located in the coastal zone. They include four universities and four institutes of Rajabhat.

Experience in marine tourism   refer the average of times per year of tourism management students to visit beach.

Hometown was the place where the tourism management students had lived before they study at Rajabhat Institutes and the universitieswhich divided in to six regions,There were the North, Cental, South, East, West, North-East region of Thailand.

Grade   point average was the study average scor results of undergraduate students who were studying tourism management from the first year till the present year.

Marine tourism information received was occasion of tourism management students who received   information of marine tourism resource conservation from radio, television, newspaper, mass media, exhibition, traveling books, textbooks, teacher and internet.

6. Benefits from the Research

1. To understand knowledge and attitude of undergraduate tourism management students form Rajchadhat Institutes and universities towards marine tourism resource conservation.

2. To understand factors influencing on knowledge and attitude of undergraduate tourism management students towards marine tourism resource conservation.

3. To establishing guide-lines of knowledge and attitude of undergraduate tourism management students towards marine tourism resource conservation in an appropriate way, so the students could encourage tourists to realize the importance of marine tourism resource and preserved them.

CHAPTER 2
LITERATURE REVIEW

In this study, the researcher studies related literature and then use it as guidelines on analyzing knowledge and attitude of undergraduate tourism management students from Rajchabhat Institutes and universities towards conservation of marine tourism resources. This chapter contains four sections as the following :

1. Knowledge and attitudes

2. Marine tourism Location

3. Marine tourism resource conservation

4. Related research

1. Knowledge and Attitude

1.1 Knowledge

1.1.1 Definition

Bloom (1971: 271) defines knowledge as specific or general understanding of method, procedure or situation. This understanding is based on memory.

Good (1973: 325) gives a definition of knowledge as fact, truth, rule and information which people perceive and collect from their experience.

The Lexicon Webster (Dictionary Encyclopedia Edition, 1977: 531) describes knowledge as things which involved with fact, rule, learning or research, or as an understanding of places, objects or people gained by observation, experience and report.

Praphaphen Suwan (1983: 10) states that knowledge is the basic behavior of learners. They can memorize, recall or perceive knowledge by seeing and hearing. This basic level of knowledge includes an understanding of definition, meaning, fact, theory, rule and solution to the problem.

Vichai Wongyai (1980: 10) explains that knowledge is the primary action which the learner are able to recall and perceive knowledge by seeing and hearing. This basic level of knowledge includes an understanding of fact, rule and definition.

In short, knowledge refers to fact, truth, information acquired directly and indirectly by learning, research and experience of marine tourism resources and conservation. This knowledge can be conveyed from one person to another.

In this study, the researcher defines knowledge as fact, information, rule and detail of conservation of marine tourism resources.

1.2 Types of knowledge

Bloom and his colleagues (qtd. In Thawatchai Chaijirachayakul, 1984: 45) classify knowledge as three types.

1.2.1 Knowledge of specifics is a memory for specific, trivial and independent information. This knowledge can be distinguishable as follows :

- Knowledge of terminology

- Knowledge of specific facts

1.2.2   Knowledge of ways and means of dealing with specifics is as the following :

- Knowledge of conventions

- Knowledge of trends and sequences

- Knowledge of classifications and categories

- Knowledge of methodology

1.2.3   Knowledge of the universals and abstractions in field is as follows :

- Knowledge of principles and generalizations

- Knowledge of theories structures

1.3 Level of knowledge

Bloom (1971: 271-273) divides the performance in knowledge or cognitive domain into six levels. This performance can be arranged from the easy level to the difficult one, as the following :

1.   Knowledge is a performance in knowledge which people can recall and memorize.

2.   Comprehension is a performance in knowledge which people can explain with their words.

3.   Application is a performance in knowledge which people can apply their knowledge to new situations.

4.   Analysis is a performance in knowledge which people can separate a whole matter into small segments.

5.   Synthesis is a performance in knowledge which people can gather all knowledge and information systematically so they can find a new solution to the problem.

6.   Evaluation is a performance in knowledge which people can evaluate things or alternatives.

1.4 Measurement of knowledge

In the stage of data collection, the researcher uses different types of tools for collecting the data. Each tool is appropriate to each type of data. There are several types of tools used to collect the data for a research on social sciences (Phuangrat Thaweerat, 1992: 96). Five types of tools are found in a research on social sciences : 1. Test 2. Questionnaire 3. Interview 4. Measurement of attitude 5. Observation. The most popular tool is the test (Boontham Kijpreedarborisuthi, 1994: 84-88).

Test is an examination which is used for motivating people to produce their reactions. The examination is in the form of question. The examinee can write his answer, show his behavior or answer the question by speech, so the examination takers can measure and observe his answer, and then concludes the result of examination. Test can be used to study the examinee's intellect of Buddhism in the aspects of emotions and skills (Phuangrat Thaweerat, 1992: 96).

Wichian Ketsing (1987: 12-15) classifies types of tests according to the method of making test, the purpose of using test and the pattern of questioning and

answering.   These types of tests are appropriate for individual use of knowledge measurement. As the following :

Test based on the method of creation can be divided into two types as follows :

1.   Test made by the researcher : This test is created according to purposes of tryout. The researcher makes the test and try it with the representative sample. After that the researcher analyzes the quality of test. He corrects mistakes in the test until it becomes qualitative and ready for the real trial. The qualitative test should have delicate discrimination, moderate hardiness, high reliability and validity.

2.   Standardized test : This test is adjusted so it is reliable to use in the real test. After the test has been tired, either examiner or calculator will check it and receive the approximate result. The standardized test specifies the clear method of doing the examination and checking it. Also, this test identifies norm or average of population who do the test, and indicates the value of reliability and validity of the test.

Test based on purpose of the use can be divided into seven groups as the following :

1.   Achievement test is used to measure level of knowledge, ability or skill of learners at the present.

2.   Readiness test is used to measure the learners' readiness for learning or not.

3.   Intelligence test is used to measure cognitive ability, learning ability, and the ability to gather experience and apply it to new situations.

4.   Diagnostic test is used to check defects or weak points in each subject which the learners attend. This type of test is useful to adjust studying and teaching.

5.   Aptitude test is used to foretell behavior or special skill potentially happened in the future.

6.   Personality inventories are used to measure needs, difficulties in adjustment and values. This type of test can be classified as three types as the following :

- Attitude towards people, things, action, society and country

- Interest in occupation, hobby and so on.

- Adjustment, especially emotion

7. Vocational interest inventories are used to measure interest in occupation.

Test based on the pattern of questioning and answering can be divided into two types as the following :

1. Essay Test : The examiner specifies questions and the examinee writes the answer.

2. Short Answer Multiple Choice Test : The examiner specifies questions and the examinee gives short answer, or chooses answer which the examiner provides. There are four types of answer in the test. As the following :

- Short Answer Item

- True-False Item

- Matching Item

- Multiple Choice Item

2. Attitude

2.1 Definition

The dictionary of education defines attitude as tendency or reaction to a matter, situation or value. Normally, emotion and feeling are related to attitude. The attitude cannot be observed, but the hidden emotion can be expressed by speech and gesture.

Thurstone (1967: 77) states that attitude is the human center of feeling, prejudice, thought and fear of something. Attitude can be shown by speech. Opinion results from attitude. When we need to measure attitude, we can measure it from people's opinions to a stimulus.

Allport (1953: 810) states that attitude is the brain and nerve's readiness of people. The working of brain and nerve is systematic correspondingly to

people's experience. This will have a direct result and influence on people's reactions to all things relating to them.

Gilford (qtd. in Sawat Sukhontharangsri, 1974: 231) defines attitude as tendency of mind in the positive and negative way : agree, support, dislike, disagree or unsupport, to an action or a matter in the society.

Praphaphen Suwan (1983: 14) gives a definition of attitude as an opinion aroused by emotion, so people are ready to do something. Attitude helps people's adjustment, and prevents them from showing their values in an inappropriate way. Attitude also helps people understand their surroundings. And their past experience leads to attitude and identifies it in positive or negative way.

Boontham Kijpreedarborisuthi (1991: 234) states that attitude is the behavior and gesture reacting to such stimuli as object, event or people.

Chertsak Khowasin (1979: 93) defines attitude as people's feelings for many things in the world. These feelings result from learning and experience, and they motivate people to show their behavior or potential action on a stimulus in any direction. It may be positive or negative way.

Winai Weerawatthananon (1989: 39) states that attitude is people's feelings for abstract or concrete things.

In short, attitude is a behavior which is concealed in people's mind. It results from perception and experience, so people are ready to react to a stimulus in supported or unsupported way. Attitude cannot be observed and measured directly; however, it can be measured by people's opinion on the stimulus.

2.2 Components of attitude

Bloom and his colleagues (qtd. in Sunan Solkosum, 1982: 30) state that attitude is a feeling for several things. It initially results from perception, reaction, valuation and preservation, and finally it becomes people's habits. Attitude cannot be clearly identified with any stages of emotions. It is composed of three important components as follows:

1. Cognitive or believe component is people's perception or belief in a stimulus.

2.   Feeling or evaluative component is people's behavior and gesture which show satisfaction or dissatisfaction, and positive or negative view on a stimulus.

3.   Behavior component is the tendency of action or behavior towards a stimulus in any direction.

Rosenberg (qtd. in Thiphaphan Sunthornphiphit, 1981: 37) states that attitude consists of two components as the following:

1.   Cognitive component is the belief in attitude that encourages or obstruct people to fulfill their value.

2.   Affective component is people's feeling aroused by attitude.

Robert Travers (qtd. in Winai Weerawatthananon, 1989: 39) states that attitude can be classified as three characteristics as follows:

1.   Affective components are sudden feelings for seeing something-like/dislike, love/hate, beautiful/ugly and positive/negative.

2.   Cognitive components are attitude resulting from people's analysis in their mind. Then, people conclude that their thought should be accepted by themselves or other people. Obviously, the cognitive process is probably fundamental of establishing people's attitude. This type of attitude relies on belief and knowledge of people.

3.   Behavior components are attitude towards some actions. For example, people do not throw away waste in the footpath. This shows that people possess affective component or cognitive component, so they can know that throwing away waste makes the footpath dirty; also they are not responsible for the society in which they live. People do not throw away waste in the footpath. Attitude towards this action has a defect that some people have done something while their thought is different from their action.

2.3 Measurement of attitude

The definition and components of attitude mention cognitive or believe component, feeling or evaluative component, and behavior component. The measurement of attitude focuses on these three components. We should measure

these components in general and consider the reactions to the stimulus in every aspect. We should not measure some actions or behavior of people. Moreover, the measurement of attitude should identify the magnitude of attitude towards the stimulus, and the direction of attitude in positive or negative way (qtd. in Boontham Kijpreedarborisuthi, 1988: 66).

Principles of attitude measurement

The measurement of attitude has three primary principles as follows :

1.   Content : Attitude can be measured by the stimulus leading to behavior and gesture. Generally, the stimulus is the content needed to be measured. For example, we want to measure attitude towards the decision on family life. The content of stimulus includes situation of decision on family life, e.g. selecting partner in marriage, appropriate age for marriage, suitable time for having children, family's size and the relationship between members of the family.

2.   Direction : Attitude can be measured in straight and continuous direction. The direction may be from left to right side or in the positive or negative. It states from absolutely agreement, agreement, apathy, disagreement or absolutely disagreement. The views of agreement and disagreement are in the same straight and continuous direction.

3.   Intensity : The strength of emotion, behavior and gesture has different influences on the stimulus. The high intensity of attitude results in more severe emotion, behavior or gesture than the moderate one.

Methods of attitude measurement are as follows :

1.   To observe people's behavior is a difficult method. The result could not infer attitudes from people's behavior. The data from observation could deduce people's attitudes towards one matter.

2.   To inform with speech is a method which measures people's attitudes with the objective test by means of questionnaire or interview. This method is popular, and it can be used to comparatively study attitudes of several people at one time.

3.   To interpret is a method which measures people's attitudes with the subjective test. This method is appropriate to study attitudes of a few people,

since it needs a lot of time in measurement. The examinees can express their feelings for the answers without the limit of time and scope of the matter.

As mentioned principles and methods of attitude measurement, the researcher views that the attitude measurement should mostly give freedom and independence to the examinees, so the examination takers can receive the most accurate and reliable result. In this study, the researcher uses the method of attitude measurement with interpretation from the rating scale. The rating scale is widely used in the research of social sciences and behavioral science. It can measure people's behavior in several aspects such as skills and affective domain. For example, the rating scale measures people's skills, opinion, belief, attitude, value and personality.

Characteristics and types of rating scale.

Characteristics of rating scale.

The rating scale is a tool which measures the abstract with the quantitative comparison. It is widely used to measure behavior or such abstract as goodness, honesty, value, attitude, belief, cleanliness, appropriateness and other actions, which cannot be measured directly with numeral figures. The important characteristic of rating scale is the answer which shows the quantitative comparison. The examinees evaluate the situation of the stimulus which is specified by the examiner. The examinees must choose only one answer.

Types of rating scale

The rating scale can be divided into two main types (qtd. in Boontham Kijpreedarborisuthi, 1988: 67). Both types of rating scale are:

1. Noncomparative Rating Scale : With this type of rating scale, the examinees evaluate the stimulus according to their emotion and opinion. They can compare their evaluation with any principles which they accept. Each examinee can specify his principle which is not the same as one of others. The popular type of rating scale is mostly similar to noncomparative rating scale. It also includes Therstone's Scale, Likert's Scale and Osgood' Scale.

Noncomparative Rating Scale can be classified as two types :

1.1 Graphic Rating Scale : This type of rating scale is continuously evaluative process. The examinees evaluate the stimulus, and then mark

graphic line that the description of quality is at the beginning and the end of the graphic line. Also, there are numeral figures indicating the scale at each rang of the line. This type of rating scale has equal length of lines in each item and no restriction of the beginning range of the line. The examinees can choose to mark anywhere on the graphic line.

　　　　　1.2 Itemized Rating Scale : This type of rating scale is specified with text, word, number or symbol as the answers for the examinees. There are three types of answers in the rating scale. As the following :

　　　　　1.2.1 Textual answer : The examinees will choose answers as words or texts which are comparatively arranged each other. The answer of the rating scale is ranged from high to low evaluation. The examiner can specify the amount of his answers more or less. The amount of answers depends on the examiner's need. He needs a rough test so he can specify a few answers. Its result is more rude and less reliable than the delicate test with lots of answers. Generally, two to seven answers are found in the test. They are as follows: absolutely agree, agree, uncertain, disagree and absolutely disagree.

　　　　　1.2.2 Graphic answer : The examiner specifies the graphic line that the description of quality is at the beginning and the end of the graphic line. The graphic line is composed of answers and numeral figures. The examiner limits only five answers at least. Seven answers are generally found in the rating scale.

　　　　　1.2.3 Percentage answer : The examiner limits the amount of answers in percentage, approximation and arrangement. Generally, eleven answers are sorted by per cent as follows : 0　10　20　30　40　50　60　70　80　90 and 100 per cent. The examiner can specify percentage less than this one. The main principle is the division of 100 per cent into the equal range, and identification of description at the beginning and the end of the rating scale.

　　　　　2. Comparative Rating Scale : This type of rating scale is used for comparison according to any principles. The examinees must use the rating scale for comparison as one which is provided by the examiner; however, the rating scale

would be standardized or not standardized. These are several types of comparative rating scale listed below.

              2.1 Graphic and Itemized Comparative Rating Scales have no principles of comparison so both graphic and itemized comparative rating scales have the same characteristics. Therefore, principles of comparison are provided for the graphic and itemized comparative rating scales.

              2.2 Paired Comparisons consist of two pairs of texts specified by the examiner. The examiner compares that the examinees like or agree with one. In some books, paired comparisons are named as forced choice scales, since the examiner forces the examinees to choose only one answer which they prefer most. In reality, the examinees prefer or agree with both answers.

              2.3 Bipolar Scale Formats are similar to paired comparisons ; that is, two pairs of tests are specified by the examiner. Both texts are the same. The examinees must choose five answers. Each answer has its different scores according its rank.

              2.4 Rank Order Rating Scales are similar to paired comparisons. The examinees must compare all answers specified by the examiner. Then, the examinees mark numeral figures according to the importance of answers, or the ranks of answers in the rating scale.

              In this study, the researcher chooses noncomparative rating scale as a tool for measuring people's attitudes. This rating scale follows Likert's Scale. It is composed of questions with two directions, positive or negative. And it also contains five levels of intensity as follows : absolutely agree, agree, uncertain, disagree and absolutely disagree, respectively.

2.4 Relationship between knowledge and attitude

          Knowledge and attitude have a close relationship for a learning. The good attitude, emotion and feeling motivate learners to have a better understanding in their study and develop their intelligence quotient. When people have good attitudes towards something, they will study that new knowledge rapidly and accurately. They

are able to memorize that knowledge and apply it for their daily lives when it is required. (Thawatchai Chaijirachayakul, 1984: 39)

2. Marine Tourism Location

Thai sea is a vast expanse of water in the world. It lines on the equator or Indo-Pacific. Its area is large more than 378,000 square kilometers. Thai sea has specifically geographical features such as a sheet of water, islands and isles, continental shelf, underwater pinnacles, shore mangrove forest, stone beach, sand beach, peninsula, bay, cliff and hill rock. The coastal area on Thai gulf and Andaman is 2,614 kilometers in the total length. This area covers 24 provinces of Thailand.

The coast of Thai sea includes mangrove forest, mud beach, sand beach, and stone beach. These natural features are beautiful, and they are important sources which lead abundance to Thai sea in different ways. Some areas are plentiful of sea grass and coral reef. (Somsuk Mijchacheep : 1986: 185)

Thai gulf

Thai gulf is a part of Pacific ocean. It consists of the coast on the East and the Southern part of the eastern coast. This area is close to Ranong, Chumphon, Prachuap Khirikhan, Phetchaburi, Samut Songkharm, Samut Prakan, Bangkok, Chon Buri, Rayong, chanthaburi and Trait. Thai gulf is a large gulf with closed sea. There are several main rivers in the Centre of Bangkok such as Mae Klong, Tha Chin, Chaophaya, Bangpakong and Songkhla river in the South. These rivers carry minerals from soil, sediment, mud and clay to Thai gulf, so Thai gulf is one of the most abundant areas in the world.

Thai gulf is one of the most abundant areas in the world, since several lines of opened rivers flow into Thai gulf. Four rivers such as Bangpakong, Chaophaya, Tha Chin and Mae Klong flow into the innermost depth of Thai gulf. Serveral rivers also flow into other parts of Thai gulf. The most important part of Thai gulf are from Yuan Peninsular to Kota Baru. In this area, there is a high ridge under Thai gulf so

the water circulates into Thai gulf. The interflow of water is little in Thai gulf. The water in Thai gulf is abundant so a lot of marine animals live in Thai gulf.

Andaman sea

Andaman sea is a part of India Ocean. It is close to the coast of Ranong, Phangnga, Phuket, Krabi, Trang and Satun. Andaman sea is 894.4 kilometres in the total length. The area of sea shoulder is approximately 350,000 square kilometers. In Andaman sea, there are a lot of distinctive islands and important islands of Mayanmar, India and Malaysia. Andaman sea therefore has a variety of biological resources, cultures and tradition of community in islands and coasts.

The territorial waters of Andaman sea in Thailand starts from Ranong. There are 62 small and large islands in this area. These islands are the most abundant resources of mangrove forest in the world. Another territorial waters is in Phangnga. Phangnga gulf is crowed with more than 100 islands. Each island has beautiful and distinctive shape. The change of earth surface results in the subsidy of the western coast, so this change produces the seawater overflowing the coast. The erosion of the coastline by seawater leads to several characteristics of limestone mountains such as Tham Lotyai, Tham Lotnoi and Khao Phingkan.

Moreover, Ko Similans are islands which are far from the land approximately 70 kilometres. Ko Similans have an abundance of natural resources and beautiful scenery of forests on the islands, beach, coral reef, and underwater pinnacles. Beyond Ko Surin, there are five important islands, and the surrounding areas of these islands have a lot of beautiful coral reefs at shallow water. The islands are also plentiful of forests.

The most important island in Andraman sea is Ko Phuket. Its history has been famous from the past till now. Ko Phuket has a lot of beautiful beaches and islands such as Ko Rachayai, Ko Maithon and Ko He. Ko Phuket is the most famous center of marine tourism in the world.

Below the territorial waters of Krabi, there are 135 small and large islands such as Ko Poda, Ko Phiphi and Ko Lanta.

Trang is plentiful of mangrove forest, coral reef, and long and beautiful beaches such as Hat Chaomai, Ko Ngai, Ko Muk and Tham Morakot. Tham Morakot is a sea cave which has a beach surrounding high cliffs. Ko Libong has an abundant ecosystem of sea grass, and it is the habitat of large school of sea cows in Thai waters, including a flock of sea birds which flee from the cold weather and live in Ko Libong. Ko Kradan has a beautiful beach with pure and delicate sand and a plenty of coral reefs at shallow water.

The southern waters of Andaman sea of Thailand is Satun. Satun is frontier province which is next to Malaysia. It consists of 83 small and big islands. The national park of Tarutao has 51 small and large islands such as Ko Adang and Ko Rawee. Both Ko Adang and Ko Rawee have an outstanding beauty, pure water, plenty of coral reefs, and a variety of the flock fish and marine animals. Ko Lipe is the residence of fishermen whose tradition is ancient and interesting. The coral reefs around the Ko Lipe are beautiful and colourful. Furthermore, Ko Phetra is between Trang sea and Satun. It consists of distinctive and outstanding shapes of islands. Ko Phetra also has beach with pure sand, colourful coral reefs and several kinds of fish.

Biological variety

The ecosystem of Andaman coast is complicated and various. It includes stones beach, mud beach, sand beach, mangrove forest, sea grass and coral reef. The coral reef in Andaman sea can spread in different environment. The distinctive marine resources are as follows :

Stony coral (Scleractinia) : In the Thai waters of Andaman coast, there are 240 kinds of stony corals. The coral reefs in Ko Surin and Ko Similans are accepted as the most abundant resources in the Thai waters. Both Ko Surin and Ko Similans have a variety of coral reefs which are the most abundant and invaluable, especially Acropora Echinata Group. It is mostly found in Ko Surin and Ko Similans. Fire coral and hydroid are grouped into Hydrozoa. Both fire coral and hydroid are mostly found in the area of coral reefs. Black coral has six tentacles which cannot shrink as other kinds of coral reefs. Black coral can be found in hillrocks with strong streams.

Palythoa eaesia, Protopalythoa sp. And more than ten kinds of sea anemone live together with the cartoon fish.

Soft coral : A lot of soft corals are found in the cliffs with strong streams, or cover the stone which is hit by strong waves. The families of soft corals which are mostly found are Dendronephthya, Nephtea, Sinularia, Sarcophyton, Lobophytum and xenia. Sea fun is the sub-family of soft coral. Blue coral (Heliopora Coerulea) is also the sub-family of soft coral and sea fun, but blue coral can build limestone as stony coral. Both sea fun and blue coral are mostly found in the area with strong streams. Sea pen is the close family to soft coral and sea fun. Only three families of sea pen are found in the sand or mud.

Algae : Algae has an important role as the primary food for marine animals. Several kinds of alga are found. For example, blue green alga, green alga, red alga and brown alga have different shapes, and they also live in different environment. Some alga can produce limestone with sea grass. There are twelve kinds of alga in the Thai waters and ten kinds of alga in Andaman coast. Algae is important to the marine ecosystem, since it is the habitat of marine embryo. Moreover, algae is the food source of marine animals, especially endangered animals such as sea turtle and sea cow.

Prawn, shrimp, crab, shell and squid.

Echinoderms are starfish, sea urchin and sea cucumber. They have different shapes.

Fish is marine animal which is various and interesting. It differs in kinds, shapes, colours and behavior. More than 800 kinds of fish lead to the beauty in dimension of marine tourism.

Such mammals as dolphin, whale and sea cow are attractive to divers to visit them.

The biological variety in Andaman sea is so valuable that we should be in conservation, so these resources can be used in a long term. To instill a sense of responsibility and good value in people will be necessary as an endless work.

3. Marine Tourism Conservation

Knowledge on conservation

Kasem   Chanthrakaew (1987 : 99) stated, "Conservation meant keeping, preserving, repairing, improving, and using natural resources and environment for a better quality of human life or using of immediate needs and saving for future use".

Chayaphorn Chuenroongroj (1993 : 40 – 46) commented that conservation was a process to enhance using tourism resources, had undertaken research properly. People thought that conservation was a development obstruction, but actually it was using resources correctly under balancing of natural resources. It made a success to tourism industrial development in the long run.   Environmental and natural conservation were to be done continuously and systematically.

Winij Jeerayargkoon (1990 : 72) stated, "Tourism resources were worthwhile that the authority or people involved should help to conserve to a beautiful, extraordinary, and impressive condition for tourists all the time.   In general, natural resources conservation meant good keeping of natural tourism resources by correctly used and made the most benefit out of it.   It also included keeping natural tourism resources in a good shape as long as possible.

In conclusion, conservation of environment and tourism resources meant keeping these things as long as possible.   In case of using environment and tourism resources, it should be used worthwhile and reasonably.   It should give the most benefit and lose the least environmental and tourism resources.

The study for specifying marine tourism resources (1998 : 17) was divided these resources as follow : -
1. Marine resources in tourism places
    1.1 Coral reef and pinnacle

- Coral reef at shallow water or emerging from the water

- Coral reef at moderate depth of water, not deeper than three meters.

- Coral reef at a depth of 10-30 meters

- Pinnacle

1.2   Sand beach, stone beach and pebble beach

- Beach with delicate and rough sand, and the debris of shell and coral reef.

- Sand beach with mud / mud beach

- Sand bar / sand dune

- Pebble beach

- Stone beach / coral stone / stony peninsula

1.3   Mangrove forest

- Mangrove forest with flood all the time

- Mangrove forest with flood sometimes/spring of brackish water

- Mangrove forest next to highland forest

- Beach forest

1.4   Sea grass

- Sea grass on mud beach

- Sea grass on coral flat land

- Sea grass at deep water

- Sea grass off the coast

1.5   Marine animals

1.6   Areas with other types of terrain features

- Cave at the coast

- Lean-to cliff

- Stony cliff

- Ancient carcass (plants and animals)

- Lake or pool in the middle of valley (island)

- Mouth or river and canal

1.7   Community

- Community of islanders

- Community of islanders and villagers

- Fishery and agricultural community of the coast

- Archaeological site and underwater archaeology

1. **Diving**

    Diving is an amusing activity which the tourists can closely see the beauty of marine resources such as coral reef, sea anemone and several types of fish. Tourists can also dive to see the debris from shipwreck. In Thailand, diving is available at many places in Andaman sea and Thai gulf such as Ko Sichang, Ko Lan, Ko Surin, Ko Simillans and Ko Tao. Moreover, the divers co-operate on the project of conservation. They dive to collect the waste under sea, or make artificial coral reef into the habitat of fish. This activity is held at Pattaya. There are two kinds of diving, as the following :

    1. Diving at shallow water or diving at the surface of water : The drivers do not use artificial respiration. They use only snorkels which help them breathe and dive at a depth of 0.7 meters or less.

    2. Diving at deep water : This diving differs from diving at shallow water because the divers must use artificial respiration. Tourism can dive at a depth of 0.9 meters or more (Center of Forest Research, Faculty of forestry, Kasetsart University submit to TTT. 1995).

2. **Sea-walker**

    Sea-walker is an activity which the tourists can touch nature and study marine animals such as coral reefs and several types of fish. Tourists can walk in the sea as they walk on the land. They can breathe with air pump on the boat. The air is carried from the tube to glass covers which tourists wear. The places which provide the activity of sea-walker for tourists are Ko Lan, Chon Buri and Ko He, Ko Phuket. Nowadays, the issue of license to the business of sea-walker and diving is controlled for tourist' safety and standard of tourism activity.

3. Relaxation and recreation on the beach

Relaxation and recreation on the beach are the activities for tourists' amusement, basking in the sunshine and playing sports on the beach. Tourists can exercise and do activities of recreation everywhere on the beach, especially beach with delicate sand, peaceful sea with a few waves.

4. A visit to the village of fishermen and islanders

Tourists can visit the village of fishermen and islanders so they can learn fishermen and islanders' lives and customs. For example, tourists can learn the culture of islanders named Morgan at the national park of Ko Surin. Morgan's culture is unique. Moreover, tourists can study the arts of bole boat, and beautifully decorative design of boat by fishermen on Panare beach.

5. Sailing

1. Canoe is a type of boat which tourists use to sail along the coast, cliff, hillrock and a cave with pre-historical paintings on the wall. For example, tourists sail into the cave of Khao Khien, Phangnga. Also, tourists can sail their canoes along the mangrove forest in order to see several kinds of birds, and they can learn the lifestyles of fishermen who live on the coast. Therefore, tourists can take pleasure in nature, control their canoes and exercise.

2. Kayak is similar to canoe, but their shapes are different. Kayak is streamlined but canoe is big and short. One or two people can sit on the kayak according to its length. People have to use paddle to move kayak through the water. Kayak have no engine so it does not result in loud noise. Kayak is appropriately used for floating along the stream to see the beauty of natural scenery, and to study the ecosystem on the surface of water or in the mangrove forest. Kayak is so small that it can follow along the mangrove forest or pass through a cave. The activity of sailing kayak is very popular in Krabi. There is an activity of sailing kayak to see the beauty of nature in Phranang gulf, so tourists can use the service for hiring kayak.(Update Magazine : November, 1996)

3. Yacht is a type of boat which tourists can sail to see the beauty of nature in the sea. Tourists can conveniently visit islands which are very far from the coast.

4.   Sailing-ship is a type of boat with comfortable facilities. Tourists can visit many places in the tourism program, and also get knowledge of the ecosystem of nature during the trip.

6.   A study of nature according to tourism program

A study of nature according to tourism program is an activity to encourage tourists to enjoy seeing the beauty of nature, and studying several kinds of plants and animals in each area which is specified in tourism program. The tour guide shows and explain important places to the tourists. He makes posters explaining tourism places so the tourists can distinguish the differences of each place. For example, the tourists can see the differences between beach and mangrove forest. This activity is arranged at the national parks such as the national park at Chaomai beach in Trang and Ko Similans in Phangnga.

7.   Sighting of birds

Sighting of birds is an activity which tourists can learn the nature of birds. Tourists can practise observing and noting the birds' characteristics and the habits of birds migrating from other places. Tourists should study some information about birds before sighting of birds, so they enjoy sighting birds. The sighting of birds makes tourists have a sense of conservation. Nowadays, a lot of tourists are interested in sighting birds. Many people co-operate to establish a group or club for sighting of birds ; for example, Conservative Club of Birds and Nature of Thailand. There are many places of bird sighting in mangrove forest or several islands such as Ko Lantanoi in Krabi, Ko Surin in Phangnga, and forbidden area for hunting wild animals in Ko Libong in Trang.

8.   Riding mountain bike

Riding mountain bike is an activity which tourists ride mountain bike to visit beach or rough area. This activity is appropriate for tourists who like to appreciate nature in an adventurous way. It will provide convenience and excitement for tourists. Tourists can exercise, and conveniently visit islands and beach such as Ko Phuket and Ko Chang in Trat. A lot of Thai and foreign tourists are interested in riding mountain bike.

9. Climbing the mountain

Climbing the mountain is an activity which fulfills tourists desire of challenge and difficulty which the nature creates. The coast of Thailand has geographical feature as high cliff which can be found everywhere. For example, Phranang gulf in Krabi is a popular place where a lot of tourists like to climb. The activity of climbing the mountain needs safety so the equipment for climbing the mountain should be standardized. Moreover tourists' can exercise and touch the beauty of geographical features in each area of Thailand.

10. Camping

Camping is an activity which tourists can live in nature, and closely touch the beauty of nature. Tourists can find peace and relax in the forest while the town is crowded with traffic and people. The activity of camping are different during the day and night. For example, tourists can see the lives of plants and animals at a day. They can also see the stars at night. Several places are used for camping ; for example, the areas of the coast, islands and national parks are arranged for tourists to have a camp.

11. Walking into the forest

The activity of walking into the forest makes tourists touch the nature closely. Tourists walk into the forest, and visit beautiful and attractive scenery. They can see the beauty of nature and they also learn the nature by observing it from two sides of their path. The activity of walking into the forest can be divided into two types. The first type is that tourists have an adventure in the forest. They will be excited with their trip, since they have to climb a high mountain. The second type is that tourists walk into the forest in a short way. They do not face difficulty in their trip as the first type. They can learn the nature and also be impressed with its beauty. Several places are provided for this activity. For example, tourists walk into the forest in the national park of Tarutao.

12. A study of sky and astrology

A study of sky and astrology is an activity which tourists have chances to study sky and astrology. They can learn types of stars and constellation, shape, position, orbit, history and mythology of those stars. The beach is an appropriate

place for this activity, since it is uncovered from any buildings. However, the constellation changes each month.

13. Viewing natural scenery

The activity of viewing natural scenery makes tourists touch the nature and see its beauty. Tourists can view natural scenery from the beach, cliff, hillrock or mangrove forest. Moreover, tourists can see the beauty of sunrise and sunset. Several places are appropriate for viewing natural scenery. For example, tourists can view the beauty of sunrise and sunset at Phromthep peninsula in Ko Phuket.

14. Windsurfing

Windsurfing is an activity which gives pleasure and excitement to tourists. Tourists use their ability and skills to surf on a surfboard. They should know series of waves and understand the nature of wind. A surfboard is important for windsurfing. It should have appropriate size for the windsurfer. The places which are suitable for this activity should have strong wind and waves. The popular places where Thai and foreign tourists like to windsurf are Chomthien beach in Chon Buri, Phuket beach and Ko Kradan in Trang.

15. Fishing

Fishing is an activity which challenges the capability of tourists. Tourists should know the places with a plenty of fish they need. Tourists can know it from the villagers who live in that community. The villagers can show appropriate places for fishing. Tourists enjoy fishing and exercising, and they can study the lives of fish and their behavior.

16. Viewing pre-historical paintings

The pre-historical paintings in the caves or cliffs have been made by the villagers or travelers for a long time ago. For example, the pre-historical paintings are in Tham Viking in Krabi. The paintings can reflect the activities and lifestyles of people in that community. When we appreciate the paintings, we can understand the lifestyles of ancient people.

17. Submarine – marine tourism resources

Activities of using submarine to see coral reef under the sea were in Phuket which it took about one and a half hour to two hours to be there by boat,

depended on the weather.   The submarine left Ratchada port to Flower island (Dok Mai island), cost 2,500 Baht each.

Marine tourism resources at important tourism spots

Coral Reef

   Definition of coral reef

          Coral is a type of sea animals without backbone. It is grouped into Coelenterate. The soft inside of coral is covered with limestone. The small organism inside the coral builds the limestone cover into different shapes such as a sheet, piece or branch. This cover has stretched till it becomes coral reef under the sea. The distinctive characteristics of coral are hollow inside, and have two layers of tissues. Between the two layers are isinglass.

          A coral is called Polyp, and groups of coral is called colony. Several kinds of coral, which are grouped together, are coral communion.

          Each branch or head of coral has a lot of Polyps, which are connected together by their tissues. The groups of coral are called colony. Some kinds of coral have only one Polyp. For example, Mushroom coral is a mass coral with one Polyp.

   Life cycle and the growth of coral

          Normally, the coral inhabits with one-cell seaweed, Zooxantallae. This seaweed is a sanctuary for the coral. In the daytime, the coral hides itself in the strong cover, and it extends its tentacle to catch small prey flowing into he water at night. Moreover, the seaweed is another food for the coral.

          When the coral is fully grown, it could reproduce itself by two ways : First, both male and female corals live in the same body, or for some kinds of coral, male and female live sedately. Female coral lays eggs in water while male coral leaves semen to inseminate eggs. But for some kinds of coral, male leaves semen to inseminate eggs inside the female body. When eggs are grown into embryos, the female leaves them in water. These embryos will settle on an appropriate shelter, and grow. Second, a separated coral rests on an appropriate shelter then it multiplies cell. The new cells are connected together as a branch or a mass that we name it Colony.

Its different shaped depend on kinds or coral grouped together as a coral reef. This way is not sexual reproduction in coral. (Institute of Biology and Fisheries, 1998: 6)

Factors that influence the growth of coral

Several factors have influenced the growth of coral.   As in the following :

1. Light : Although the coral is a type of sea animals, a one-cell seaweed can inhabit in the coral's tissues. The seaweed needs light for photo synthesis, so the coral cannot live in water with insufficient light. This is due to the deepness of water or turbid water. Generally, the coral is found in water at a depth of 50 meters, but in some places of Thailand the coral can be found in that depth.

2. Temperature : The coral can stay in water at a temperature of 18-26° C. The coral are only found in the tropical zone, not in temperate zone or cold climate zone.

3. Saltiness : The coral can live in water with saltiness between 30 and 36 portions per 1,000 portions. And the coral is not found in water with low saltiness.

4. Sediment : Sediment makes the water turbid. Light cannot shine through turbid water well, so the coral can be only found at shallow water. Otherwise, it would not be found in turbid water. It lots of sediment lays on the coral, the coral would die.

5. Minerals in the sea : The coral needs minerals in the sea for its growth. However, a lot of minerals make seaweed grown quickly. The seaweed covers the coral, so it cannot get light and finally dies.

6. Underwater waves and currents : This occurrence of underwater waves and currents is complex. The coral needs good flow of water, and it cannot stand strong waves and currents. Moreover, these waves and currents make the deposit of sand diffused (Thorn Thamrongnawasawat, 1995: 4)

The ecology of coral

Most of coral reefs are found on the coast of island. This area is flooded with water. The water has moderate temperature and saltiness, and it is also pure. Coral reef is just the limestone ridge under the sea. It results from the deposit of coral debris and limestone from other creatures inhabiting in the coral. With geological process, the limestone merges together. In Thailand, we cannot find the coral reef which has been formed for a long time. Most of coral reef has just developed into the limestone ridge as previously mentioned. It is regarded as a young coral reef or coral assemblage which is found in the inner part of Thai gulf.

The ecological system of coral is abundant. A crowd of several creatures live in the coral, and they will adapt their shapes, colours, behavior and livings to the surroundings. For example, cartoon fish and sea anemone live dependently together. Therefore, the coral reef is an attractive place for marine tourism.

The classification of coral reef according to ecological features

Sir Charles Darwin, an English naturalist, divided the coral reef into three types of evolution ; Fringing reef, Barrier reef and Atoll. See figure 3.1. Three types of coral reef are described as follows :

1. Fringing reef has evolved near the coast or distant from the coast about 10-10,000 meters. The fringing reef can be found in several islands. In Thailand, most of coral reefs are fringing reefs.

2. Barrier reef is more evolvable and aged than fringing reef. The barrier reef can be found very distantly from the coast. It is considered as a wave obstruction. A salt lake or large channel of water is between the barrier reef and coast.

3. Atoll is the coral reef whose shape is a ring or horseshoe. The atoll is the most evolvable coral reef. It is generally found in the middle of ocean where the earth crust has a movement. However, the atoll is not found in Thailand.

Beside three types of coral reef mentioned above, some distinct coral reef are found in several parts of Thailand. For example, the coral assemblage is found in Thai gulf. It has just developed into the limestone ridge under the sea. Moreover, the patch reef is widely scattered at shallow water in some islands such as Ko Mak and Ko Kradat in Trat.

In Thailand, most of coral reefs are the coral assemblage and fringing reef. Their morphology is similar. The coral reef can be divided into three types according to their zonation ; reef slope, reef edge and reef flat.

Nevertheless, the coral reef in Thailand can be classified as eight types according to he outside features, as in the following :

1. Staghorn coral has its shape similarly to staghorn. A lot of blisters are around the branch. These blisters are the habitat of polyps.

2. Flat coral expands itself into a flat sheet as the surface of table. In some areas, we can find an overlap of the flat coral.

3. Coating or entrusting coral expands itself to coat or entrust its base which it adheres.

4. Hump coral is a hump-shaped coral like a stone.

5. Semi-hump coral grows into cluster but it does not adhere to each other.

6. Sheet coral grows overlappingly into cluster as a bunch of leaves or vegetables.

7. Mushroom coral has its shape like a mushroom.

8. Branch coral grows and has its shape like the branch of a tree (Jamlong Arunleutaree, 1997: 43-44).

In Thailand, the coral reef can be divided into four types according to terrain features. These are :

1. Coastal coral is mostly the density of hard coral. This coral is beneficial to the marine ecosystem, since it is the habitat for small creatures and reproductive fish.

2. Beach coral is a newly formed coral.

3. Hillrock coral is a small coral which is formed on the hillrock under the sea.

4. Soft coral (qtd. in Phetchmalay Thamtha, 1999: 48)

Types of marine tourism

There are several types of marine tourism. The marine tourism can be divided into two groups ; 1) activity with an indirect touch of nature (e.g., glass bottom boat, semi submarine, etc.)   2) activity with a direct touch of nature (e.g., a walk for the coral study, snorkeling or skin diving, scuba diving and sea walking)

1. Activity with an indirect touch of nature

Glass bottom boat is very popular among the tourists who enjoy viewing the coral reef at shallow water. The boat has a glass at its bottom, so the tourists can see the coral under the sea. This activity is suitable for tourists who are unable to swim, children and elderly people. The availability of glass bottom boat is mostly found in Ko Lan, Pattaya. Moreover, the tourists can enjoy taking glass bottom boat at Ko Phiphi, Krabi. The first glass bottom boat is a wooden boat with a motor (long-tail boat). A glass is at the bottom of the boat. When the boat moves, the sailor lays planks horizontally to cover the glass at the bottom, so the passengers do not step on the glass. After the boat has arrived to the places for viewing the coral reef, the sailor opens the planks. The passengers can see the coral reef from the top view. The glass bottom boat suitably sails at shallow water or turbid water. Since this boat normally sails at shallow water, the passengers can view the reef flat or the reef growing at shallow water. The impact from this activity is that the tail of the boat hits the coral reef when the sailor sails the boat at shallow water, or the tide ebbs away. This impact relies on the sailor's experience and skill.

Semi submarine is one name of the boat sailing on the water surface. It is a deep-bottomed boat which has the glass at its both sides. This boat is generally called glass bottom boat. The tourists can view the coral reef under the sea. Semi submarine makes tourists more excited than glass bottom boat. However, the semi submarine can only sail at deep water. The tourists can view the coral reef at deep edge or slope, and at more width. For example, the tourists can take semi

submarine to view the coral reef on the coast of Andaman. This activity has been available at Ko Phiphi and Ko Similans. Nowadays, the Department of fisheries has two small semi submarines. Since the features of semi submarine are different from other boats, it is very difficult for the sailor to control the semi submarine. It is not suitable for windiness and waviness. The bottom of semi submarine easily hits the coral reef.

    2. Activity with a direct touch of nature

A walk for the coral study is an interesting activity for people who love nature. The coral reef can emerge from the water only one time each year, since flood tide and ebb tide changes every one-year-cycle. Tourists can have a walk to study the coral reef. The advantage of this activity is that tourists do not need any equipment. Another advantage is that the tourists can closely study the coral reef and other creatures because they are on land. The guide can easily give knowledge to tourists. The good selection of tourism places is an interesting alternative for studying the coral reef. The disadvantage of this activity is that the coral reef is damaged by footstep because the tourists do not have a guide and experience, or know the way to walk. Another disadvantage is that the tourists can only find some marine creatures.

Snorkeling or skin diving is a primary activity for people who have a passion for the nature, and need to touch it. Snorkeling or skin diving is a challenging activity that people can touch creatures under the sea. The necessary equipment for snorkeling or skin diving includes diving mask, tube pipe and frog foot. People can swim and have a good practice of this equipment, so they can float on the water surface with unlimited time and dive into water not more than ten meters. Nevertheless, this activity is adapted for people who cannot swim or be good at swimming. They have to wear life jacket to support them. They do not need frog foot in snorkeling or skin diving. They cannot dive deeply into water. The influence from this activity results from tourists' experience and skill in using equipment, including an understanding about the fragility of coral reef. The solution to this influence is that tourists should practice using equipment and learn how to float across the coral reef.

Scuba diving is another step of diving. Scuba divers should have a good training. The scuba diving is a popular activity for marine conservation. This activity is restricted only for some people. The damage from scuba divers is to hit the coral reef or other creatures. The solution is to provide knowledge or rules that explain an appropriate way of diving for scuba divers.

Sea walking is an activity which has boomed in a recent year. Some people discuss about the effect from this activity. The conclusion is that sea walking should be abolished. The damage from sea walking is similar to one of a walk for the coral study. The coral reef is damaged by footstep. The service owner should limit line for sea walking. Moreover, the tourists are forbidden to walk on the coral reef in any areas. In the past, sea walking is only restricted to the tip of coral reef. Although the sea walkers do not step on it, the walking makes the sediment diffused and leads to an impact on the coral reef. The purpose of sea walking is not only for learning and satisfying with marine creatures but it also creates pleasure and excitement, when the sea walkers view fish under the sea. Therefore, this activity can be open in a well-managed areas such as the artificial coral reef and sinking ship.

Surfboard is used for diving in the water surface. The divers use diving equipment and frog foot in floating on the water. The surfboard is used as a boat. The divers use their hands and legs in movement. They can float on the water in a distant way for a long time, so they can closely view marine creatures.

Impact from marine tourism and its solution

The impact from marine tourism can be divided into two types ; 1) a direct impact upon the coral reef and 2) an indirect impact upon the coral reef. Two types of impact are described below :

1. A direct impact upon the coral reef is a physical impact upon the coral reef and marine creatures. This impact is clearly seen today. For example, the broken coral reef results from the tourists footstep, the drop of anchor, and the collection of marine creatures such as shell, coral and fish. Principally, these impacts are estimated from the characteristics of coral reef and tourists' knowledge and

experience in the marine tourism. The solution to these impacts focuses on the coral reef and tourists. It is listed below.

    1) The division of useful areas and restriction of using these areas.

    2) The provision of facility such as anchor and pontoon.

    3) Tourists should receive theoretical training and equipment for marine tourism. For example, the tourists should practice using snorkel and life-jacket.

    4) The service owner, boater and guide should have a good training, knowledge and understanding of the coral reef.

    2. An indirect impact upon the coral reef is an unseen impact. It is a problem which results from change in the coral reef. This impact would cause from marine tourism whether or not. Its cause is not directly from marine tourism but it is from a continued service for tourists such as lodge or pontoon. This leads to garbage from, excrement, bath, washing and trash from tourists.

    Capability for marine tourism

    The capability for marine tourism depends on types of activity. The activity of marine tourism can be divided into two types : 1) Activity without the limitation on the number of tourists 2) Activity with the limitation on the number of tourists.

    1. Activity without the limitation on the number of tourists : Tourists cannot directly touch nature. Such activities are glass bottom boat and semi submarine. These activities are provided in an appropriate area, and they have a good control. Therefore, these activities will lead to little impact upon the coral reef.

    2. Activity with the limitation on the number of tourists : Tourists can directly touch nature. Such activities are a walk for the coral study and diving in the water surface. The capability for marine tourism relies on several factors such as tourists, natural resources, activity and management. In different areas, the capability for marine tourism will vary.

Advantages of coral reef

The coral reef is beneficial to creatures and people. The advantages are described as followings :

1. The coral reef directly prevents the erosion of sea-shore from waves and currents.

2. The coral reef produces pure and clean sand for beach. The coral reef is eroded by some kinds of marine creatures and waves. The limestone structure of coral reef is broken and then become pure and clean sand.

3. The coral reef is the food source for people, and it is also the home for several kinds of marine plants and animals such as sea turtle and marine animals without backbone (e.g., squid, shell, prawn, jellyfish and black sea cucumber)

4. The coral reef is the source for building materials such as lime, tile and sand.

5. Some marine creatures as sea hare and sea fan in the coral reef can produce toxin to prevent themselves from damager. The toxin can be extracted as medicine for curing cancer, vaccine and chemicals for preventing crystallization and solidification.

6. The coral reef is like an important laboratory for ecology. For fifteen years, the research on the ecosystem of coral reef has increased, and it tends to continue in the future.

7. The coral reef is a beautiful place of undersea tourism, since marine creatures are various and the water is pure and clean. Therefore, the coral reef is an invaluable resource for tourism. Diving and taking photos under the water are attractive activities for tourists.

8. The coral, shell and beautiful fish are export products. This becomes a main industry for decoration which is sold world-wide. Today the coral and sea turtle are forbidden to export (Office of Environmental Policy and Planning, 1998: 10-11).

Coral reef found in Thailand

The general characteristics of coral reef in each province of Thailand are as follows :

1. The eastern coast of Thai gulf

1) Chon Buri : Two types of coral reef are found in Chon Buri. The first type of coral reef is found in the estuary of the sea. This sea is turbid because of sediment from the river. The coral reef does not grow well in this area. We can find this coral reef in Ko Sichang, Ko Phai and Ko Lan. However, the coral reef in the care of navy is more perfect and beautiful than the coral reef growing in the estuary of the sea because the navy conserves it and it is also far from the estuary of the sea.

2) Rayong : The coral reef is found in Ko Samet, Ko Kudee and Ko Man. The area which the coral reef grows well is distant from the estuary of the river, and the sea is also clear. The coral reef has a plenty of marine creatures. But today the coral reef is degenerating, since the fishermen use the bomb to catch fish inhabiting in the coral reef and the coastal development leads to sediment in the sea.

3) Trat : The coral reef is found in Ko Chang, Ko Mak, Ko Kradat and Ko Kood. The coral reef will differ according to the area features. The coral reef is small in Ko Chang because it is near the coast. In Ko Mak and Ko Kradat, the coral reef is large and it is also classified as the patch reef.   This is an area that the patch reef is the most abundant in Thailand. In Ko Kood, the coral reef is small, although the water is clear. Since the coast is not appropriate for the coral reef, and the fisherman uses strychnine to catch beautiful marine creatures.

2. The western coast of Thai gulf

The coral reef is not found in Samut Prakan, Bangkok, Samut Sakhon, Samut Songkhram and Phetchaburi, since the water is turbid. However, the coral reef is found in four provinces as follows :

1) Prachuap Khirikhan : The coral reef is not much found in Ko Singto. In Ko Leum and Ko Thalu, the coral reef is well developing. And in Ko Jan, a variety of marine creatures inhabit in the coral reef. Ko Jan is located in the outermost area of the coast.

2) Chumphon : The coral reef is found in Ko Jarakhe, Ko Ngam Ko Khai, Ko Thalu, Ko Mantra, Ko Matmay and Ko Khangseu. This coral reef is found in the innermost area of the coast. It is abundant of marine creatures, especially fish hard to find in other places of Thai gulf.

3) Surat Thani : The coral reef is found in Ko Angthong and Ko Samui. These areas have turbid water, so a few marine creatures inhabit in the coral reef.   However, a variety of marine creatures inhabit in Ko Samsao, Ko Angthong, and Ko Matlang since the water is clear, especially Ko Tao which has the coral reef in the clearest sea of Thai gulf.

4) Other provinces : Nakhon Si Thammarat, Phatthalung, Pattari, and Narathiwat have a few of small islands, so the coral reef is small and indistinct (Thorn, 1997). Today, there is an investigation of beautiful coral reef in Ko Losin, Narathiwat.

3.   The coast of Andaman Sea

Andaman sea has a variety of marine creatures and beautiful coral reef. It is the most beautiful coral reef in Thailand. It is also considered as one-tenth of the most beautiful coral reef in the world. The coral reef in Andaman sea is found in Ko Surin and Ko Similan. It covers the provinces as follows :

1) Ranong : The coral reef is only found in Ko Kamphe and Ko Khangkhao. It is the coral reef in turbid water because these islands are near the estuary of the river.

2) Phangnga : Phangnga is abundant of the perfect coral reef. It is the most beautiful place of coral reef in Thailand or in the world, especially the coral reef in Ko Surin and Ko Similans. Moreover, the coral reef is found in Ko Tachai (Hin Tachai) and Ko Yao. These areas are appropriate for diving.

3) Phuket : The coral reef is found in the western coast of Phuket. It is not the perfect coral reef because there is a mine in the sea several years ago. The sediment from dredger makes a lot of corals dead. However, the coral reef is found in Ko He, Ko Maithon, Ko Rachanoi and Ko Rachayai.

4) Krabi : The coral reef is perfect and beautiful in Ko Dannok and Ko Dankhwa among Ko Phiphi. However, the coral reef is degenerating.

5) Trang : The coral reef is perfect and beautiful in Ko Kradan, Ko Ngai and Ko Rok. Although this coral reef is smaller than one in Ko Surin, Ko Similans and Ko Phiphi, it is various and abundant.

6) Satun : The coral reef is found in Ko Tarutao and Ko Adang-Rawee. The coral reef is small and imperfect in Ko Tarutao, since the water is turbid. In Ko Adang-Rawee, a variety of marine creatures inhabit in the coral reef ; however, it is influenced from a bomb for fishing, storm and such natural enemy as Mongkutnam Starfish. This kind of starfish is crowded in Ko Rawee. The most perfect and beautiful coral reef is found in Ko Hinngam between Ko Tarutao and Ko Adang-Rawee.

Conservation of coral reef

The coral is a fragile natural resource. It also takes a long time for its growth as the coral reef. The coral is structured with limestone (Polyp). It is as the natural wall which relieves strong wind and current. The structure of the coral is eroded by the current, and then it becomes pure and clean sand for the beach. The sand is approximately reproduced 1 ton/1,600 square metres/1 year. Moreover, the coral reef is the home for a variety of marine creatures. The conservation of coral reef keeps the nature balance. People, governmental and private enterprise should be cooperative in marine conversation as followings :

1. To preserve the undamaged coral reef by proclaiming the forbidden area.

2. To provide knowledge and understanding of the coral reef's advantages.

3. To provide appropriate criteria such as increasing the legal punishment for the coral destroyer and arranging a training and seminar in the course study.

4. To found the buoy for binding boat so there is no drop of the anchor in the coral reef.

5. To reduce the use of coral reef such as catching the beautiful fish or marine creatures for trade, collecting the coral and walking on the coral reef.

6. To keep the balance of the ecosystem of the sea coast so the coral reef can inhabit and grow up.

7. To instill an understanding of value, importance and advantage of the coral reef towards people, so they will stop dropping garbage into the sea.

8. To motivate the co-operation between people and governmental and private enterprise in rehabilitating and conserving the coral reef.

In this research, the conservation of coral reef is defined as preserving, rehabilitating, preventing, defending and using the coral reef. This will be done by :

- Do not walk on the coral reef, keep or destroy marine creatures living in the coral reef.

- Provide knowledge about the coral reef and its importance.

- Believe and follow the law which supports the natural conservation.

- Perform beneficially to conserve the coral reef. For example, people help keep small trash from the coral reef. But if they find such a big trash as ring net, they should inform the officer.

Beach

Sandbeach

Sandbeach is the area where the wave and current flows the sand to pile up as the beach. It is usually on the earth crust which is sandstone or granite. Spefically, granite disintergrates and then becomes round and white sandstone. This makes beach more beautiful : for example, several beaches in Phuket, Hat Cha-Am-Huahin in Phetchaburi and Prachuap Khirikhan (Land Features of Thailand, 1991).

Normally, the beach includes different sizes and colors of sandstone. Some beaches have fairly delicate sandstone, but some have fairly rude sandstone. The colors of sandstone would be white, light or dark brown. The geological importance of beach is the area which gathers minerals. For tourism, the beach is an important tourism resource. The beautiful beach without mud and dirt will be an attractive place

for tourists to have a trip, take a rest, swim, have a sunbath or play water sports (qtd. In Wanna Worasrivanich, 1996).

Beach

Beach is the area between the lowest and highest level of water. This results from current and wind in monsoon, except a disaster from windstorm. The disaster leads to the highest level of water. Generally, the level of water is leveled by the cliff, sandbar or any construction by people. The beach is formed from the debris of sediment which is flown by the wave and current. This sediment has different sizes, from the cracked pieces of stone to delicate sand and mud. They are gathered as the beach which will vary according to the height of area. The process of beach formation is the same all over the world (Pramuk Kaewniem, 1986 : 93).

Beach has not permanently formed, but it is the terrain feature which always changes. It is eroded or increases all the time. The outside factors has an impact upon the beach. For example, the submerged reef and current has influenced on the erosion and expansion of beach, so the beach has different shape, category and position. This will reflect the balance and imbalance between the erosion and expansion of the beach. Mostly, the erosion of beach is more than the expansion of the beach.

Importance

1. Beach is as the frontier between the sea and the coast.

2. Beach has a plenty of food from natural resources. It is an appropriate place for marine creatures lying eggs or feeding their embryos. It is also the home for several animals such as sea birds, sea turtle, some kinds of mammals, a flock of fish and other sea animals in some periods of their life cycle.

3. Beach has a beautiful scenery which attracts a lot of tourists to visit.

4. Beach is a place for doing a mine and heavy metal.

5. Beach is a place for establishing a dock or harbour.

Activities for marine tourism

There are several activities and equipment for tourism on the beach. The beach is an appropriate place for marine tourism, and it is also popular among tourists. The tourists can conveniently access to the beach, and they are not much risky to do activities. Moreover, the tourists can choose activities on the beach. Several activities are as follows :

Resting and sunbathing are activities on the beach. The tourists can rest happily on the delicate sand but the sand easily sticks to their body. The tourists do not appreciate resting and sunbathing on the rude sand, although the rude sand does not strict to their body. Both activities do not focus on studying the nature. Resting and sunbathing on the beach are the main activities for tourism.

Walking along the beach is a mixed activity of exercising and studying such animal lives as wind crab and shell on the beach. This activity mainly places emphasis on entertainment.

Sports on the beach include volleyball, throwing dish, scooter, banana boat, umbrella boat, water skiing, and surfing. These sports place emphasis on entertainment.

Walking and studying the nature are the activities with the clear purpose. This activity can occur on the stone beach, muddy beach and gravel beach. It is not a popular activity among tourists nowadays. This activity focuses on studying the characteristics of stone, plant, marine animal and birds. The handbook for studying the nature should be provided for walking and studying the nature. This will help tourists study the ecosystem of nature.

Impacts from tourism and solutions

A few of impacts directly result from activities on the beach, since the tourists do not take more advantage from the nature. However the currents and waves normally lead to the change of beach. The direct impacts from tourism are :

1. Direct impacts on the beach result from activities on the beach and physical change of the nature. For example, the tourists step on small marine

creatures and plants, or the stone beach falls down. Moreover, the beach has naturally changed.

2. Impacts on atmosphere of tourism result from noises of engines such as scooter and pulling boat, or dangers from activities using these high-speeded engines. Moreover, the tourists who wear bikini or nake will have and impact on the local culture.

3. Impacts from inappropriate management result from mafia or selfishness of tourists. These impacts will lead to dangers and problems when the management is not good in those areas.

4. Impacts from other activities include gathering gravel to decorate buildings for tourism service, digging and dipping sand cutting trees for business, selling the remains of shell coral, and piling up the garbage floating in water.

The mentioned impacts will decrease when the areas for activities or these activities are limited. Such activities are driving scooter and high-speeded boat, collecting the remains of shell and coral, and destroying natural resources on the beach.   In the case that garbage is removed from the beach, the atmosphere will be better.   However, the remains on seaweed and coral are not considered as garbage, and they can be used for studying their nature. Moreover, the standard should be provided for removing garbage from factories and daily consumption.

Mangrove Forest

Mangrove forest is regarded as Evergreen Species. There are several kinds of mangrove forest. They have the same physical features and environment demands, and they easily adapt themselves to the same terrain features.

Mangrove forest is a complex specy which is well grown on the sea coast in tropical region. Most plants in mangrove forest are Rhizophora which is the most important plant. Moreover, the mangrove forest includes other species of plants and shrubs. Shrubs are found in flooded area, sea coat and the innermost part from the estuary of the river. (William Macnae, 1968)

In conclusion, the mangrove forest is Evergreen Species in tropical region, or semi-tropical region. These plants are found in the sea coast or in the ecosystem of

coastal forest which withstands saltiness. Mangrove forest is the first plant which can well grow near the sea, and it also expands land into the sea. Therefore, mangrove forest is the first frontier between land and sea. It is found in the sea coast with mud and the area connecting to rivers and canals.

The ecosystem of mangrove forest results from the mixed conditions between sea and land. Mangrove forest can grow well in the warm weather. The temperature between 25-30° Celsius is appropriate for the growth of plants in the mangrove forest. The plants can grow better in the mangrove forest with lots of rain and moisture than the mangrove forest in the sea coast with a little rain and moisture. Mangrove forest sometimes needs sea flood, and it also requires fresh water for the growth of plants because it will supply necessary minerals to the plants.

In Thailand, mangrove forest scatters on the coast in 23 provinces. The study of Royal Forest Department shows that Thailand is covered with mangrove forest approximately 2,299,375 Rai in 2504. In 2536, mangrove forest is approximately 1,054,266 Rai. Till 2539, mangrove forest remains 1,047,109 Rai.

Activities for tourism in mangrove forest

Tourism in mangrove forest is an interesting activity for viewing the ecosystem of mangrove forest. Tourists can study and understand the structure of mud, the life cycle of monkeys, birds, shrimp, shell, crab and fish, and view the beauty of the tree root named Taboon Dam-Khao. Tourists do not only gain knowledge, but they also gain enjoyment and pleasure. In mangrove forest, the poster should be available, tourists can gain knowledge and learn the names and category of plants and animals. In beach forest, tourists can learn natural resources which are different from ones in mangrove forest. The activities for tourism in beach forest are as following :

- A walk for the natural study
- Floating a boat
- Special activity, e.g., planting trees.
- Studying the lifestyle of people in the community
- Having a recreation

Importance of mangrove forest (Sanit Aksornkaew, 1989: 11-28)

1. Wood importance

Woods from mangrove forest can be used in several ways, and they are popular in Asia. In Thailand, woods are used for burning charcoal, making firewood, foundation pile, and crutches. Especially in Thailand, woods from mangrove forest are widely used for burning charcoal. Most woods are mangrove, since it has a good quality, and gives heat about 7,300 calorie / 1 gram. After burning charcoal few ashes remain, so the mangrove costs highly. Thailand is a country which has mostly taken advantage from mangrove forest for burning charcoal, when comparing to other countries in Asia. Besides qualitative charcoal from burning mangrove, this products by-products such as acid, methyl alcohol and tar. However, the industry for producing woods from mangrove forest is available only one place in Rayong. Moreover, such woods as Mai Samae and Mai Taboon can be used for making furniture. Other kinds of woods can be used for making fishing tools such as a crab-catcher and a post for feeding green mussel.

Moreover, the bark of several plants in mangrove forest is the resource of tannin. Tannin is used in tanning, dyeing, and making ink, color and glue. Some parts of plants in mangrove forest can also be used as herb. For example, the seeds of white Taboon can cure the illness from diarrhea and dysentery. The bark and fruit are used to cure the illness from cholera.

2. Fishery importance

2.1   Mangrove forest has an important role for maintaining products from coastal fishery. It is the habitat of young marine creatures because it has a plenty of plankton.

2.2   Mangrove forest is an important food cycle of marine creatures, since these marine creatures have to depend on primary food which is from decayed plants.

2.3   Mangrove forest is closely related to fishery. In Thailand, the catch of marine creatures is not lower than 1 million tons during 2521-2528. About one hundred thousand tons are several kinds of shrimp which inhabit in mangrove forest. Mangrove forest is therefore an important resource of food.

3. Ecological importance

Mangrove forest is the habitat for all animals, and it also prevents the coast from the storm and the erosion of soil. Therefore, mangrove forest keeps the balance of ecological system.

Sea Grass

Sea grass is a distinct ecosystem. It is a floral plant which can grow in the sea, and several marine creatures inhabit in it. Sea grass is therefore as the home, sanctuary and food resource for marine creatures. The spread of turtle grass, pine grass and sea grass is crowed in Andaman coast, Phuket, Trang and Phangnga.

Sea grass is an abundant ecosystem. It is regarded as higher floral plant which can adapt itself to live in the sea. The species of sea grass can be arranged as follows :

Division	Anthophyta
Class	Monocotyledoneae
Family	Hydrocharitaceae
Family	Potamogetonaceae

There are 48 kinds of sea grass found all over the world. For example, Halophila has a small size and its leaves are long 1 centimetre. Enhalus has a big size and its leaves are longer than 150 centimetres, and its root puts in the ground. In Thailand, twelve kinds of sea grass are found 9 kinds in Thai Gulf and 10 kinds in Andaman coast. Sea grass is mostly found in Ao-Khung-Krabane in Chanthaburi, Hat Chaomay in Trang and Ko Yao in Phangnga.

Sea grass is as ground cover in the area with flood tide and ebb tide. Its life pattern is very distinct, since it is an habitat and food source for marine creatures such as shrimp, fish and sea cow.

The leaves of sea grass are the habitat for plants and small marine creatures such as Diatom and Dinqlagellate, which are food source for small animals without back bone such as Amphipod. Amphipod is a food for shrimp and fish which inhabit in sea grass. And sea grass is a direct source of food for sea cow and turtle. Sea grass is an ecosystem which has a plenty of marine creatures. Tourists can enjoy and receive knowledge from sea grass.

Activities for sea grass

Activities for sea grass are limited. Most of them are tourism for viewing the ecosystem of sea grass. Such activities are a walk for studying sea grass, taking boat for viewing sea grass and other marine creatures or glass bottom boat, canoe, kayak and long tail boat, skin diving and scuba diving.

Taking boat for viewing sea grass : Most boats are usually used by local fishermen. Other types of boat for this activity include glass bottom boat, canoe and kayak.

A walk for studying sea grass can be done in a daytime or nighttime. Because of tourists' footsteps on the coral reef and other marine creatures, we would consider these impacts.

Skin diving is an activity which tourists can closely touch sea grass and other marine creatures.

Scuba diving is an activity which tourists can view sea grass in a deep water. Moreover, tourists can closely touch sea grass.

Other Marine Creatures for Tourism

Beautiful fish is the distinctive vertebrate found in the coral reef. A variety of kinds, shapes, colors and behavior of fish inhabit in the coral reef. These fish make the coral reef more lively and beautiful, so tourists are impressed with them.

About 4,000 kinds of sea fish inhabit in the coral reef or sea coast. In Andaman coast of Thailand, more than 800 kinds of fish are found in the coral reef.

Turtles

Turtles are the ancient reptiles which live in the world longer than 130 million years ago. They are scattered in tropical and temperate zone. They normally stay in the sea. Only female turtles are on the beach when they lay eggs.

There are four types of turtles found in Ko Surin and Ko Similans.. They are listed below :

1. Leatherback turtle (Dermochelys coreacea)

   2.   Green turtle (Chelonia mydas)

   3.   Hawksbill turtle (Eretmochelys imbricata)

   4.   Olive ridley turtle (Lepidochelys olivacea)

Generally, turtles in Andaman sea lay eggs during October and February every year. They lay eggs on the beach above the flood tide, and they dig the hole deep about 50-70 centimeters. Each time they lay 70-150 eggs. Their eggs reproduce around 50-55 days (60-65 days for Leatherback turtle). The newborn turtles creep and swim into the deep sea. Till 2-3 years old, the turtles stay on the coast.

Important causes leading to reduced turtles

The reduced turtles result from consuming their eggs and using ring net and fishhook on the coast where the turtles lay eggs in spawning season.

The way to conserve turtles

The law should be strict in conserving turtles. The government must prevent the area for turtles to lay eggs from stealing eggs for consumption and using fishing tool, so the turtles can reproduce and live in the sea. Moreover, we should rehabilitate the area for laying eggs, and preserve the habitat and food source for the turtle

In the national park, the beach where the turtles lay eggs should be strictly preserved, so nobody can steal the turtles' eggs.

4. Related Research

From documents and related literature, the researcher concluded that there were many important variables as follow : -

   1.   Sex

Sunthree Jeantham (1988 : Abstract) studied the important components of behavior in environmental conservation of people in Prathomasoke village, Phraprathone sub-district, Muang district, Nakornpathom province, found that sex was not important to behavior of environmental conservation.

Wilaiphorn Jansuwan (2001 : 135) studied on participation of a self - help settlement in natural resources conservation in Thai Muang self – help settlement, Phang-nga province, found that male and female did not correlate with participation of natural resources conservation significantly in statistics at level 0.05.

2.   **Age**

Garan Siripharnich (2003 : 57) studied on knowledge and attitude of famers-pig breeders toward environmental management ISO 14001, found that they were 31 – 40 years old, had knowledge of environmental management the most and age was correlated with knowledge of environmental management ISO 14001.   And the study of Police Captain, Thammanoonrat Thaweegul (1987 : Abstract) on behavior of the park environmental conservation, studied the case of people were going into the park in Bangkok Metrapolitan.   The study found that age was affecting on behavior of environmental conservation significantly in statistics.

3.   **Educational level**, the students studied in schools

Usa Nuichanthra (1990 : 98) studied "Factors affecting on the operation of agricultural development of agricultural teachers in mathayomsuksa schools for community development 2 (Mor. Phor. Chor. 2) in the north-eastern region" found that agricultural teachers had educational level less or higher than bachelor degree, were no different in providing knowledge to the public and community.   And Sirirat Boonta-nontha (1975 : Abstract) found that the executives of prathomsuksa schools had dif-ferent educational level, managed their schools environment indifferently.

4.   **Hometown**

Rossarin Rithi-rojna (1996 : Gor) studied on knowledge and attitude of nurse students, the fourth year, Ministry of Defence, about pollution problems, found that these students had moderate knowledge of pollution problems and their knowledge was neither depended on their hometown nor grade point average significantly in statistics at level 0.05.

Garunar Warraphakphamorn (2001 : 77) studied "Knowledge, attitude and behavior of safety and working environment of undergraduate students, Faculty of Engineering, Rajchamongkol Technology Institute", found these undergraduate

students lived in different hometown did not affect on their knowledge of safety and working environment.

5. **Marine tourism information recived**

Darunee Uitrakul (1989 : Abstract) studied "Knowledge and opinion of the public about natural resources conservation in Khoa Khew – Khoa Chomphoo Sanctuary", found that the offices involved should pay more attention toward enhancing knowledge of natural resources conservation to the public through the community leader, media such as television, newspaper continuously and regularly.

Somsakul   Alfred (1997 : Abstract) studied behavior of tourism resources conservation of local people, case study of "Larn Island, Muang Pattaya", found that accessibility of information on conservation of local people, Larn Island, Muang Pattaya was different because of behavior on natural tourism resources conservation were different experience on marine tourism.

Gojchagorn Wisuthi-wasutharn (2000 : 79) studied "Knowledge and attitude of Rajchamongkol Technology Institute teachers toward permanent agriculturer", found that experience on participation of environmental activities did not make different knowledge of permanent agriculture.

Chom Phoomiphark (1970 : 86 - 94) stated that knowledge resulted from experience on learning affecting on many things such as teaching management in many forms, self experience, frequency of self experience of teachers e.g. knowledge, learners gave credit to that experience and good attitude toward contents.

6. **Interested in environmental conservation**

Phanthip Athipunjaphongse (2000 : 113) studied on guide roles in promoting attitude of tourists in tourism – conservation.   Case study of Thailand tourism – conservation and adventure association, it was found that guide roles in promoting attitude of tourists in tourism - conservation neither depended on value of natural resources nor the environment.

7.   Educational Institution

Ganokphorn   Issaranuwattana (1990 : Gor – Khor) found that opinion level of environmental pollution were different, depended on schools locations.

Suwimol   Thongpradidt (1999 : Abstract) studied "Knowledge and attitude of garbage pollution and dangerous waste of mathayomsuksa three students, Department of General Education in Rajchaburi province, it was found that the students had knowledge on pollution and dangerous waste moderately, had high attitude or positively.   Attitude was different according to the school locations.

5. Related Literature

Phamornrat Sutham (1990 : Abstract) studied on knowledge and attitude of people in Pha-ngan island district toward seaboard resources conservation.   The goal of the study was people in Pha-ngan island district, 360 persons, found that most of the people had knowledge on seaboard resources conservation moderately to a little bit high and had attitude of seaboard resources conservation quite good.   Factors affecting on knowledge and attitude of people in Pha-ngan island district toward seaboard resources conservation such as they were earning from tourism, they were married, they had lived in this area for 31 years or longer, they earned Baht 3,001 – 6,001 per month and they had behavior of accessibility to people media frequently. The people in Pha-ngan Island district had more knowledge and better attitude toward seaboard resources conservation more than other groups.   Knowledge and attitude of people in Pha-ngan Island district toward seaboard resources conservation would have positive correlation.

CHAPTER 3
MATERIAL AND METHODOLOGY

This study was a survey research using questionnaire as a tool for collecting the data. The purposes were studying knowledge and attitudes of undergraduate tourism management students from Rajabhat Institutes and universities towards marine tourism resources conservation. These institutes and universities were located in the provinces near the coast. The methodology was as follows: -

1. Population and Sample Method

1.1 Population of this research was the undergraduate tourism management students from Rajabhat Institutes and universities locating in the provinces near the coast. The amount of students from eight institutes were listed below: -

- Kasetsart University, Sriracha Campus, Chon Buri	341	students
- Walailak University, Nakhon Si Thammarat	327	students
- Prince of Songkhla University, (Phuket Campus)	572	students
- Burapha University, Chon Buri	129	students
- Rajabhat Institute Phuket, Phuket	143	students
- Rajabhat Institute Phetchaburi, Phetchaburi	286	students
- Rajabhat Institure Rajchanakharin, Chachoengsao	362	students
- Rajabhat Institute Surat Thani, Surat Thani	170	students
Total Amount	2,330	students

1.2 The size of samples was calculated from the formula of Yamane (qtd. in Boontham Kijpredarborisuthi, 1999: 14). The deviation of sampling was 0.05. The formula was as follow : -

$$n \quad = \quad \frac{N}{1 + Ne^2}$$

When   n   =   sample size

N   =   Element of population

e   =   Error of sampling

$$\text{sample size} \quad = \quad \frac{2330}{1 + 2330(0.05)^2}$$

$$= \quad 341.39$$

Therefore, the size of sample substituted for the population was 342 students.

1.3 Sampling

The research had designed the size of representative sample by Proportional to size from eight institutes. The proportion of representative sample was as follow :

1. Kasetsart University, Sriracha Campus, Chon Buri

   341 students were sampled by $\frac{342 \times 341}{2330} = 50.05 = 50$ students

2. Walailak University, Nakhon Si Thammarat

   327 students were sampled by $\frac{342 \times 327}{2330} = 47.99 = 48$ students

3. Prince of Songkhla University, (Phuket Campus)

   572 students were sampled by $\frac{342 \times 572}{2330} = 83.95 = 84$ students

4. Burapha University, Chon Buri

   129 students were sampled by $\frac{342 \times 129}{2330} = 18.93 = 19$ students

5. Rajabhat Institute Phuket, Phuket

143 students were sampled by $\dfrac{342 \times 143}{2330}$ = 20.98 = 21 students

6. Rajabhat Institute Phetchaburi, Phetchaburi

286 students were sampled by $\dfrac{342 \times 286}{2330}$ = 41.97 = 42 students

7. Rajabhat Institute Rajchanakharin, Chachoengsao

362 students were sampled by $\dfrac{342 \times 362}{2330}$ = 53.13 = 53 students

8. Rajabhat Institute Surat Thani, Surat Thani

170 students were sampled by $\dfrac{342 \times 170}{2330}$ = 24.95 = 25 students

Total Amount 342 students

Table 1   The Amount of Population and the Size of Sample

Educational Institutes	Population (Students)	The Size of Representative Sample (Students)
1	341	50
2	327	48
3	572	84
4	129	19
5	143	21
6	286	42
7	362	53
8	170	25
Total	2330	342

The size of the sample in every years of the study was calculated proportionally to each institute by Proportional to Size.

Table 2 The Amount of Sample in Each Year of the Study

Educational Institutes	First Year	Second Year	Third Year	Forth Year
Kasetsart University Sriracha Campus, Chon Buri Amount = 341 students	$\dfrac{123 \times 50}{341}$	$\dfrac{109 \times 50}{341}$	$\dfrac{109 \times 50}{341}$	
Sample size	18	16	16	
Walailak University Nakhon Si Thammarat Amount = 327 students	$\dfrac{102 \times 48}{327}$	$\dfrac{101 \times 48}{327}$	$\dfrac{62 \times 48}{327}$	$\dfrac{62 \times 48}{327}$
Sample size	15	15	9	9
Prince of Songkhla University, (Phuket campus) Amount = 572 students	$\dfrac{123 \times 84}{572}$	$\dfrac{149 \times 84}{572}$	$\dfrac{150 \times 84}{572}$	$\dfrac{150 \times 84}{572}$
Sample size	18	22	22	22
Burapha University, Chon Buri Amount = 129 students	$\dfrac{129 \times 19}{129}$			
Sample size	19			
Rajabhat Institute Phuket, Phuket Amount = 143 students	$\dfrac{35 \times 21}{143}$	$\dfrac{460 \times 21}{143}$	$\dfrac{48 \times 21}{143}$	
Sample size	5	9	7	
Rajabhat Institute Phetchaburi, Phetchaburi Amount = 286 students	$\dfrac{61 \times 42}{286}$	$\dfrac{47 \times 42}{286}$	$\dfrac{88 \times 42}{286}$	$\dfrac{90 \times 42}{286}$
Sample size	8	7	13	14

Table 2 (Continued) : The Amount of Sample in Each Year of the Study

Educational Institutes	First Year	Second Year	Third Year	Forth Year
Rajabhat Institute Rajchanakharin, Chachoengsao Amount = 362 students	$\dfrac{131 \times 53}{362}$	$\dfrac{102 \times 53}{362}$	$\dfrac{61 \times 53}{362}$	$\dfrac{68 \times 53}{362}$
Sample size	19	15	9	10
Rajabhat Institute Surat Thani, Surat Thani Amount = 170 students	$\dfrac{41 \times 25}{170}$	$\dfrac{41 \times 25}{170}$	$\dfrac{40 \times 25}{170}$	$\dfrac{48 \times 25}{170}$
Sample size	6	6	6	7

After that the researcher used simple Random to collect the data according to the amount of students in each years of the study form each institute.

2. This research tool

This research useed the questionnaire as a tool for collecting the data. The researcher studied books, documents, and related review of literature to formulate the questionnaire.

2.1   The characteristics of the questionnaire : The form of questionnaire could be divided into three parts, as the following : -

Part 1   General information : The researcher asked the representative sample about sex, age, education level, hometown, grade point average,   marine tourism information received, experience in marine tourism ,educational institution, and interested in environmental conservation. The questionnaire included close ended and open ended question.

Part 2   Knowledge about marine tourism resource conservation : The researcher asked the representative sample about fact, information, cause, impact, and

the conservation of marine tourism resource.   The questionnaire was   multiple choises.

Part 3   Attitude towards marine tourism resource conservation : The researcher asked the sample about his feeling, belief, and opinion about marine tourism resource. The question was the Rating Scale which consisted of five level – stronglyagreed, agreed , neither agreed nor disagreed, disagreed ,stronglydisagree.

2.2   The formation of questionnaire : In this research, the procedure of creating questionnaire was as following :-

2.2.1   To study and research on the method to create the questionnaire and the measurement of knowledge and attitude towards marine tourism resource conservation from books, texts, thesis and other documents.   These were guidelines for creating test and questionnaire.

2.2.2   To limit information and content which was involved in creating questionnaire.

2.2.3   To create questionnaire according to the outlined content and scope.

2.2.4   To consult with the thesis committee about the questionnaire in order to correct and adjust it according to the content of this research before try-out.

2.2.5   To test the completeness of the questionnaire , and analyzed the efficiency of the tool.

2.3   The development and measurement of the tool

2.3.1   Validity The researcher used Face-Validity and   discussed with the experts   and consults with thesis committees in order to check the validity of the questionnaire.

2.3.2 Level of difficulty (difficulty index) and discrimination power .The researcher tried   out the questionnaire   approved by the experts , with   30 students of Walailak University,in Nakhon Si Thammarat province (who would not be the samples) and chcked,scored,and analyzed the quality of the questionnaire .

1)   Part 2 Knowledge about marine tourism resource conservation was checked and scored,right answer got 1 point while wrong one got nil and summed them up for everyone.Sorting out everyone score highest to lowest scores were

split into high group (27 percent) and low group (27 percent). The researcher choosed the question with the level of difficulty in the range of 0.2 – 0.8 and the question that had discrimination power of 0.2 or more would be used in the study as in the formulation (quoted in Boontham kijpredarborisuthi,1999 :91):-

Formula

$$\text{Difficulty – index (p)} = \frac{P_H + P_L}{2n}$$

$$\text{Discrimination power (r)} = \frac{P_H - P_L}{n}$$

When   p   =   Difficulty Index

r   =   Discrimination power

P_H =   Number of student answered correctly in the upper group

P_L =   Number of student answered correctly in the lower group

n   =   Total number of student answered correctly in the upper group or lower group

2) Part 3 Attitude towards marine tourism resource conservation of the questionnaire was checked and scored :- 5,4,3,2, and 1 points for the choices of stronglyagreed, agreed , neither agreed nor disagreed, disagreed , and stronglydisagree for positive answers respectively and for the negative answer – the score would be 1,2,3,4 and 5 points for the order of choices chosen respectively.Total scores were sorting out from the highest score to the lowest one. The researcher split scores into high group (25 percent) and low group (25 percent) The researcher also used discrimination power criteria of 2.0 or more to use that question in the questionnaire .The discrimination power formulation was follow ; (Boontham Kijpredarborisuthi, 1999 : 226):-

$$t \quad = \quad \frac{\overline{x}_H - \overline{x}_L}{\sqrt{\dfrac{S_H^2 + S_L^2}{n}}}$$

When $\overline{x}_H$ = Average score in upper group

$\overline{x}_L$ = Average score in low group

S_H^2 = Variance of scores in upper group

S_L^2 = Variance of scores in low group

n = Total number of student answered

t = Discrimination power of Likert

2.3.3 The measurement of reliability

1) Part 2 Knowledge about marine tourism resource conservation .The questionnaire of khowledge had difficulty index and discrimination power properly. The researcher tested the reliability of the questionnaire (Internal consistency) by Kuder-Richardson Formula 20 (quoted in Boontham Kijpredarborisuthi, 1991: 200)

$$r_{tt} \quad = \quad \frac{k}{k-1}\left[1 \frac{-\Sigma pq}{S_t^2}\right]$$

When r_{tt} = Reliability of the questionnaire

k = Number of items in the questionnaire

S_t^2 = Variance of total scores

p = Proportion of number correct answers in each question

q = Proportion of wrong answers in each question

= 1-p

The study found that questionaire of the knowledge had reliadility = 0.76

2) Part 3 Attitude towards marine tourism resource conservation:After selecting the questionnaire with discrimination power was tested for reliability correlated internally by coefficient Alpha (quoted in Boontham Kijpredarborisuthi, 1999: 212) formulation :-

$$r_{tt} = \frac{k}{k-1}\left[1\frac{-\Sigma S_i^2}{S_t^2}\right]$$

when

r_{tt}	=	Reliability
k	=	Number of questions
S_i^2	=	Variation of score in each question
S_t^2	=	Variation of total scores
Σ	=	Summation

The study found that questionaire of the Attitude had reliadility = 0.86

3. Data Collection

3.1   The researcher used the questionnaire to collect the data.

3.2   The researcher asked for a letter   form the dean of Social Sciences and Humanities of Mahidol University to collect the data.

3.3   The researcher sent the letters to the rectors of all institutes to asked for the cooperation in collecting the data from the sample of undergraduate tourism management students of Rajabhat Institutes and universities. After the students had completed the questionnaires, the researcher picks them up.

3.4   The researcher gathered all questionnaires and analyzed them.

3.5

4. Data Analysis

After finishing gathering the questionnaires, Then, the researcher analyzed the data with Statistic Package for Social Sciences or SPSS. The details were as follows :-

4.1   General information includes sex, age, education   level, hometown, grade point average,   marine tourism information recived, experience in marine tourism, educational   institution and interested in environmental conservation. This general information was analyzed by Percentage.

4.2   Knowledge   towards   marine   tourism   resource   conservation   was calculated by Percentage .   The right answer was given 1 score, while the wrong answer had no score.   After that the researcher sums up each person's scores and calculated and presented   by   mean $(\overline{x})$ and standard deviation (S.D.). This knowledge level will follow the learning standard of Ministry of Education.

70 percent or higher   A group of students with high level of
                                            knowledge

60-69 percent   A group of students with intermediate
                                            level of knowledge

59 percent or lower   A group of students with low level of
                                            knowledge

4.3   Attitude towards marine tourism resource conservation was calculated by Percentage . The score ass given as follows : -

	Positive Question	Negative Question
stronglyagreed	5	1
Agreed	4	2
neither agreed nor disagreed	3	3
Disagreed	2	4
Stronglydisagreed	1	5

The researcher sums up each person's scores and calculated the average score mean $(\overline{x})$ and standard deviation (S.D) . The level was the same standard as one of knowledge level on the of marine tourism resource conservation It was as follows :

70 percent or higher   A group of students with positive
                                            level of attitude

60-69 percent   A group of students with moderate
                                            level of attitude

| 59 percent or lower | A group of students with negative level of attitude |

4.4   The comparison knowledge and attitude varies according to sex, age, education level, hometown, grade point average, marine tourism information received, experience in marine tourism, educational institution and interested in environmental conservation.   The comparison between two variables is analyzed by t-test, and if more than two variables are analyzed by one-way analysis of variance. Moreover, the variables have significantly statistical difference, the researcher will analyze them by multiple comparison.

4.5 The relationship between knowledge and attitude towards the conservation of marine tourism resource is analyzed by Pearson product moment correlation coefficient.
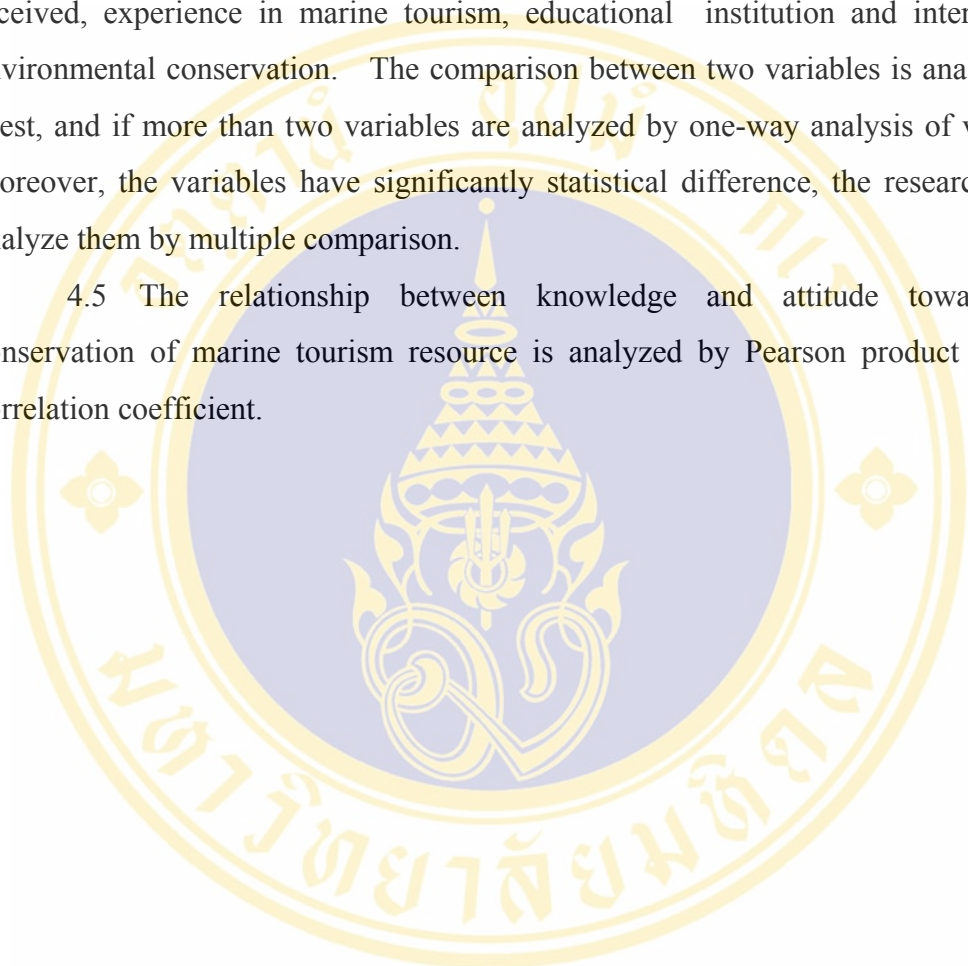
CHAPTER 4
RESULT

This research had studied knowledge and attitude of undergraduate tourism management students from Rajabhat Institute and university towards marine tourism resource conservation. The researcher analyzed the data and describes the results form this study with tables and explanation. The results were as the following : -

1. General information of the sample.

2. Knowledge about marine tourism resource conservation.

3. Attitude towards marine tourism resource conservation.

4. The comparison knowledge and attitude according to several variables sex, age, education level, hometown, grade point average, marine tourism information received , experience in marine tourism, interested in environmental conservation and educational institution.

5. Relationship between knowledge and attitude towards marine tourism resource conservation.

1. General Information of the sample

     1.1   Sex, total of 342 students,There were 286 female (83.6 percent), and 56 (16.4 percent) were male. It is shown in Table 3.

Table 3 Numbers and Percentages of the students distributed by Sex.

Sex	Numbers	Percentages
Male	56	16.4
Female	286	83.6
Total	342	100.0

     1.2   Age, the most of the sample were between 18–19 years old. About 198 (57.9 percent) of the sample were between 18–19 years old, and 144 (42.1 percent) of the sample were between 20–24 years old. . It is shown in Table 4

Table 4 Numbers and Percentages of Sample distributed by Age

Age	Numbers	Percentages
Age between 18 – 19 years old	198	57.9
Age between 20 – 24 years old	144	42.1
Total	342	100.0

     1.3   Education level, most of the sample were the first year students. About 108 or 31.6 percent of the sample were the first year students. 90 or 26.3 percent of the sample were the second year students. The third year students are 82 or 24.0 percent , and the fourth year students were 62 or 18.1 percent . It is shown in Table 5

Table 5   Numbers and Percentages of the Sample distributed by Education level

Education level	Numbers	Percentages
First year	108	31.6
Second year	90	26.3
Third year	82	24.0
Fourth year	62	18.1
Total	342	100.0

1.4   Geographically   region   of   Hometown, most of the sample, 178 students or 52.0 percent , had their hometown in the South. The second group was 72 students or 21.1 percent who had their hometown in the Central. 60 students or 17.5 percent   had their hometown in the East. 23 students or 6.7 percent   had their hometown in the Northeast. 5 students or 1.5 percent   had their hometown in the West. And 4 students or 1.2 percent had their hometown in the North. It is shown in Table 6

Table 6   Numbers and Percentages of the Sample distributed by Hometown

Hometown	Numbers	Percentages
North	4	1.2
Northeast	23	6.7
East	60	17.5
Central	72	21.1
West	5	1.5
South	178	52.0
Total	342	100.0

1.5   Educational   Institutions   of   the   Sample, most of the sample, 84 students or 24.6 percent , were   studying in Prince of Songkhla University. The second   group,   53   students   or   15.5   percent   studied   in   Rajabhat   Institute Rajchanakharin. 50 students or 14.6 percent   studied in Kasetsart University. 48

students or 14.0 percent studied in Walailak University. 42 students or 12.3 studied in Rajabhat Institute Phetchaburi. 25 students or 7.3 percent studied in Rajabhat Institute Surat Thani. And 21 students or 6.1 percent studied in Rajabhat Phuket. 19 students or 5.6 percent studied in Burapha University. It is shown in Table 7

Table 7 **Numbers and Percentages of the Sample distributed by Educational Institutions.**

Educational Institutions	Numbers	Percentages
Kasetsart University	50	14.6
Walailak University	48	14.0
Prince of Songkha University	84	24.6
Burapha University	19	5.6
Rajabhat Institute Phuket	21	6.1
Rajabhat Institute Phetchaburi	42	12.3
Rajabhat Institute Rajchanakharin	53	15.5
Rajabhat Institute Surat Thani	25	7.3
Total	342	100.0

   1.6 **Grade Point Average,** most of the sample had their grade point average between 2.00–2.99. There were 183 students or 53.5 percent who had their grade point average between 2.00–2.99. The second group, 150 students or 43.9 percent had their grade point average between 3.00–3.99. The third l group, 7 students or 2.0 percent had their grade point average between 1.00–1.99. And 2 students or 0.6 percent had their grade point average was 4.00. It is shown in Table 8.

Table 8   Numbers and Percentages of the Sample distributed by Grade Point
**   Average.**

Grade Point Average	Numbers	Percentages
1.00 – 1.99	7	2.0
2.00 – 2.99	183	53.5
3.00 – 3.99	150	43.9
4.00	2	0.6
Total	342	100.0

    1.7   marine Tourism Information   received,There were 330 students or 96.5 percent of the sample have mostly accessed to information of marine tourism resource from the television. The second group, 324 students or 94.7 percent of the sample had ever received information of marine tourism resource from travelling magazine. The third group, 292 students or 85.4 percent of the sample had received information of marine tourism resource from journal or article. The fourth group, 291 students or 85.1 percent of the sample had received information of marine tourism resource from newspaper. The fifth group, 273 students or 79.33 percent of the sample had received had received information of marine tourism resource from textbook. The sixth group, 266 students or 77.8 percent of the sample had recived information of marine tourism resource from internet. The seventh group, 265 students or 77.8 percent of the sample had received information of marine tourism resource from teacher or other people (e.g., cousins). The eighth group, 259 students or 75.7 percent of the sample had received information of marine tourism resource from radio. The ninth group, 239 students or 69.9 percent of the sample had received information of marine tourism resource from the exhibition.,And 14 students or 4.1 percent of the sample had received information from other kinds of mass media. It is shown in Table 9.

Table 9   Numbers and Percentages of the Sample Distributed by marine
Tourism Information received

marine Tourism Information recived	Received		Unreceived	
	Numbers	Percentages	Numbers	Percentages
Radio	259	75.7	83	24.3
Television	330	96.5	12	3.5
Newspaper	291	85.1	51	14.9
Exhibition	239	69.9	103	30.1
Travelling Magazine	324	94.7	18	5.3
Journal or Article	292	85.4	50	14.6
Textbook	273	79.8	69	20.2
Teacher or Other people, e.g., cousins	265	77.5	77	22.5
Internet	266	77.8	76	22.2
Other	14	4.1	328	95.9

        1.8   Frequency the visiting Marine Tourism   resource, There were 235 students or 68.7 percent of the sample had mostly experienced marine creatures (e.g., cartoon fish, sea cow, turtle) about 1-10 times, while only 1 students or 0.3 percent of the sample have visited sea grass more than 20 times. It is shown in Table 10

Table 10   Numbers and Percentages of the Sample distributed by frequency the
visiting Marine Tourism resource

Marine Tourism Resource	Ever visit			Never visit
	1-10 times/ year	11-20 times/ year	More than 20 times/ year	
Coral	173 (50.6)	2 (0.6)	6 (1.8)	161 (47.1)
Beach	224 (65.6)	34 (9.9)	62 (18.1)	22 (6.4)
Mangrove forest	212 (62.0)	16 (4.7)	10 (2.9)	104 (30.4)
Sea grass	72 (21.1)	4 (1.2)	1 (0.3)	265 (77.5)
Marine creatures, e.g., cartoon fish, sea cow, turtle	235 (68.7)	11 (3.2)	8 (2.3)	88 (25.7)

1.9   Interested in environmental Conservation, There were 242 students
or 70.8 percent of the sample had high Interested in environmental Conservation.
Only 100 students or 29.2 percent of the sample had low Interested in environmental
Conservation. It is shown in Table 11

Table 11   Numbers and Percentages of the Sample distributed by Interested in
environmental Conservation

Interested in environmental Conservation	Numbers	Percentages
High	242	70.8
Low	100	29.2
Total	342	100.0

2. Knowledge towards Marine Tourism Resource Conservation

2.1 Numbers and Percentages of Knowledge on Marine Tourism Resources Conservation

Table 12   Numbers and Percentages of Student answered correctly.

Knowledge towards Marine Tourism Resource Conservation	Numbers	Percent
1. Tourism resources meant locations that had natural beauty such as beach, coral reef.	300	87.7
2. Constructing seaport for convenient of transportation. was not marine tourism resources conservation	280	81.9
3. Filled up the landscape to built building caused stream to change direction.	0	0
4. Nat participated in freeing sea turtles activity show that she involed in marine tourism resource conservation.	328	95.9
5. What did destroy coral reef the most?	320	93.6
6. Coral reef was a natural food source for marine creatures. was the benefit of coral reef conservation	320	93.6
7. Beach was important except…. Building restaurant into the sea for beautiful views of sight seeing was not the important beach resource.	318	93.0
8. Mangrove forest was very improve marine resources because……… if it was destroyed, it would reduce the quantity of marine creatures .	323	94.4

Table 12   Numbers and Percentages of Student answered correctly.

Knowledge towards Marine Tourism Resource Conservation	Numbers	Percent
9. The students could participate in activity of mangrove deforest problem solving because they could be good behave and it right, not to destroy the mangrove forest.	295	86.3
10. It is wrong to say that Sea grass could grow and spread easily.	171	50.0
11 If students helped to conserve sea grass It could be food resources for marine creatures.	303	88.6
12. It is wrong to fell that beautiful fish was impressed and you awanted to take it as an.	276	80.7
13. Sea turtles were very important marine resources.	299	87.4
14. Layed an anchor in the sea at buoy given could be protected from deteriorateion of marine tourism resources.	240	70.2
15. Tourists destroyed coral reef affected the most from destroying marine tourism resources.	154	45.0

2.2 Knowledge level towards marine tourism resource conservation, there were 27 students or 7.9 percent , had their knowledge toward marine tourism resources at low level.   105 students or 30.7 percent   of the sample had their knowledge at high level. The biggest group, 210 students 61.4 percent of the sample had their knowledge in intermediate level. It is shown in Table 13

Table 13   Numbers and Percentages of the Sample distributed by their Knowledge Level toward Marine Tourism Resource Conservation

Knowledge Level	Numbers	Percent
Low (1 - 8 points)	27	7.9
Intermediate (9 - 10 points)	210	61.4
High (11-15 points)	105	30.7
Total	342	100.0

The lowest point is 1.   The highest point is 13.

The average point is 10.36.   The standard deviation is 2.10

3. Attitude of the Samples towards Marine Tourism Resource Conservation

3.1 Numbers and Percentages of Attitude toward Marine Tourism Resources Conservation

Table 14 **Numbers and Percentages of Attitude toward Marine Tourism Resources Conservation**

Attitude toward Marine Tourism Resources Conservation	Strongly agreed (N %)	Agreed (N %)	Neither agreed or disagreed (N %)	Disagreed (N %)	Strongly disagreed (N %)
1. Providing knowledge on value of marine tourism resources was necessary	216 (63.2)	108 (31.6)	1 (0.3)	9 (2.6)	8 (2.3)
2. When marine resources were deteriorated,it could be recovered so we did not have to take good care of them.	206 (60.2)	91 (26.6)	21 (6.1)	11 (3.2)	13 (3.8)
3. Nowadays, new technology was beneficial in solving problem of marine resources deterioration.	13 (3.8)	23 (6.7)	116 (33.9)	153 (44.7)	37 (10.8)
4. A lot of coral reef had been destroyed so it was wasting time to take good care of it.	196 (57.3)	98 (28.7)	20 (5.8)	10 (2.9)	18 (5.3)
5. Using artificial coral reef only would be enough for coral reef conservation	138 (40.4)	147 (43.0)	16 (4.7)	23 (6.7)	18 (5.3)
6. Oil stain from the boat would not affect coral reef.	145 (42.4)	105 (30.7)	11 (3.2)	39 (11.4)	42 (12.3)
7. Good housekeeping on the beach was the authority responsibility.	71 (20.8)	161 (47.1)	40 (11.7)	41 (12.0)	29 (8.5)
8. Convincing tourists to separate garbage before disposal on the beach was difficult.	38 (11.1)	87 (25.4)	70 (20.5)	134 (39.2)	13 (3.8)

Table 14   (Continued) : Numbers and Percentages of Attitude toward Marine
Tourism Resources Conservation

Attitude toward Marine Tourism Resources Conservation	Strongly agreed (N %)	Agreed (N %)	Neither agreed or disagreed (N %)	Disagreed (N %)	Strongly disagreed (N %)
9. The students were uncom-fortable when somebody complaint that the beach was dirty.	107 (31.3)	189 (55.5)	25 (7.3)	7 (2.0)	14 (4.1)
10. If we did not take good care of sea grass, it would affect ecological system of the sea.	123 (36.0)	169 (49.4)	29 (8.5)	5 (1.5)	16 (4.7)
11. Tourists did not pay attention to the benefit of sea grass.	23 (6.7)	147 (43.0)	93 (27.2)	53 (15.5)	26 (7.6)
12. Sea grass was the same as weeds that we had to get rid.	73 (21.3)	129 (37.7)	86 (25.1)	18 (5.3)	36 (10.5)
13. It was necessary to increase mangrove forest area.	148 (43.3)	123 (30.0)	60 (17.5)	10 (2.9)	1 (0.3)
14. Mangrove forest was important to balancing of ecological system.	181 (52.9)	100 (29.2)	29 (8.5)	25 (7.3)	7 (2.0)
15. Destroying mangrove forest affected others less than destroying kind of forest.	95 (27.8)	106 (31.0)	91 (26.6)	21 (6.1)	29 (8.5)
16. Having marine creatures conservation subject in the primary school was too soon to start with.	61 (17.8)	131 (38.3)	103 (30.1)	16 (4.7)	41 (9.1)
17. Fishing marine creatures to be pets did no harm.	158 (46.2)	63 (18.4)	47 (13.7)	55 (16.1)	19 (5.6)
18. Marine creatures conservation such as turtle, thread-fin fish (Pla-Gulao), and mackerek (Pla-thoo) in our country would take a long time because plenty of them were destroyed.	95 (27.8)	121 (35.4)	90 (26.3)	16 (4.7)	20 (35.4)

3.2   Attitude level towards marine tourism resource conservation

There were 263 students or 76.9 percent had high attitude level in marine tourism resources conservation while the second group, 59 students or 17.3 percent had intermediate attitude level. And 20 students or 5.8 percent had low attitude level of this matter. It is shown in Table 15

Table 15   Numbers and Percentages of the Sample distributed by their Attitude Level towards Marine Tourism Resource Conservation

Attitude Level	Number	Percentage
Low (less than 54 points)	20	5.8
Intermediate (54 - 63 points)	59	17.3
High (more than 63 points)	263	76.9
Total	342	100.0

The lowest point is 50.   The highest point is 84.

The average point is 68.24.   The standard deviation is 8.32.

4.   The Comparison Knowledge and Attitude according to independent Variables

4.1   The Comparison between Knowledge mean towards marine tourism resources conservation e and independent variables is analyzed as follow : -

Age : The students,age between 18-19 years old had their knowledge mean towards marine to urism resources conservation more than the samples between 20-24 years old. After analysed by t-test, it was found that there were statistically significant difference at level 0.05.

Sex : Most of the students were female. After analysed by t-test, the researcher found that male and female did not have statistically significant difference of knowledge mean towards marine tourism resources conservation at level 0.05.

Educational level, The students are studying in the first, second, third, and fourth year, respectively. After analysed by F-test, the researcher found that each level did not have statistically significant difference of knowledge mean towards marine tourism resources conservation at level 0.05.

Hometown : Most of the students had their hometown in the South. Others had their hometown in the Central, East, Northeast, West and North, respectively. After analysed by F-test, the researcher found finds that the sample did not have statistically significant difference of knowledge mean towards marine tourism resource conservation at level 0.05.

Grade Point Average : Most of the students had their grade point average between 2.00 – 2.99. The second , third , and fourth groups of the samples had their grade point averages between 3.00 – 3.99, 1.00 – 1.99 and 4.00, respectively. After analysed by F-test, the researcher found that the sample difference did not have statistically significant difference of knowledge mean towards marine tourism resources conservation at level 0.05.

Marine Tourism Information received : The students who had much Marine Tourism Information recived had more than ones who had a little Marine Tourism Information received. After analysed by t-test, the researcher found that the samples with much or little Marine Tourism Information received did not have statistically significant difference of knowledge mean towards marine tourism resources conservation at level 0.05.

Experience in Marine Tourism : Most of the students had their experience in marine tourism 1-10 times. The second and the third group of samples had their experience more than 21 times and experience 11-20 times, respectively. After

analysed by F-test , the researcher found all of the samples did not have statistically significant difference of knowledge mean ltowards marine tourism resources conservation at level 0.05.

Interested inn environmental Conservation : Most of the students with high interested in the environmental conservation are much more than ones with low interested in environmental conservation. After analysed by t-test the researcher found that the samples with high or low interested in conservation did not have statistically significant difference of knowledge mean towards marine tourism resources conservation at level 0.05.

Educational Institution : The students are studying at Prince of Songkhla University, Kasetsart University, Walailak University, Rajabhat Institute Rajchanakharin, Rajabhat Institute Phetchaburi, Rajabhat Institute Surat Thani, Rajabhat Institute Phuket, and Burapha University.   After analysed by F-test, the researcher found that the students from all educational institutions did not have statistically significant difference of knowledge mean towards marine tourism resources conservation at level of 0.05. It is shown in Table 16.

Table 16   The Comparison between Knowledge mean and Independent
variables.

Independent variables	n	$\bar{x}$	S.D.	F/t	Sig
Age				2.26	0.02*
Age between 18-19 years old	198	10.59	1.81		
Age between 20-24 years old	144	10.04	2.42		
Sex				0.06	0.92
Male	56	10.33	1.96		
Female	286	10.36	2.13		
Educational Level				0.89	0.44
First year	108	10.15	2.44		
Second year	90	10.27	2.52		
Third year	62	10.62	1.56		
Fourth year	82	10.50	1.26		

Table 16 (Continued) The Comparison between Knowledge mean and
Independent variables.

Independent variables	n	$\bar{x}$	S.D.	F/t	Sig
Hometown				1.19	0.31
North	4	12.00	0.81		
Northeast	23	10.60	1.43		
East	60	10.30	2.17		
Central	72	10.62	1.38		
West	5	11.20	0.83		
South	178	20.18	2.40		
Grade Point average				0.73	0.53
GPA between 1.00 – 1.99	7	11.14	0.69		
GPA between 2.00 – 2.99	183	10.33	1.93		
GPA between 3.00 – 3.99	150	10.33	2.34		
GPA between 4.00	2	12.00	0.00		
Marine Tourism Information received				0.62	0.42
Little marine tourism information received	152	10.29	2.01		
Much marine tourism information received	190	10.41	2.18		
Experience in marine tourism				0.68	0.50
1-10 times	142	10.54	1.86		
11-20 times	83	10.27	2.22		
More than 21 times	112	10.27	2.17		
Interested in environmental Conservation				1.10	0.27
High	242	10.45	1.96		
Low	100	10.15	2.41		

Table 16   (Continued) The Comparison between Knowledge mean and
Independent variables.

Independent variables	n	$\bar{x}$	S.D.	F/t	Sig
Educational institutions				1.69	0.11
Kasetsart University	50	10.54	2.12		
Walailak University	48	10.89	1.74		
Prince of Songkhla University	84	9.82	3.18		
Burapha University	19	9.84	2.11		
Rajchadhat Institute Phuket	21	10.61	1.11		
Rajchadhat Institute Phetchaburi	42	10.38	1.39		
Rajchadhat Institute Rajchanakharin	43	10.67	1.07		
Rajchadhat Institute Surat Thani	25	10.28	0.79		

4.2   The Comparison Attitude meanTowards Marine Tourism Resource Conservation and independent Variables Sex, Age, Educational Level, Hometown, Grade Point Average, Marine Tourism Information received, Experience in Marine Tourism, Interested in environmental Conservation and Educational Institution conservation are analyzed as follows : -

Educational level : Most of the students are studying in the first year. Other the samples are studying in the second year, third year and fourth year, respectively. After analysed by F-test, the researcher found that all of the samples have statistically significant difference attitude mean towards marine tourism resources conservation at level 0.05.

Educational Institution : Most of the students study at Prince of Songkhla University. Other the sample study at Kasetsart University, Walilak University, Rajabhat Institute Rajchanakharin, Rajabhat Institute Phetchaburi, Rajabhat Institute

Surat Thani, Rajabhat Institute Phuket and Burapha University, respectively. After analysed by F-test , the researcher found that the sample have statistically significant difference attitude mean towards marine tourism resources conservation at level 0.05.

Age : The students between 18-19 years old were much more than ones between 20-24 years old. After analysed by t-test, the researcher found that the samples between 18-19 years old did not have statistically significant difference of attitude mean towards marine tourism resources conservation from the sample between 20-24 years old at level 0.05.

Sex : Most of the students were female. After analysed by t-test, the researcher found fthat male and female did not have statistically significant difference of attitude mean towards marine tourism resources conservation at level 0.05.

Hometown : Most of the students had their hometown in the South. Others have their hometown in the Central, East, Northeast, West and North, respectively. After analysed by F-test, the researcher found that all of the sample did not have statistically significant difference attitude mean towards marine tourism resources conservation at level 0.05.

Grade Point Average : Most of the students had their grade point average between 2.00-2.99. Other samples had their grade point average between 3.00-3.99, 1.00-1.99 and 4.00, respectively. After analysed by F-test, the researcher found that all of the sample did not have statistically significant difference attitude mean towards marine tourism resources conservation   at level 0.05.

Marine Tourism Information received : The students have much Marine Tourism Information received, are much more than ones have little Marine Tourism Information received. After analysed by t-test, the researcher found that all of the samples with much or little Marine Tourism Information recived did not have statistically significant difference attitude mean towards marine tourism resource conservation at level 0.05.

Experience in Marine Tourism : Most of the students had their experience in marine tourism about 1-10 times. The second and third groups of samples had their experience more than 21 times and experience about 11-20 times, respectively. After analysed by F-test, the researcher found that all of the samples did not have

statistically significant difference attitude mean towards marine tourism resources conservation at level 0.05.

Interested in environmental Conservation : Most of the students were highly interested in conservation were much more than ones with low interested in environmental conservation. After analysed by t-test, the researcher found that the samples had high or low interested in environmental conservation did not have statistically significant difference attitude mean towards marine tourism resources conservation at level 0.05. It is shown in Table 17

Table 17   The Comparison Attitude mean and Independent Variables.

Independent Variables	n	$\bar{x}$	S.D.	F/t	Sig
Age				0.57	0.49
Age between 18-19 years old	198	68.45	9.00		
Age between 20-24 years old	144	67.95	7.31		
Sex				0.17	0.86
Male	56	68.07	8.00		
Female	286	68.27	8.40		
Educational level				2.80	0.04*
First year	108	67.39	7.56		
Second year	90	69.75	9.65		
Third year	62	69.14	8.47		
Fourth year	82	66.33	6.79		
Hometown				1.47	0.19
North	4	70.00	12.72		
Northeast	23	71.86	6.19		
East	60	67.65	7.16		
Central	72	68.43	6.56		
West	5	73.20	6.22		
South	178	67.72	9.37		

Table 17 (Continued) The Comparison Attitude mean and Independent
**   Variables**.

Independent Variables	n	$\bar{x}$	S.D.	F/t	Sig
Grade Point average				0.44	0.71
1.00 – 1.99	7	69.42	5.88		
2.00 – 2.99	183	67.80	7.94		
3.00 – 3.99	150	68.75	8.91		
4.00	2	66.00	0.00		
Marine Tourism Information received				0.82	0.40
Little marine tourism information received	152	67.84	2.01		
Much marine tourism information received	190	68.56	2.18		
Experience in marine tourism				2.37	0.09
1-10 times	142	69.02	8.68		
11-20 times	83	68.96	7.01		
More than 21 times	112	66.91	8.72		
Interested in environmental conservation				0.77	0.44
High	242	68.45	8.69		
Low	100	67.7	4.37		
Educational institutions				3.15	0.00*
Kasetsart University	50	72.02	6.38		
Walailak University	48	69.33	9.70		
Prince of Songkhla University	84	68.71	10.24		
Burapha University	19	69.31	7.93		
Rajabhat Institute Phuket	21	66-19	6.93		
Rajabhat Institute Phetchaburi	42	66.02	7.07		
Institute Rajchanakharin	43	66.43	6.44		
Rajabhat Institute Surat Thani	25	65.52	5.52		

5. Relationship between Knowledge and Attitude towards Marine Tourism Resources

The researcher found that the knowledge and attitude towards marine tourism resources conservation were correlated significant in statisti at level 0.01. It is shown in Table 18.

Table 18   Correlation coeffcient between Knowledge and Attitude Towards of Marine Tourism Resources Conservation

	Knowledge	Attitude
Knowledge	1.00	0.45**
Attitude		1.00

** $p > 0.001$

CHAPTER 5
DISCUSSION

The objectives of this research were to study knowledge and attitude of undergraduate tourism management students towards marine tourism resources conservation and comparing difference between knowledge and attitude according to variables . age, sex, educational level, hometown, grade point average, marine tourism information received ,experience in marine tourism,interested in environmental conservation, educational institution, relationship between knowledge and attitude towards marine tourism resources conservation by studied from sampling group who were tourism management undergraduate students in state university and Rajabhat Institute along the coastalzone altogether 8 institutes, 342 students.   The results were discussed as follow : -

Knowledge about marine tourism resources conservation, the researcher found that most of the students had this knowledge moderately (61.7 percent) because there studied the tourism management, touring industry, and roles in the tourism, including class and characteristic of tourism information.There was no subject concentrated on marine tourism resources. In current situation, technology and media were modern and publicized very quickly, it was television which the research was found that the largest group of students picked up this information.It was good penetration into the student.Besides, it was a trend of taking good care of environment and natural resources which also had marine tourism resources such as coral reef and beach, where the group of samples had experience.Some natural resources such as sea grass and mangrove forest that the knew student. only a little and did not have experience. It caused knowledge level average of the students to moderate level only. Comparing knowledge of marine tourism resource conservation between variables age, sex, educational level, educational institution, hometown, grade point average, interested in environmental conservation, educational institution, marine tourism information received ,experience in marine tourism.

There was found that knowledge correlated with their age and other variables did not correlate knowledge on marine tourism resources conservation which could be explained as follow : -

       Age, students had different knowledge level of marine tourism resource conservation .   Younger group sampling had more knowledge than the older one which meant knowledge on marine tourism resource would be in anyone was not involve in their experience, which was correlated with Karan Siripanich (2003 : 57) studying "Knowledge and attitude of swine farmers towards environmental management system ISO 14001 in Rajchaburi province" found that swine farmers 31 – 40 years old had knowledge on environmental management the most and their ages were correlated with their knowledge on environmental manage-ment ISO 14001 and the study of Police Captain Thammanoonrat Thaweegul (1987 : Abstract), behavior on environmental conservation in the park especially people in Bangkok Metropolitan.   The study found that ages affecting on behavior of environmental conservation significantly in statistics which was as in the third item of the hypotheses.

       Sex, the students, both male and female, did not have difference knowledge towards marine tourism resource conservation which might be because of being equal in society, being equal as boys and girls, they had to response the society as equal as the citizens which was correlated with the study of Chartchai Youcharoen (1990 : Abstract) found that both male and female students did not have different knowledge on environmental pollution and the study of Soonthree Jeantham (1988 : Abstract) studying the vital elements toward environmental conservation behavior of residents in village, Prathom Asoke Project, Phra-Prathone sub-district, Muang district, Nakorn-pathom province, found that sex had nothing to do with their behaviors in environ-mental conservation which was not as in the third item of the hypotheses.

       Educational level, number of years students studied in the university, they did not have different knowledge on marine tourism resource conservation might be because of this knowledge was a specific one which students had to have an interest or to realize an important and benefit of resource value.   It was a factor for studying further more.   The students, in any year, could learn by themselves because there was

no subject involving marine tourism resource in the curriculum which was correlated with Wasinee Wongse-sumphanchai (2001 : 120) studying of behavior on electrical energy saving of undergraduate students, lived in dormitory of state university found that number of years they studied in university would not depend on behavior of electricity saving significantly in statistics at level 0.05 and the study of Usa Nuichanthra (1990 : 98), studying on factors affecting on the operation of agricultural development of agricultural teachers in mathayomsuksa schools for community development (Mor. Phor. Chor. 2), in the north eastern, found that agricultural teachers had lower or higer than bachelor degree, had the operational level in providing knowledge to the public and community services indifferently and the study of Sirirat Boontanontha (1985 : Abstract) found that the executives of prathomsuksa schools that had different level of education did not manage environment differently which was not as in the third item of the hypotheses.

Hometown, students lived in different region did not have difference knowledge on marine tourism resource conservation. Though most of the students (samplings) lived in the southern region which had many beautiful marine tourism places and it was an important place in earning for the country, but they did not have any different knowledge on marine tourism resource conservation because students lived in other region were used to go to sight seeing the marine tourism places not very difficult and they accessed an information from the media easily such as television, tourism book which was correlated with Rossarin Rittirojchana (1996 : Gor), studied on knowledge and attitude of nurse students, fourth year, Ministry of Defence, on pollution problems, found that these nurse students had moderate knowledge on this topic and their knowledge was not depended on their hometown and grade point average significantly in statistics at level 0.05 and the study of Garunar Worraphakphamorn (2001 : 77) found "Knowledge, attitude, and behavior of safety and working environment of undergraduate students, Faculty of Engineering, Rajchamongkon Technology Institute", these students lived in different region did not have any different knowledge on safety and working environment which was as in the third item of the hypotheses.

Grade point average, the students did not have any difference knowledge on marine tourism resource conservation.   The students had high grade point average because their caliber and knowledge in their field might have only a little time or interest in finding additional knowledge or realized that it was nothing to do with their textbook which was correlated from Garunar Warraphakdeephamorn (2001 : 103) studied on knowledge, attitude, and behavior of safety and working environment of undergraduate students, Faculty of Engineering, Rajchamongkol Technology Institute. Different grade point average resulted in different knowledge of safety and working environment significantly in statistics at level 0.05 which was not as in the third item of the hypotheses.

Marine tourism information received   , the students received this information, marine tourism, from many sources, no matter it was more or less, did not have difference knowledge on marine tourism conservation.   It might be because of information they received from different sources making their intelligent differently from each other because knowledge and understanding were causing from learning would make each of them having different knowledge. marine tourism information received would result in their understanding and bringing into practices easily depended on receivers who were really interested in that information or that information was not really interested enough. The study found that the students accessed a lot of information, but they knew only a little, it might be because of the students received information, but they did not use it to enhance their knowledge by acknowledgement on beautiful tourism places.   Touring a lot, but the media campaign did not make it continuously so that it was interested only a short period of time which was correlated with the study of Wasinee Wongsam-phanchai (2001: Abstract) found that behavior of electrical power saving of undergraduate students lived in dormitory of state university, accessed an information on campaign of electrical power saving on television did not depend on behavior of electrical power saving significantly in statistics at level 0.05 which was not as in the third item of the hypotheses.

Experience in marine tourism, the students had different experience on marine tourism did not have difference knowledge on marine tourism conservation because tourism was stressed on recreation, relaxation from daily life more than studying knowledge on resource or an important of resource that the students were interested in environ-mental conservation higher or lower. It might not be important to gain knowledge or good attitude immediately. It might depend on an important and value of resource, an interesting point of each one which was differently and correlated with Gojchagorn Wisuthi-wasu-tharn (2000: 79) studied knowledge and attitude of Rajchamongkol Institute teachers toward permanent agriculture, found that experience in participation of environmental activities did not make their knowledge of permanent agriculture differ from each other which was not as in the third item of the hypotheses.

Interested in environmental conservation, the students were interested in conservation differently, but they had indifferent knowledge on marine tourism conservation.   It was depended on an interesting of each one and realized the important of value on marine tourism resource conservation which was happened from an   acknowledgement of each one differently, correlated with the study of Phanthip Athi-panjaphongse (2000 : 113) on guide roles in enhancing an attitude of tourists in tourism - conservation.   Case study of "Thailand Tourism - Conservation and Adven-ture Association", found that guide roles in enhancing an attitude of tourists in tourism - conservation, did not depend on valuing natural resource and environment which against the third item of the hypotheses.

Educational institution, the students in any university or institute did not have different knowledge on marine tourism resource conservation which caused from each institute had very similar curriculum, they did not have any particular subject of marine resource and they did not have any activities to enhance this subject, which was not as in the third item of the hypothesis.

The attitude towards marine tourism resources conservation, it was found that most of the students had high level attitude of marine tourism resources conservation.   They valued, saw benefit and an important of these resources.   They had high level attitude of marine tourism resources conservation because they lived

in the South which had beautiful and valuable tourism resources.   They were so close to the tourism resources and saw this value that they had good attitude towards marine tourism resources conservation.   The study was found that many of them (70percent) had interested in environmental conservation which could affect conservation correlated with people's attitude at Amphur Phangan towards marine resources conservation.   Most of them had an attitude towards marine resources conservation quite good which was as in the second item of the hypotheses.

Attitude in marine tourism resources conservation among difference group of variables : - age, sex, educational level), hometown, grade point average, marine tourism information received, experience in marine tourism, interested in environmental conservation, and educational institution, it was found that educational level and educational institution that there were difference attitude in marine tourism resources conservation.   Other variables (hometown, grade point average, marine tourism information received, interested in environmental conservation, and educational institution did not have difference in marine tourism resources conservation.   This could be explained as follow : -

Educational level, number of years the students studied in the institute differently, had different   of attitude   on marine tourism resource conservation significantly in statistics at level 0.05.   The students were in the higher level had more experience and realized an important and value of resource which was correlated with the study of Gojchagorn Wisuthi-wasutharn (2000 : 81) "Knowledge and Attitude of Rajchamongkol Institute Teacher on permanent agriculture" found that official working period affecting on an attitude of permanent agriculture was differently and the study of Somchai Amphanthong (1989 : 102) found that knowledge, attitude, behavior of the executives of the mathayomsuksa schools in Bangkok Metropolitan toward environmental problems in Thailand. The executives in mathayomsuksa schools in Bangkok Metropolitan had different number of years holding this title and accessed of environmental information had different behavior on environment in Thailand which was as in the third item of the hypotheses.

Educational institution, the students from different institutes had different attitude on marine tourism resource conservation. The students realized an

important and had awareness of marine tourism resource conservation was depended on each institute.   It was found that most of the student samplings were in Prince of Songkla University, Phuket campus which Phuket province had many important marine tourism places and resource and were favorite for foreign tourists, had campaign and public relation. They were important marine tourism resource bringing income to the province. The students lived very close so that they realized an important and value of resource more than other institutes which was correlated with the study of Ganokphorn Issaranuwattana (1990 : Gor – Khor) found that opinion level of environmental pollution were different depended on school locations and Suwimol Songpradiht (1999 : Abstract) studied knowledge and attitude of garbage pollution and dangerous waste of mathayomsuksa three students, Department of General Education, Rajchaburi province found that the students had knowledge of garbage pollution and dangerous waste moderately, had attitude in high level or correlated positively to this topic.   Attitude was different depended on variables, school locations which was as in the third item of the hypotheses.

Sex, The study found that the students. male and female did not have difference attitude on marine tourism resource conservation was correlated with Ubol Wuthi-phornsophon (2003 : 74) studied on participation of keeping community environment of labors in Bang-ra-tuek sub-district, Samphran district, Nakornpathom province found that labors (men and women) participated in keeping community environment indifferent significantly in statistics at level 0.05 and Wilaiphorn Chanthrasuwan (2001 : 135) studied on participation of members of self – help settlement in natural resource conservation in Tai Muang Self – Help Settlement, Phang-ngar province found that male and female did not have correlation with participation of natural resource conservation significantly in statistics at level 0.05 which was not as in the third item of the hypotheses.

Age, the students at different ages did not have difference attitude on marine tourism resource conservation, the study found that samplings were about the same age, had opinion and expressing similarly which was correlated with the study of Police Captain Sa-thar-phorn Rodphoa-thong (1999 : 94) about knowledge and

attitude of the police cadet, the fourth year, toward the environmental problems was not different in attitude which was not as in the third item of the hypotheses.

Grade point average, the students did not have difference attitude on marine tourism resource conservation.   The students had high grade point average, had good knowledge, did not have to have a better attitude, because they acknowledged and realized the important of themselves in expressing value of resource which was correlated with Garu-nar Warraphakdeephamorn (2001 : 97) studied knowledge, attitude, and behavior of safety and working environment of undergraduate students, Faculty of Engineering, Rajchamongkol Technology Institute, the fourth year, different grade point average level had behavior of safety and working environment indifferently which was not as in the third item of the hypotheses.

Experience in marine tourism, the students had marine tourism experience differently, did not have difference attitude in marine tourism resources conservation because ones had more experience in marine tourism might pay more attention on vacation and aesthetics than realizing and having awareness on important of resources which was correlated with Pramote Sap-yen (1997 : 53) study, "Effectiveness of guide training, case study of guide training project, had experience in guiding differently, did not make any different of gaining knowledge from training and capability in bringing knowledge to use as a guide differently which was not as in the third item of the hypotheses.

Interested in environmental conservation, the students were interested in environmental conservation differently, did not have difference attitude on marine tourism resource conservation which was correlated with the study of Phanthip Athi-panjaphongse (2000 : 113) found that guide roles in promoting attitude of tourists in tourism - conservation.   Case study of Thailand tourism - conservation and adventure association, it was found that guide roles in promoting attitude of tourists in tourism - conservation did not depend on value of natural resource and environment which was not as in the third item of the hypothesis.

Hometown, the students lived in different places, did not have difference attitude on marine tourism resource conservation i because no matter where they came from any region of Thailand could have love and sense of belonging in resource

because these were belong to Thailand, they were not belong to particular group of people which was correlated with Ubol Wuthi-phornsophon (2001 : 74) studied on participation of keeping community environment of Bangratuek sub-district, Samphrarn district, Nakornpathom province. It was found that labors lived in different locations participated in keeping community environment indifferently, significantly in statistics at level 0.05 which was as in the third item of the hypotheses.

Marine tourism information received , the students accessed the information on marine tourism differently, did not have difference attitude on marine tourism resource conservation because everyone accessed information from different sources making them had attitude differently which was correlated with "Cognitive Consistency Theory", Phisamai Wiboolsak and teamwork (referred in Phamornrat Sutham, 1990 : 28) paid more attention on those who tried to find integration with opinion and behavior.   If the information that they received was correlated with their old attitude, it would be accepted, but if the information was against their knowledge, they would not be happy and brought to changing their attitude which was affecting on expressing, correlated with the study of Garunar Warraphakphamorn (2001 : 95-96) found that knowledge, attitude, and behavior of safety and working environment of the undergraduate students, Faculty of Engineering, Rajchamongkol Technology Institute, the fourth year, accessing the information of safety and working environment differently, did not have different attitude of safety and working environment. And Phamornrattana Sutham (1990 : Abstract) studied knowledge and attitude of people in Pha-ngan Island district toward seaboard resource conservation. It was found that the proposal for more news promotion of natural resource conservation of media which was not as in the third item of the hypotheses.

Correlation between knowledge and attitude towards marine tourism resources conservation, The study found that knowledge and attitude towards marine tourism resource conservation had positive correlation significantly in statistics at level 0.01.   Explained that attitude resulted from learning something new or new knowledge from experience which was an old attitude to link between knowledge and attitude so that knowledge and attitude were vary closely correlated, correlated with the study of Garunar Worraphakphamorn (2001 : Abstract) found that

knowledge and attitude, of safety and working environment of undergraduate students, Faculty of Engeineering, Rajchamongkol Technology Institute, had positive relationship with attitude of safety and working environment and correlated with Suwimol Thongpradiht (1999 : Abstract) found that knowledge and attitude of garbage and dangerous waste of mathayomsuksa three students, Department of General Education in Rajchaburi province had positive correlation and Kitti Boonyarattana-netra (2002 : Abstract) found that knowledge on seaboard resource conservation, attitude toward seaboard resource conservation had positive correlation significantly in statistics at level 0.01.
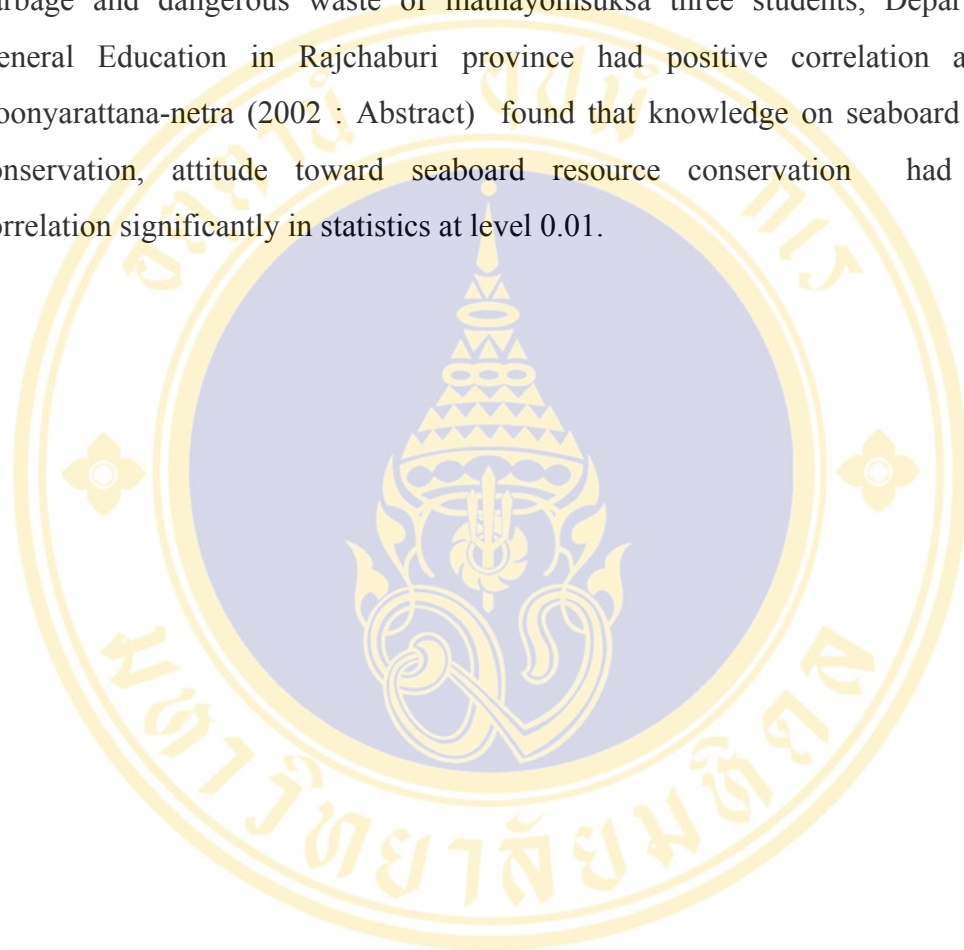
CHAPTER 6
CONCLUSION AND RECOMMENDATIONS

1. Conclusion

This research studied knowledge and attitude of undergraduate tourism management students towards marine tourism resource conservation. Its objectives were as the following:

1. To study knowledge and attitude of undergraduate tourism management students towards marine tourism resource conservation.

2. To compare knowledge and attitude of undergraduate tourism management students towards marine tourism resource conservation would differ according to several variables such as sex, age, educational level, hometown, grade point average, marine tourism information received , experience in marine tourism, interested in environmental conservation and education institution.

3. To investigate the relationship between knowledge and attitude of undergraduate tourism management students towards marine tourism resource conservation.

This study was a survey research. The population of this research was the undergraduate tourism management students from Rajabhat Institutes and universities locating in the provinces near the sea. There were eight educational institutions were listed below.

1. Kasetsart University, Sriracha Campus, Chon Buri

2. Walailak University, Nakhon Si Thammarat

3. Prince of Songkhla University, (Phuket Campus)

4. Burupha University, Chon Buri

5. Rajabhat Institute Phuket, Phuket

6. Rajabhat Institute Phetchaburi, Phetchaburi

7.   Rajabhat Institute Rajchanakharin, Chachoengsao

8.   Rajabhat Institute Surat Thani, Surat Thani

The researcher had quantified the size of the sample by the formula of Taro Yamane. The size of the sample was equal to 342 students. Moreover, the researcher selected the sample of all levels of the study form eight educational institutions by Proportional to Size. After that the researcher used Simple Random Sampling to collect the data from the sample of all levels of the study from eight educational institutions.

In this study, the researcher used the questionnaire as a tool for collecting the data. The form of questionnaire was divided into three parts; general information of the students, knowledge towards marine tourism resource conservation. Attitude towards marine tourism resource conservation. The questionnaire was corrected and adjusted by theses committee, and then the researcher tried out this questionnaire on thirty students. The rectors of all educational institutions were asked for the cooperation in collecting the data from all years of undergraduate tourism management students. After the students had completed the questionnaire, the researcher picked them up.

After finishing gathering the questionnaire, the researcher analyzed the data with Statistic Package for Social Sciences or SPSS. The results were as following : -

1. General information of the sample: There were sex, age, educational level, hometown, grade point average, marine tourism information received, experience in marine tourism, interested in environmental conservation and educational institution. This general information was analyzed by Percentage.

2. Knowledge and attitude towards marine tourism resource conservation were analyzed by Percentage, Arithmetic Average and standard Deviation.

3. The difference between knowledge and attitude depended on several variables sex, age, education level, hometown, grade point average, marine tourism information received, experience in marine tourism, interested in environmental conservation and educational institution. This was analyzed by T–test and F – test.

4. The relationship between knowledge and attitude towards marine tourism resource conservation was analyzed by Pearson product moment correlation coefficient.

The Result of the Study

This study showed knowledge and attitude of undergraduate tourism management students towards marine tourism resource conservation, as the following :

General information and status of representative sample

Most of the sample were female 83.6 percent, and others were male 16.4 percent. All of the sample were mostly between   18–19 years old 57.9 percent, and others were between 20–24 years old 42.1 percent. Most of the sample were the first–yeared students 31.6 percent. Others were the second–yeared students 26.3 percent, the third–yeared students 24.0 percent and the fourth–yeared students 18.1 percent, respectively. However, some educational institutions did not sort the fourth–yeared students by their hometown, From this study, most of the sample had their hometown in the South 52.0 percent. Others had their hometown in the Central 21.1 percent, East 17.5 percent, Northeast 6.7 percent, West 1.5 percent and North 1.2 percent, respectively. Distributed by educational institutions, most of the sample were studying in Prince of Songkhla University, Phuket Campus 24.6 percent. Others were studying in Rajabhat Institute Rajchanakharin 15.5 percent, Kasetsart University, Sriracha Campus, Chon Buri 14.6 percent, Walailak University, Nakhon Si Thammarat 14.0 percent, Rajabhat Institute Phetchaburi, Phetchaburi 12.3 percent Rajabhat Institute Surat Thani, Surat Thani 7.3 percent, Rajabhat Institute Phuket , Phuket 6.1 percent, and Burapha University, Chon Buri 5.6 percent, respectively. The sample mostly had their grade point average between 2.00–2.99 were53.5 percent. Others had their grade point average between 3.00–3.99 were 43.9 percent, 1.00–1.99 were 2.0 percent and 4.00 were 0.6 percent, respectively, Most of the sample had marine tourism information received 55.6 percent, and they mostly received information from television and travelling magazine in the approximate proportion 96.5 percent and 94.7 percent. Others could accessed to information of marine tourism resource from journal or article 94.7 percent Theleast one was the

sample who received information from other kinds of mass media such as cousins and brochure (4.1 percent). Furthermore, the sample had mostly experienced marine resource such as coral, beach, mangrove forest and marine creatures about 1–10 times a year. Secondly, the sample had experienced marine resource about 11–20 times a year. A large number of the sample had not experienced sea grass (77.4 percent), and only 22.6 percent of the sample had visited sea grass.

Most of the sample had a high interested in the environmental conservation (70.8). However, the sample with a low interested in the environmental conservation (29.2 percent)

Student had knowledge towards marine tourism resources conservation moderately, but they had high level attitude of this conservation.

Considering the comparison knowledge towards marine tourism resource conservation and variables, the researcher found that age leads to the difference of knowledge on the marine tourism resource conservation. However, sex, educational level, hometown, grade point average, marine tourism information received, experience in marine tourism. Interested in environmental conservation and educational institutions did not have difference on knowledge of undergraduate tourism management students towards marine tourism resource conservation.

Regarding the comparison attitude towards marine tourism resource conservation and variables, the researcher found that educational level and educational institutions resulted in the different attitude towards marine tourism resource conservation. Nevertheless, sex, age, hometown, grade point average, marine tourism information received , experience in marine tourism and interested in environmental conservation did not have difference on attitude of undergraduate tourism management students towards marine tourism resource conservation.

2. Recommendation

There were four suggestions derived from this study, as the following : -

1. The undergraduate tourism management students had knowledge towards marine tourism resources conservation moderately. The authority should enhance their knowledge by arranging activities such as exhibition, environmental camping, training, media – computer aid for teaching this topic.

2. The Tourism Authority of Thailand, Ministry of Education, and others should pay more attention on providing knowledge on marine tourism resources conservation for the undergraduate tourism management students because they could be leaders, guides regarding conservation. Marine tourism sites should be ready prepared such as improving pamphlet or guidebook to be more interesting, interpretation poster on tourism sites, and also computer aid for providing knowledge on this resources conservation.

3. The undergraduate tourism management students had mostly accessed to information of marine tourism resource from television and travelling magazine. Other types of media such as travel brochure or guidebook should be widely distributed, so the tourists were more interested in the information of marine tourism resource. Nowadays, the students chose to access to the information of marine tourism resource by themselves through Internet which was the fast and modern medium. The government should campaign and publicize interesting website of marine tourism resource; therefore, the tourists could realize importance and conserve.

4. The undergraduate tourism management students had hardly known or never seen such marine tourism resource as sea grass. The sea grass was an important kind of marine tourism resource, so the government and the relevant organizations such as Royal Forest Department should spread knowledge on marine tourism resource to the undergraduate tourism management students. For example, the activity for marine tourism resource should be provided in the educational institutions. The students would realize the importance of marine tourism resource and conserve them.

3.   Recommended for the Future Studies

From   this   study,   there   were   five   suggestions   for   future   studies,   as   the following:

1. In this study, the researcher spent a long time to collect the data, since the the student was from several educational institutions in different areas. Moreover, some students had work training. It was very difficult to collect the data. The method of collecting the data should be various and effective in the further studies.

2. The future studies would focus on knowledge and attitude: of tourists and guides towards marine tourism resource conservation since. These people were involved in the conservation of marine tourism resource directly.

3. The future research would study the activity or media held by educational institutions in the Faculty of Tourism Management. This research would give us a better understanding the influence of activity or media on knowledge and attitudes of the undergraduate tourism management students towards marine tourism resource conservation.

4. The future research would study the knowledge and attitude of undergraduate tourism management students from educational institutions situating in the inland area, and compared their knowledge and attitudes towards the conservation of marine tourism resource to the students from Rajabhat Institutes and other educational institutions locating in the provinces near the sea.

5. The future studies should be concentrated each touring specifically such as coral reef, beach, and etc.

6. The theoretical framework of this research could be applied to study knowledge and attitude towards the conservation of other natural resource such as forest. This research would be a guide – line on solution to natural deterioration.

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       <u>ของประชาชนในหมู่บ้านโครงการปฐมอโศก ตำบลพระประโทน จังหวัดนครปฐม.</u>
       วิทยานิพนธ์ศึกษาศาสตร์มหาบัณฑิต,สาขาสิ่งแวดล้อมศึกษาบัณฑิตวิทยาลัย
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       สาขาสิ่งแวดล้อมศึกษาบัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล.

APPENDIX

Table 19 : Activities of Tourism on the Coast

Provinces	Activities	Popular Places
1. Bangkok	1. Sighting of birds 2. Viewing mangrove forest 3. Studying the ecosystem	Developing station of estate on the coast, Bangkhun thien
2. Samut Songkharm	1. Visiting the village of fishermen 2. Sighting of birds	The village of fishermen at Thachalom
3. Sumut Sakhon	1. Viewing natural scenery 2. Sighting of birds	Donhoilot
4. Samut Prakan	1. Sighting of birds 2. Viewing mangrove forest	Bangpu
5. Chonburi	1. Diving (shallow or deep water) 2. Having recreation 3. Glass bottom boat 4. Viewing natural scenery	- Ko Lan - Pattaya - Bangsaen
6. Rayong	1. Diving to see coral reefs (shallow or deep water) 2. Having recreation 3. Glass bottom boat 4. Viewing natural scenery 5. Climbing a mountain	- Hat Laemmet - Laemsing - Hat Khungwiman
8. Trat	1. Diving to see coral reefs (shallow water) 2. Riding mountain bike 3. Having recreation 4. Viewing natural scenery	- Ko Kood - Ko Chang
9. Chachoengsao	1. Sighting of birds 2. Viewing mangrove forest	The estuary of Bangpakong River
10. Phetchaburi	1. Visiting the village of fishermen and seeing their lifestyles 2. Viewing natural scenery 3. Riding a horse on the beach 4. Having recreation 5. Fishing	- Cha-Am - Hat Chaosamran - Bangkhunsai village - Banlaem district

Table 19 : Activities of Tourism on the Coast (Cont.)

Provinces	Activities	Popular Places
11. Prachuap Khiri Khan	1. Viewing natural scenery 2. Sailing the canoe 3. Having recreation 4. Diving to see coral reefs (shallow water) 5. Sighting of birds 6. Fishing	- Khao Samroiyot - Hua-Hin
12. Chumphon	1. Diving to see coral reefs (shallow or deep water) 2. Having recreation 3. Viewing natural scenery 4. Sighting of birds 5. Fishing	- Ko Thalu - Ko Khai - Paknam Chumphon
13. Surat Thani	1. Diving to see coral reefs (shallow or deep water) 2. Viewing natural scenery 3. Studying the nature 4. Having recreation	- Ko Tao - Ko Angthong - Ko Sumui - Ko Phangan
14. Ranong	1. Studying the nature 2. Visiting the village of islanders 3. Sighting of birds 4. Having recreation 5. Viewing natural scenery	- The national park of Laemson - Hat Bangben
15. Krabi	1. Studying the nature 2. Visiting the village of fishermen 3. Sighing of birds 4. Having recreation 5. Viewing natural scenery 6. Diving to see coral reefs (shallow or deep water) 7. Viewing pre-historical paintings	- Ko Phiphi - Ao Maya - Tham Viking - Ko phiphi-Le

Table 19 : Activities of Tourism on the Coast (Cont.)

Provinces	Activities	Popular Places
16. Phangnga	1. Studying the nature 2. Visiting the village of islanders, Morgen 3. Sighting of birds 4. Sailing the canoe 5. Having recreation 6. Viewing natural scenery 7. Diving to see coral reefs (shallow or deep water) 8. Viewing pre-historical	- Ko Similans - Ko Surin
17. Phuket	1. Sea-walker 2. Diving to see coral reefs (shallow water) 3. Visiting the village of fishermen 4. Glass bottom boat 5. Sailing the canoe 6. Viewing natural scenery 7. Having recreation	- Hat Naithon - Ko He
8. Trang	1. Diving to see coral reefs (shallow water) 2. Studying the nature 3. Sighting of sea cow 4. Viewing natural scenery 5. Having recreation	- Hat Pakmeng - Ko Lipong - Ko Kradan - Tham Morakot
19. Satun	1. Diving to see coral reefs (shallow water) 2. Visiting the village of fishermen 3. Walking into the forest 4. Studying the nature 5. Viewing natural scenery 6. Having recreation	- Ko Tarutao - Laem Tanyongpo - Hat Saiyao

Table 19 ： Activities of Tourism on the Coast (Cont.)

Provinces	Activities	Popular Places
20. Nakhon Si Thammarat	1. Visiting the village of fishermen 2. Viewing natural scenery 3. Having recreation	- Hat Khanon - Laem Talumpuk
21. Songkhla	1. Viewing natural scenery 2. Having recreation	- Hat Samila - Ko Nu and Ko Maew
22. Narathiwat	1. Diving to see coral reefs (shallow water) 2. Viewing natural scenery 3. Having recreation 4. Sighting of birds	- Hat Narathat - Ko Losin

Source : A Study of Activities of Marine Ecotourism

Thailand Institute of Scientific and Technological Research

คณะมนุษยศาสตร์ มหาวิทยาลัยเกษตรศาสตร์

ชื่อหลักสูตร

ภาษาไทย   : หลักสูตรศิลปศาสตรบัณฑิต สาขาวิชาการเดินทางและการท่องเที่ยว

ภาษาอังกฤษ   : Bachelor of Arts Program in Tourism

ชื่อปริญญา

ภาษาไทย   ชื่อเต็ม : ศิลปศาสตรบัณฑิต (การเดินทางและการท่องเที่ยว)

                        ชื่อย่อ   : ศศ.บ. (การเดินทางและการท่องเที่ยว)

ภาษาอังกฤษ   ชื่อเต็ม : Bachelor of Arts (Tourism)

                        ชื่อย่อ   : B.A. (Tourism)

วัตถุประสงค์ของหลักสูตร

1. เพื่อผลิตบัณฑิตให้สามารถประกอบอาชีพได้อย่างมีประสิทธิภาพ เป็นทั้งผู้ให้บริการและผู้บริหารระดับกลางในธุรกิจบริการได้เป็นอย่างดี

2. เพื่อผลิตบัณฑิตให้มีความรอบรู้และสามารถใช้เหตุผลและวิจารณญาณอันถูกต้อง

3. เพื่อสร้างพื้นฐานในการศึกษาต่อในระดับที่สูงขึ้น

คำอธิบายรายวิชาที่เกี่ยวข้องกับการท่องเที่ยว

อุตสาหกรรมการท่องเที่ยว   (Tourism Industry)

วิวัฒนาการ ความหมาย ความสำคัญ แนวโน้ม ลักษณะ องค์ประกอบหลักและองค์ประกอบสนับสนุนของอุตสาหกรรมการท่องเที่ยว ผลกระทบจากอุตสาหกรรมการท่องเที่ยว แนวคิดเกี่ยวกับการวางแผนและพัฒนาอุตสาหกรรมการท่องเที่ยว บทบาทและนโยบายของรัฐในการพัฒนา องค์กรการท่องเที่ยวและระดับชาติ

งานมัคคุเทศก์   (Tour Guiding)

บทบาท หน้าที่ ความรับผิดชอบ บุคลิกลักษณะและจรรยาบรรณของมัคคุเทศก์ กระบวนการ วิธีการเทคนิคการนำเที่ยว มนุษยสัมพันธ์สำหรับงานมัคคุเทศก์ นันทนาการ การปฐมพยาบาล การป้องกันอุบัติเหตุและการให้ความปลอดภัยแก่นักท่องเที่ยว กฎหมายที่เกี่ยวข้องในงานมัคคุเทศก์ ระเบียบพิธีการเข้าออกราชอาณาจักร การแก้ไขปัญหาเฉพาะหน้า มีการศึกษานอกสถานที่และฝึกปฏิบัติงาน

ทรัพยากรการท่องเที่ยวเชิงกายภาพ (Physical Tourism Resources)

ประเภทและลักษณะทรัพยากรการท่องเที่ยวเชิงกายภาพ สมดุลธรรมชาติ การอนุรักษ์และการจัดการทรัพยากรการท่องเที่ยวเชิงกายภาพ หลักการการท่องเที่ยวเชิงนิเวศ เทคนิคในการสื่อความหมาย การนำข้อมูลทางด้านนิเวศวิทยาและภูมิศาสตร์มาใช้ในการจัดเส้นทางและการนำเที่ยวในแหล่งท่องเที่ยวทางธรรมชาติของประเทศไทยและต่างประเทศ มีการศึกษานอกสถานที่

พฤติกรรมของนักท่องเที่ยว (Tourist Behavior)

แรงจูงใจในการเดินทาง ความต้องการและ พฤติกรรมของนักท่องเที่ยวจำแนกตามวัตถุประสงค์ของการเดินทาง วัฒนธรรม ลักษณะทางประชากรศาสตร์ และปัจจัยด้านเศรษฐกิจและสังคม

การจัดนำเที่ยว (Organization of Tours)

ประเภทและองค์ประกอบของการนำเที่ยว หลักการและกระบวนการจัดนำเที่ยว วิธีการและเทคนิคของการสำรวจเส้นทางการเดินทางและการเขียนแผนที่ เทคนิคในการประสานงานกับหน่วยงานที่เกี่ยวข้อง การคิดต้นทุนและการกำหนดราคารายการนำเที่ยว เทคนิคการเขียนรายการนำเที่ยว มีการฝึกปฏิบัติ

หนังสือและวารสารการท่องเที่ยว (Tourist Publication)

ประเภทของหนังสือและวารสารการท่องเที่ยวในองค์กรอุตสาหกรรมการท่องเที่ยว การเขียนและรูปแบบต่าง ๆ ของหนังสือ และวารสารการท่องเที่ยว การจัดระบบหน่วยงาน บุคลากรและวิธีการแจกจำหน่าย

การพัฒนาสถานที่ท่องเที่ยว (Tourist Destination Development)

ความเป็นมาและแนวโน้มในการพัฒนาสถานที่ท่องเที่ยว ประเภท ลักษณะ และการประเมินศักยภาพสถานที่ท่องเที่ยว หลักการและขั้นตอนของการพัฒนาสถานที่ท่องเที่ยว พัฒนาสถานที่ท่องเที่ยวแบบยั่งยืน บทบาทและความร่วมมือของหน่วยงานภาครัฐและเอกชน

การดำเนินงานธุรกิจนำเที่ยว (Tour Business Operation)

ประเภทและ โครงสร้างองค์กรธุรกิจนำเที่ยว การจัดตั้ง การดำเนินงาน ระบบอัตโนมัติการวางแผนการผลิต การตลาด การบริหารงานบุคคลและการเงินของบริษัทนำเที่ยว

การวางแผนและพัฒนาการตลาดการท่องเที่ยว(Tourism Marketing Planning and Development)

ปัจจัยที่มีผลกระทบต่อตลาดการท่องเที่ยว การแบ่งส่วนตลาด พฤติกรรมการบริโภคของนักท่องเที่ยว ส่วนประสมของการตลาดการท่องเที่ยว หลักการและกระบวนการในการวางแผน เทคนิคและกลยุทธ์ในการพัฒนาการตลาดการท่องเที่ยวทั้งภายในและต่างประเทศ แนวทางและเทคนิคการเขียนแผนงานการตลาด

สื่อมวลชนเพื่อการท่องเที่ยวและการโรงแรม (Mass Media for Tourism and Hotel)

ประเภทและลักษณะของสื่อ การเลือกสื่อและการบริหารสื่อ การวางแผนการใช้สื่อเพื่อการโฆษณาและประชาสัมพันธ์ธุรกิจท่องเที่ยวและโรงแรม ทั้งในระดับประเทศและระหว่างประเทศ

การท่องเที่ยวในระบบเศรษฐกิจของชาติ (Tourism in the National Economy)

กิจกรรมการท่องเที่ยวและค่าใช้จ่าย การประมารการธุรกิจการท่องเที่ยว ผลกระทบที่มีต่อระบบเศรษฐกิจและอุตสาหกรรมอื่น การประเมินผลการท่องเที่ยวภายในประเทศและระหว่างประเทศ แหล่งข้อมูลสำหรับสถิติการท่องเที่ยว หลักสถิติที่ใช้ในการวิเคราะห์ธุรกิจการท่องเที่ยว

ระบบข้อมูลทางการท่องเที่ยว (Tourism Information Systems)

ประเภทและลักษณะข้อมูลทางการท่องเที่ยว วิธีการแสวงหา การเลือกและการวิเคราะห์ข้อมูล การจัดเก็บและการจัดระบบข้อมูล การประยุกต์ข้อมูลมาใช้ในการวางแผน การจัดการและการบริหารงานทางการท่องเที่ยวของหน่วยงานภาครัฐและภาคเอกชน

การจัดการทรัพยากรมนุษย์ในอุตสาหกรรมการท่องเที่ยว (Human Resource Management in the Tourism Industry)

ปัญหาของการจัดการทรัพยากรมนุษย์ในอุตสาหกรรมการท่องเที่ยว แนวคิด หลักการ วิธีการและการวางแผนเชิงกลยุทธ์ในการจัดการทรัพยากรมนุษย์

ระเบียบวิธีวิจัยพื้นฐานทางการท่องเที่ยว (Basic Research Methods in Tourism)

หลักและวิธีวิจัย การเลือกปัญหา การวางรูปแบบการวิจัย การตั้งวัตถุประสงค์และสมมุติฐาน การสร้างแบบสอบถาม การสุ่มตัวอย่าง การเก็บรวบรวมข้อมูล การทำตารางเสนอผลการวิจัย การวิเคราะห์ การประเมินผลงานการวิจัย และการเขียนรายงานผลการวิจัย

สัมมนา (Seminar)

การนำเสนอและอภิปรายหัวข้อที่น่าสนใจทางการท่องเที่ยวในระดับปริญญาตรี

ปัญหาพิเศษ (Special Problems)

การศึกษาค้นคว้าทางการท่องเที่ยวระดับปริญญาตรี   แล้วเรียบเรียงเขียนรายงาน

แนวทางในการประกอบอาชีพ สามารถประกอบอาชีพได้ทั้งในหน่วยงานของภาครัฐและเอกชน เช่น การท่องเที่ยวแห่งประเทศไทย บริษัทนำเที่ยว ธุรกิจการบิน มัคคุเทศก์ เป็นต้น

ที่มา : หลักสูตรและคู่มือการศึกษา คณะมนุษยศาสตร์ มหาวิทยาลัยเกษตรศาสตร์ พ.ศ. 2542

แบบสอบถาม

เรื่อง

ความรู้และเจตคติในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล
ของนักศึกษาปริญญาตรี สาขา การโรงแรมและการท่องเที่ยว

<u>คำชี้แจง</u>

     แบบสอบถามนี้เป็นส่วนประกอบการทำวิทยานิพนธ์เพื่อศึกษา ความรู้และเจตคติ ในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเลของนักศึกษาปริญญาตรี สาขาการโรงแรมและการ ท่องเที่ยว ซึ่งแบ่งเป็น 3 ส่วนคือ

    ส่วนที่ 1   ข้อมูลทั่วไปของนักศึกษา
    ส่วนที่ 2   ความรู้เกี่ยวกับ การอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล
    ส่วนที่ 3   เจตคติเกี่ยวกับ การอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล
    ขอความกรุณาตอบคำถามทุกข้อของแบบสอบถาม

ขอบคุณนักศึกษาทุกท่าน

นางสาว นิตยา แย้มแว่นแก้ว
นักศึกษาหลักสูตรศึกษาศาสตร์ มหาบัณฑิต สาขาสิ่งแวดล้อมศึกษา
คณะสังคมศาสตร์และมนุษยศาสตร์ มหาวิทยาลัยมหิดล

<u>**ส่วนที่ 1**</u> ข้อมูลทั่วไปของนักศึกษา

<u>**คำชี้แจง**</u> คำว่านักศึกษาในที่นี้หมายถึง ผู้ตอบแบบสอบถาม

กรุณาทำเครื่องหมาย (X) ลงใน ☐ เพียงหนึ่งคำตอบและ/ หรือ เติมข้อความลงในช่องว่างตาม
ความเป็นจริง

1. เพศ

☐ ชาย   ☐ หญิง

2. อายุ .... ปี

3. สถานที่กำลังศึกษา .... ปี ชั้นปีที่กำลังศึกษา ....

4. ภูมิลำเนาเดิมเป็นคนจังหวัด ....

5. คะแนนเฉลี่ยสะสมจนถึงปัจจุบันเท่ากับ ....

6. นักศึกษาเคยเรียนวิชาเกี่ยวกับทรัพยากรทางทะเลบ้างหรือไม่

☐ เคย   ☐ ไม่เคย

ถ้าเคย เคยเรียนตอนช่วงไหน (**ตอบได้มากกว่า 1 ข้อ**)

☐ ชั้นประถมศึกษา

☐ ชั้นมัธยมตอนต้น

☐ มัธยมศึกษาตอนปลาย

☐ มหาวิทยาลัย

คำชี้แจง กรุณาเขียนเครื่องหมาย √ ลงในช่องว่างที่ตรงกับคำตอบของท่าน

7. นักศึกษาเคยได้รับข้อมูลข่าวสารเกี่ยวกับทรัพยากรการท่องเที่ยวทางทะเลจากแหล่งต่อไปนี้
หรือไม่

แหล่งข้อมูลข่าวสาร	เคย	ไม่เคย
1.วิทยุ		
2.โทรทัศน์		
3.หนังสือพิมพ์		
4.นิทรรศการ		
5.หนังสือการท่องเที่ยว		
6.วารสาร, บทความ		
7.ตำราเรียน		
8.อาจารย์หรือบุคคลอื่น เช่น ญาติ		
9.อินเตอร์เน็ต		
10.อื่นๆ ระบุ..........		

8. ข้อมูลข่าวสารเกี่ยวกับทรัพยากรการท่องเที่ยวทางทะเลนักศึกษาได้รับจากแหล่งใดมากที่สุด
....

9. นักศึกษาเคยท่องเที่ยวหรือทัศนศึกษาทรัพยากรทางทะเลต่อไปนี้หรือไม่

ทรัพยากรทางทะเล	เคย	ไม่เคย
1.ปะการัง	ระบุครั้ง	
2.ชายหาด	ระบุครั้ง	
3.ป่าชายเลน	ระบุครั้ง	
4.แหล่งหญ้าทะเล	ระบุครั้ง	
5.ชมสัตว์ทะเล เช่น ปลาการ์ตูน ,ปลาพะยูน,เต่าทะเล	ระบุครั้ง	

10. ความสนใจในการอนุรักษ์สิ่งแวดล้อม

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1. สิ่งแวดล้อมทั้งตามธรรมชาติและที่มนุษย์สร้างขึ้น ต้องมีการอนุรักษ์					
2. นักศึกษาต้องเอาใจใส่ดูแลสิ่งแวดล้อมด้วย					
3. นักศึกษาสนใจเข้าร่วมอบรมหรือทำกิจกรรม การอนุรักษ์สิ่งแวดล้อม					
4. นักศึกษาต้องการช่วยประชาสัมพันธ์หรือให้ความรู้ การอนุรักษ์สิ่งแวดล้อม					

ส่วนที่ 2   ความรู้เรื่อง การอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล

คำชี้แจง   กรุณาทำเครื่องหมาย (x) ลงบนข้อที่นักศึกษาคิดว่าถูกต้องที่สุดเพียงข้อเดียว

1. ทรัพยากรการท่องเที่ยวทางทะเลหมายถึงข้อใด
    1. สถานที่ที่มีความสวยงามเกิดตามธรรมชาติ เช่น ชายหาด ปะการัง
    2. ทรัพยากรทางทะเลที่ให้ประโยชน์เฉพาะกลุ่มนักท่องเที่ยว
    3. ทรัพยากรธรรมชาติในเขตพื้นที่ชายฝั่งภาคใต้
    4. แหล่งท่องเที่ยวที่มีสิ่งอำนวยความสะดวกในการรองรับนักท่องเที่ยว
2. ข้อใด ไม่ใช่ การอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล
    1. น้ำทิ้งจากร้านค้าได้รับการบำบัดก่อนปล่อยลงสู่ทะเล
    2. ก่อสร้างท่าเทียบเรือบริเวณชายหาดเพื่อความสะดวกในการขนส่ง
    3. ทำการท่องเที่ยวเชิงนิเวศในเขตป่าชายเลน
    4. ทำปะการังเทียมในทะเล
3. คำกล่าวใดต่อไปนี้ตรงกับความเป็นจริง
    1. การอนุรักษ์ทรัพยากรทางทะเลที่ได้ผลดีที่สุดคือ การออกกฎหมายควบคุม
    2. การปล่อยน้ำเสียลงทะเลไม่ทำให้น้ำชายหาดเน่าเพราะน้ำทะเลเจือจางได้
    3. การถมชายหาดเพื่อสร้างอาคารมีผลทำให้น้ำทะเลเปลี่ยนทิศทางได้
    4. การอนุรักษ์มีความสำคัญน้อยกว่าการหารายได้จากทรัพยากรทางทะเล
4. บุคคลในข้อใดมีส่วนช่วยในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล
    1. นก   เลี้ยงปลาสวยงาม
    2. น้อย   สะสมเปลือกหอยจากทะเล
    3. นัท   เข้าร่วมกิจกรรมปล่อยเต่าทะเล
    4. น้ำ   ค้าขายผลิตภัณฑ์ทางทะเล
5. การกระทำใดทำลายแนวปะการังมากที่สุด
    1. ซื้อสินค้าจากปะการัง
    2. นำปะการังมาจัดตู้โชว์
    3. หักแนวปะการังไปขาย
    4. ทอดสมอเรือลงบนแนวปะการัง

6. การอนุรักษ์ปะการังก่อให้เกิดประโยชน์อย่างไร

    1. ใช้ในอุตสาหกรรมเครื่องประดับ

    2. ใช้เป็นตัวอย่างในการทำปะการังเทียม

    3. เป็นแหล่งอาหารที่สำคัญของสัตว์ทะเล

    4. นำมาขายทำรายได้เข้าประเทศ

7. ทรัพยากรชายหาดมีความสำคัญ **ยกเว้น** ข้อใด

    1. ก่อสร้างร้านอาหารยื่นลงชายทะเลเพื่อชมทิวทัศน์ที่สวยงาม

    2. เป็นที่วางไข่ของสัตว์ทะเล

    3. เป็นที่พักอาศัยในบางช่วงชีวิตของนกทะเล

    4. เป็นแหล่งท่องเที่ยวที่สวยงาม

8. ป่าชายเลน เป็นทรัพยากรทางทะเลที่สำคัญเพราะเหตุใด

    1. ถ้าถูกทำลายจะส่งผลให้ปริมาณสัตว์น้ำลดลง

    2. นำรายได้เข้าประเทศ

    3. ใช้ในการทำเฟอร์นิเจอร์

    4. เป็นแหล่งไม้สำคัญในการเผาถ่าน

9. นักศึกษาจะมีส่วนร่วมในการแก้ปัญหาการถูกทำลายของป่าชายเลนได้หรือไม่ เพราะเหตุใด

    1. ไม่ได้ เพราะไม่มีอำนาจควบคุมหรือนำผู้อื่นให้ปฏิบัติตามได้

    2. ไม่ได้ เพราะเป็นปัญหาที่ใหญ่และซับซ้อนเกินกว่าจะช่วยได้

    3. ได้ เพราะการแก้ไขปัญหากระทำได้ง่าย

    4. ได้ เพราะนักศึกษามีส่วนปฏิบัติตนให้ถูกต้อง เพื่อไม่ให้เกิดการทำลายป่าชายเลน

10. ข้อใดไม่ถูกต้อง

    1. แหล่งหญ้าทะเลเป็นระบบนิเวศที่มีความอุดมสมบูรณ์

    2. หญ้าทะเลสามารถเพาะพันธุ์ได้ง่าย

    3. แหล่งหญ้าทะเลทำให้พบสัตว์ที่หาดูยาก เช่น พะยูน

    4. การเพาะเลี้ยงชายฝั่งมีส่วนในการทำลายแหล่งหญ้าทะเล

11. ถ้านักศึกษาช่วยกันอนุรักษ์แหล่งหญ้าทะเลจะส่งผลอย่างไร

    1. น้ำทะเลมีคุณภาพดีขึ้น

    2. เป็นแหล่งอาหารของสัตว์ทะเล

    3. ป้องกันชายฝั่งจากคลื่นลม

    4. ไม่มีประโยชน์ด้านใด

12. ปลาการ์ตูนก่อให้เกิดความรู้สึกใด **ที่ไม่ถูกต้อง**

     1. รู้สึกรักและหวงแหน

     2. รู้สึกอยากให้คงอยู่นานๆ ให้ลูกหลานได้เห็น

     3. รู้สึกชื่นใจ อยากเก็บเอาไปเป็นที่ระลึก

     4. รู้สึกกังวล เป็นห่วงอยากรักษาไว้

13. ข้อใดถูกต้อง

     1. การยึดครองพื้นที่ชายหาดไม่ได้เป็นการทำลายทรัพยากรชายฝั่ง

     2. ควรกองขยะจากการบริโภคไว้ชายหาดเพื่อให้ย่อยสลายไปเอง

     3. การรั่วซึมของน้ำมันไม่มีผลต่อสัตว์ทะเล

     4. เต่าทะเลเป็นทรัพยากรที่สำคัญชนิดหนึ่งทางทะเล

14. วิธีการใดช่วยในการป้องกันการเสื่อมโทรมทางทรัพยากรการท่องเที่ยวทางทะเล

     1. ทอดสมอเรือบริเวณทุ่นที่จัดไว้

     2. สะสมของที่ระลึกทำจากหนังปลากระเบน

     3. เลี้ยงกุ้งกุลาดำบริเวณชายฝั่งทะเล

     4. นำสัตว์ทะเลมาเพาะเลี้ยงเพื่อขยายพันธุ์

15. การทำลายทรัพยากรการท่องเที่ยวทางทะเลข้อใดส่งผลกระทบมากที่สุด

     1. ขยะบริเวณชายหาด

     2. สร้างที่พักรุกล้ำลงไปในทะเล

     3. นักท่องเที่ยวทำลายแนวปะการัง

     4. การจับสัตว์ทะเลมาเลี้ยงไว้

ส่วนที่ 3 เจตคติของนักศึกษาในการอนุรักษ์ทรัพยากรการท่องเที่ยวทางทะเล

คำชี้แจง กรุณาทำเครื่องหมาย √   ลงในช่องว่างที่ตรงกับความรู้สึก หรือความคิดเห็นของ
นักศึกษามากที่สุด

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1. การให้ความรู้แก่ประชาชนในเรื่องคุณค่าของทรัพยากรการท่องเที่ยวทางทะเลเป็นสิ่งจำเป็น					
2. ทรัพยากรทางทะเลเมื่อเสื่อมโทรมลง สามารถฟื้นคืนสู่สภาพเดิมได้ เราจึงไม่ต้องดูแลรักษา					
3. ปัจจุบันการใช้เทคโนโลยีที่ทันสมัยสามารถนำมาใช้ประโยชน์ในการแก้ไขปัญหาทรัพยากรทางทะเลที่เสื่อมโทรมได้					
4. ปะการังถูกทำลายไปมาก จึงเสียเวลาที่จะดูแลอีกต่อไป					
5. การใช้ปะการังเทียมเพียงอย่างเดียวก็เพียงพอแล้วในการอนุรักษ์ปะการัง					
6. คราบน้ำมันเล็กๆ น้อยๆ จากเรือไม่มีผลกระทบต่อแนวปะการัง					
7. การดูแลรักษาความสะอาดบริเวณชายหาดเป็นหน้าที่ของเจ้าหน้าที่ที่เกี่ยวข้อง					
8. การให้นักท่องเที่ยวแยกขยะก่อนทิ้งบริเวณชายหาดมักทำได้ยาก					
9. นักศึกษารู้สึกไม่สบายใจ เมื่อได้ยินบุคคลอื่นกล่าวว่าชายหาดสกปรก					
10. ถ้าไม่ดูแลรักษาแหล่งหญ้าทะเลจะส่งผลกระทบต่อระบบนิเวศทางทะเล					

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
11. นักท่องเที่ยวไม่ให้ความสำคัญหรือไม่เห็นประโยชน์ของหญ้าทะเล					
12. หญ้าทะเลก็เหมือนวัชพืชทั่วไปที่ต้องกำจัด					
13. มีความจำเป็นที่จะต้องเพิ่มพื้นที่ในการปลูกป่าชายเลน					
14. ป่าชายเลนมีส่วนสำคัญในการรักษาสมดุลของระบบนิเวศทางทะเล					
15. การตัดไม้ป่าชายเลนผลกระทบน้อยเมื่อเทียบกับป่าไม้					
16. การบรรจุวิชาอนุรักษ์สัตว์น้ำทางทะเลในระดับประถมศึกษาถือว่าเร็วเกินไป					
17. การจับสัตว์น้ำในทะเล มาเพื่อเลี้ยงดูเล่น ไม่ถือว่าเป็นเรื่องเสียหาย					
18. การอนุรักษ์สัตว์น้ำทางทะเล เช่น เต่าทะเล,ปลากุเลา,ปลาทู ในประเทศของเรา จะใช้เวลานานมากขึ้น เนื่องจากถูกทำลายไปมาก					

BIOGRAPHY

NAME   Miss. Nitaya Yamwankaew

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Public Health Administration

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