

CHAPTER 3

METHODOLOGY

This research is aimed at studying “Development of Phuket Beaches for Sustainable Tourism: A Case study of Patong, Kata and Karon” The research methodology is as the followings:

3.1 Sample Selection

3.1.1 Population

The Population was divided into three groups of respondents. The first group is potential respondents who are tourists that visit Patong, Kata and Karon. The group of tourists is divided into 2 groups: (1) group of international tourists and (2) group of domestic tourists. The second group is the beach stakeholder which is divided into 2 groups: (1) group of local community and (2) group of business providers. The third group is the authority which is divided into 2 groups: (1) Patong municipality officers and (2) Karon municipality officers.

3.1.2 Sample

The researcher determined sample size from total guest arrivals at Patong, Kata and Karon beach by Tourism Authority of Thailand statistic, Year 2004 as follow:

Table 3.1 Guest Arrivals at Patong, Kata and Karon (TAT, 2004)

| The Beach | Tourists (person) Year 2004 | Percent |
|--------------------------|--|----------------|
| Patong | | |
| - Domestic tourists | 196,610 | 9.00 |
| - International tourists | 986,159 | 45.17 |
| Total Arrivals | 1,182,769 | 54.17 |
| Karon | | |
| - Domestic tourists | 77,996 | 3.57 |
| - International tourists | 559,970 | 25.65 |
| Total Arrivals | 637,966 | 29.22 |
| Kata | | |
| - Domestic tourists | 61,848 | 2.83 |
| - International tourists | 300,936 | 13.78 |
| Total Arrivals | 362,784 | 16.61 |
| Total | 2,183,519 | 100.00 |

3.1.3 Sampling Method

The researcher has used multi-stage sampling to calculate a sample size of target group from the total number of tourists who visit a particular beach. After that, the researcher used the Yamane formula (1973) to identify appropriate total tourists in each beach. This formula is reliable to 95% and less than 5% deviation factor.

$$n = N / [1 + Ne^2]$$

e = Deviation of sampling

N = Size of population

n = Size of sampling

Formulation $n = 2,183,519 / [1 + 2,183,519 (0.05)^2]$

$n = 399.926$

Therefore, the sampling size is 400 samples.

The First group, the researcher uses probability sampling and cluster sampling by divided into three sample groups; tourists who visit Patong, Kata and Karon Beach.

From 400 samples, the researcher divides sampling size in each beach by ratio of tourists as follows:

Table 3.2 Total sampling sizes of international and domestic tourists, classified by beaches (Patong, Kata, Karon)

| The Beach | Tourists (person) Year 2004 | Sampling sizes |
|--------------------------|--|-----------------------|
| Patong | | |
| - Domestic tourists | 196,610 | 40 |
| - International tourists | 986,159 | 175 |
| Total Arrivals | 1,182,769 | 215 |
| Karon | | |
| - Domestic tourists | 77,996 | 30* |
| - International tourists | 559,970 | 85 |
| Total Arrivals | 637,966 | 115 |
| Kata | | |
| - Domestic tourists | 61,848 | 30* |
| - International tourists | 300,936 | 40 |
| Total Arrivals | 362,784 | 70 |
| Total | 2,183,519 | 400 |

Remark: * Adjusted for “Least sample size” group

The second group is the beach stakeholders which are divided into 2 groups as follows:

- (1) Residents (one family represent to a resident)
- (2) people who do business on/around the beach (one business represent to a people)

In **Patong municipality area**, there are totally 3,350 families and 271 businesses are in the following table:

Table 3.3 Total communities and businesses in Patong area

| Street | Type of businesses | | | |
|---|------------------------------|-------------------------|-----------------------|-------------------------|
| | Foods & Beverages businesses | | Other businesses | |
| | Registered businesses | Unregistered businesses | Registered businesses | Unregistered businesses |
| Taweewong (faced with Patong Beach) | 51 (41.18%) | 71 (58.82%) | 80 (66.25%) | 69 (33.75%) |
| Total | 122 (45%) | | 149 (55%) | |
| | 271 | | | |

Source: Patong Municipality office

From this table, the researcher selects populations on Taweewong Street only because it faced to Patong beach, so these people seems to know the situation on the beach better than others. The researcher calculates the actual number of all businesses on Taweewong Street which is 271 businesses, comprising of 122 foods & beverages businesses and 149 for others.

Karon municipality area covers both Kata and Karon beach. There are totally 3,873 families and 311 businesses (See Appendix F).

Therefore, total businesses in Patong, Kata and Karon are $271 + 311 = 582$ businesses, total families are $3,350 + 3,873 = 7,223$.

Then the researcher uses Yamane formula (1973) to identify appropriate total businesses' sample as follows:

$$n = N / [1 + Ne^2]$$

e = Deviation of sampling

N = Size of population

n = Size of sampling

Formulation

$$n = 582 / [1 + 582 (0.05)^2]$$

$$n = 236$$

Therefore, the sampling size is 236 samples.

From 236 samples, the researcher computes by the ratio of businesses in the following table:

Table 3.4 Ratio of businesses sampling size

| Municipality | Total businesses | Sampling size | Actual Sample* |
|--------------|------------------|---------------|----------------|
| Patong | 271 | 110 | 30 |
| Kata | 311 | 63 | 30 |
| Karon | | 63 | 30 |
| Total | 582 | 236 | 90 |

Remark: * Due to time limitation, the researcher reduced the sample to the least sample size of 30 businesses per beach.

The researcher also uses Yamane formula (1973) to identify appropriate total communities' sample as follows:

$$n = N / [1 + Ne^2]$$

e = Deviation of sampling

N = Size of population

n = Size of sampling

Formulation

$$n = 7,223 / [1 + 7,223 (0.05)^2]$$

$$n = 379$$

Therefore, the sampling size is 379 samples.

From 379 samples, the researcher computes by the ratio of communities in the following table:

Table 3.4 Ratio of communities sampling size

| Municipality | Total communities | Sampling size | Actual Sample* |
|--------------|-------------------|---------------|----------------|
| Patong | 3,350 | 175 | 148 |
| Kata | 3,873 | 102 | 71 |
| Karon | | 102 | 71 |
| Total | 7,223 | 379 | 290 |

Remark: * Due to time limitation, the researcher reduced the sample but it is sufficient for the purposes of statistical research

The third group is government officer those are Patong municipality officers and Karon municipality officers. The researcher will use direct interview as a tool to ask an officer who responds to tourism activities on a particular beach.

3.2 Research Design

Firstly, the researcher defined required information and study principle, theory and related researches and literatures which relevant to sustainable tourism development and the tourism management on the beach. After that, the researcher collected secondary data and study general information of the beach management from the authorities; Patong and Karon municipality. After collected and reviewed secondary data, the researcher surveyed the beach destination and designed question lists for municipality officers, first. Then the researcher did pre-test the question lists with the authority and revised and tested again. After

collected data from municipality officers, the researcher applied the results of municipality officers to questionnaires for tourists and the beach stakeholders (communities and businesses). Then, the researcher corrected details and content validity of all questions and pre-test questionnaires to international tourists, domestic tourists, communities and businesses, and revised and tested again. After that, distribution all questionnaires to respondents on Patong, Kata and Karon beach and collected all primary data and analyzed.

3.3 Research Instrument

1) The questionnaire, which was designed according to sustainable tourism theories and sustainable tourism indicator book issued by World Tourism Organization. There are 3 types of questionnaire to study tourists' opinions, the beach stakeholders' opinions and the authorities' opinions on the beach tourism management. There are 4 types of question, which are dichotomous (2choices), multiple choices, open-ended and rating.

The questionnaires that used to analyze this research were adapted from the questionnaire model of a guidebook: Indicators of Sustainable Development for Tourism Destination by WTO. There were including of exit questionnaires used for visitors and another was local questionnaire model. The exit questionnaires undertaken in several destinations in a number of countries and are designed to quantify and clarify the components of visitor satisfaction.

The model of local or resident questionnaire is designed to provide information on the attitudes and concerns of the community with respect to the key issues from their perspective. The questions are generally structures as statements with which the respondent can agree or disagree. A five point scale is used, from strongly agree, to agree, neutral, disagree to strongly disagree. Indicators are used to determine the level of engagement and understanding of sustainable tourism practices by operators as well as the implementation of these in their operations. Results can feed back into the awareness building process and inform on opportunities to improve communication systems (WTO, 2004).

The questionnaires are used in this research were adjust to fit with Patong, Kata and Karon beaches. Therefore, the major questions concerned to the environmental management on

the beach; cleanliness, sea quality, noise, congestion, garbage management, etc. However, to be out for sustainability it had some questions about local culture and economic as well.

The questionnaire for tourists was divided into 3 parts

Part 1: The beach experience

Part 2: Tourists' opinion to tourism management on the beach

Part 3: Personal Information

The questionnaire for the beach stakeholders was divided into 3 parts as follows:

Part 1: The opinion to tourism components and environmental management on the beach.

Part 2: The opinion to the beach tourism impact on community

Part3: Personal Information

2) The questions for interviewing were designed according to sustainable tourism theories and Guide for Local Authorities on developing sustainable tourism issued by World Tourism Organization. The researcher interviewed the municipality officers whose have responsibility or concern with the beach tourism management. The questions are about the opinion to develop the beach for sustainable tourism.

3.4 Data Collection

The researcher uses cross-sectional approach for collecting data which is September- October, 2005. The questionnaires were used for asking 400 tourists; classified into 300 samples for international tourists and 100 samples for domestic tourists. The others 380 questionnaires were used for asking the beach stakeholders; classified into 290 samples for local communities and 90 samples for businesses providers on the beach.

The questionnaires were handed out to tourists on Patong, Kata and Karon beach during 10 a.m. to 6 p.m. everyday. Potential tourists' respondents were asked for sure that they were tourists and stayed at least one night on a particular beach. All questionnaires were filled in by tourists themselves and the average time of answering questions was approximately 10 -15 minutes per one sample.

The questionnaires were also handed out to the beach stakeholders on Patong, Kata and Karon beach during 10 a.m. to 6 p.m. everyday. Questionnaires for businesses providers were handed out to them at their work place and potential communities' respondents were asked for sure that they did not business providers on or around the beach. Each respondent spent approximately 10 minutes for answering questions.

3.4.1 Primary Data

- 1) Questionnaires distributed to international and domestic tourists who visit Patong, Kata and Karon beach.
- 2) Questionnaires distributed to the beach stakeholders on Patong, Kata and Karon beach.
- 3) Questions for interviewing authorities who take part of the beach tourism management.

The questions were asking for opinions to tourism components on the beach as follows; Landscape management, Basic structure, Accessibility, Convenience of communication, Transportation and Destination facilities (Food & Beverage, Shopping, Safety and Security), Attitudes of tourists and Tourists' opinions. Furthermore, asking for opinion to problems and obstacles of environmental management on the beach and suggestions and recommendations for sustainable tourism development on the beach

3.4.2 Secondary Data

The researcher studied already planned physical development of destination facilities from (1) Patong Municipality and (2) Karon Municipality and studied from others sources as the followings:

- Tourism Authority of Thailand (TAT): General information and Statistic of tourist arrival in Phuket (2005), Tourism Marketing Plan 2005
- Related research
- Text Books

- Articles and Journal
- Local Newspaper
- Internet
- Etc.

3.5 Data Analysis

The data was analyzed by using SPSS program version 13 as a tool. There was sample frequency analysis that showed basic features of data collection in every variable. The manual tabulation analysis was used for variable of open-ended questions, for instance; suggestion and recommendations, to obtain essential information. Furthermore, the hypothesis testing was analyzed by using the t-test and one-way ANOVA to measure the differences of opinions to tourism management on the beach between international and domestic tourists and between communities and businesses. The results from direct interview municipality officers were analyzed by using content analysis.