

CHAPTER 3

Research Design and Methodology

This research aims to study ecotourism to design criteria for accommodation in Doi Suthep-Pui National Park. Researching and studying the concept of ecotourism will be useful and important for the future development in tourism industry.

3.1 Research Design

The idea for the thesis, to research the ecotourism and its accommodation in Doi Suthep-Pui National Park, Chiang Mai, Thailand, was idealistic and actual considering also the personal interests of the researcher. To start planning this kind of research there are seven steps to be followed. Qualitative part of this thesis research is done with the help of framework by Lodigo et al. (2006)

- i. Identifying the topic of the research.
- ii. Finding literature about the subject and search for previous studies from the same topic. The research question is decided.
- iii. Defining the role of researcher. Identifying how to become involved with the participants.
- iv. Identifying the research strategy and data collecting method to be used. Clarify if the technique needs sampling.
- v. Selecting the participants purposefully and start collecting the data and introducing thoroughly (who, what, why) the study to the environment where data is collected.
- vi. Withdrawing everything (interviews, observation) together and making notes after (and during) the data-collecting situation. Analyzing the data.
- vii. Writing the results of the research and applying the previous studies with the new findings along with suggesting improvement ideas and own perspective about the topic

And for Quantitative part of this thesis research following steps were done

- i. Collect information, create the research questionnaire.
- ii. Present the edited questionnaire to the advisor and expert for more suggestions about the content validity.
- iii. Try out the questionnaire with 5 tourists in the research area
- iv. Analyze the questionnaire for reliability after pretest questionnaires.
- v. Develop the questionnaire and pilot it with the sampling group.
- vi. Collect and analyze the data from the questionnaire using the Frequency Distribution, Percentage and Mean.

3.2 Data Collection, Analyzing and Summarizing Data

The research methods in the study are both quantitative as well qualitative data collecting method. Quantitative method helps knowing the exact tourism data and problems of ecotourism. Qualitative methods are used to search for empirical support for quantitative researches. In this research, quantitative data is collected from survey questionnaires and qualitative is collected by interviews and observations.

Those data were analyzed using different graphic methods and descriptive writing. For reviewing, the maps, drawings and photos were used. For quantitative data like number of tourists, villagers, built structures and accommodation using different statistics such as percent, mean, frequency, chart, bar diagram and graph. IBM SPSS was used to analyze quantitative data from questionnaire and Microsoft Excel was used for describing extracted data in bar and graph. Thematic analysis method was chosen because of different types of data and material such as maps, questionnaires and interviews.

3.3 Research Methodology

This part describes methods and procedures used in collecting and analyzing data about ecotourism and accommodation in Doi Suthep-Pui National Park, Chiang Mai Thailand. First step was reviewing of the existing plan of Doi Suthep-Pui National Park, followed by site survey, questionnaires and interviews.

Five steps were used one after another to find answers from each method and solving by using another. For example, review of the existing plan was done for finding existing situation, after knowing the condition, survey questionnaires was done to find the ecotourism problem and interview to solve problems.

3.3.1 Review of the existing plan of Doi Suthep-Pui National Park

The research began with review of the existing plan on November 18, 2015. As a first step of the research, the main purpose was focused on analyzing an existing situation of Doi Suthep-Pui National Park for determination of its tourist capacity, its characteristics, potential for ecotourism, laws and regulations, its culture, history and rituals, architectural background and other aspect of ecotourism.

To meet the objective a set of primary information sheet was created and distributed during the initial field visit. Field visit was done with the help of Thai friends from Chiang Mai University because it was a first visit for researcher and he needed people to translate English to Thai. 3 individual information sheets were prepared regarding there were 3 different types of accommodation such as campsites, homestays and eco lodges. For all accommodation, information sheet tried to find answers of questions such as

- i. Name of the informant
- ii. Site location of accommodation
- iii. Physical conditions and area such as tent area, fireplace area, reception area, service area, restaurant area, toilet area, parking area and picnic area
- iv. Carrying capacity of actual accommodation and tourist numbers during high and low seasons
- v. Price of tents, open camping and bedroom
- vi. Services by accommodation such as tents, food, parking, information, health services and picnic arrangements
- vii. Supporting elements such as roads, electricity, toilet, drinking water, fireplace, sewer and recreational spaces
- viii. Potentiality for ecotourism
- ix. Nearby attractions
- x. Building location and materials

It took only one day for researcher to collect all the information and he proceeded towards making field visit report. Field visit report was prepared explaining the answers got from review of existing plan of Doi Suthep-Pui National Park. The answers helped researcher to know the condition of ecotourism accommodation in Doi Suthep-Pui National Park. The information provided by people was prepared in a descriptive format.

3.3.2 Site Survey

As a second step site survey was done on 18 December 2015, which is a high season. The main purpose of site survey was to analyze the existing situation of accommodations such as campsites, eco lodges and homestays. Also, it was done for gathering information about ecotourism activities such as bird watching, mountain biking, trekking, camping, religious site visiting and recreation inside study area. Site survey also helped researcher to understand detailed history, culture, architecture and built environment of Doi Suthep-Pui National Park.

It also gave information about building type, building size, building materials, construction technologies, building uses and how people used accommodation site for ecotourism activities like recreation, adventure, relaxation and natural observation. To analyze the data collected from field visit, mapping and drawing was done with the help of AutoCAD and to understand detailed history, culture and built environment master planning and sketches were prepared. Descriptive writing was used to explain the ecotourism activities and condition of the study site. Tables were prepared to explain the current statistic of tourist in Doi Suthep-Pui National Park.

3.3.3 Survey Questionnaires

Survey questionnaires were prepared with the help of advisor on date 5 April 2016. Questionnaires were translated in both English and Thai. Firstly 5 preliminary question samples were distributed to international tourist, which was later corrected and translated into Thai language. The questionnaires were distributed. With the help of Thai friends from Chiang Mai University from April and May. It took researcher around 2 months to collect all set of questionnaires. Questionnaire was done with Thai tourists and international tourists. For sample collection, Yamane's (1967) calculation was used, which determined the samples size from the number of tourist stayed at accommodation in Doi Suthep-Pui National Park in April 2015. 200 sets of questionnaire were set up regarding the existing problems of ecotourism and their correlation with built structure i.e. accommodation. Among 200, 50 were international and 150 were Thai visitors. Questionnaires were made easy to understand and answer by giving a few options to choose or in a Likert Scale. Only few options such as good, somewhat good or very good, satisfied, somewhat satisfied or very satisfied etc.

3.3.3.1 Population and Sample Groups

The population used in this research is Tourist visiting Doi Suthep-Pui National Park, Chiang Mai, Thailand. Yamane (1967) provides a simplify formula to calculate sample sizes. Where n is the sample size, N is population size, and e is level of precision.

$$n = \frac{N}{1 + N(e^2)}$$

The total number of tourist visited Doi Suthep-Pui National Park in 2015 was 285,915 (DNP 2015). April is the high season with 35574 number of tourist. So, average tourist travelling per day in April is 1186. Not all of them stays at the accommodation because of the capacity of accommodation which is only 700 people per night.

The number of tourist who stays at accommodation is taken as a total tourist population, which is 370 per night in in March-April. Using above formulae, from 370 total tourist population, there are 192 respondents. Among them 70% are Thai and 30% are international tourist.

Example showing the number of samples from all tourists

$$n = \frac{N}{1 + N(e^2)}$$

n = the wanted respondents

N =all population

e =reliability 0.05

Ex. Respondents from all 370 tourists

$$n = \frac{370}{1 + 370(0.05^2)}$$

$$= \frac{370}{1.925}$$

$$n = 192$$

Number of samplings is 192.

So, total 200 samples are taken.

Questionnaires were mainly divided into 4 parts, which gave the answer about (See Appendix B and C)

i. About personal information

The first part of the questionnaires was asked to know about the personal information of tourist. Personal information such as gender, sex, level of education, language, marital status, monthly income, nationality, origin of travel, composition of travel group, average expenditure per day and frequency of visit. Total 11 questions were used and. 3 options were given to answer for knowing general information only.

ii. The built environment and its relationship with ecotourism activities

Next 10 questions were designed to seek relationship between ecotourism and accommodation present in Doi Suthep-Pui National Park. Such as length of the stay, how tourists heard about Doi Suthep-Pui National Park, why tourist chosen to stay, how many of eco lodge or resorts tourist stayed before, their interest in ecotourism activities, their preference of accommodation for stay, how they reached national park by travel medium and where did they chosen to stay in Doi Suthep-Pui National Park.

iii. Problem analysis and eco approach

For this section 3 questions with lots of sub questions was used, the main aim of this question was to determine problem in accommodation that tourists were feeling. Some of the questions were asked to know how much important is the area and services such as camping ground, lodge, toilet, meeting halls etc.

Some questions were directly asked to answer their feelings towards the services provided by accommodation. Tourist were asked also about their opinion on eco approaches by accommodation such as using solar panels, harvesting rain water, using local materials etc.

iv. Their satisfaction and opinion on built structures like resort, campsites, homestay and attraction points

To study tourist satisfaction on the trip and experience of their stay 5 questions were prepared and 3 options were provided to answer. Three options were interested, somewhat interested and not interested. Questions were directly asked about their satisfaction and probability of them giving information to other.

3.3.4 Interview

Next step in this research was interview, which was done contrary to ordinary plans. Interviews was done in single person to back up the research. Interviews were concentrated to find government policies on Doi Suthep-Pui National Park, to find criterion on designing accommodation and to find relations between research topics. Interviews were mainly written down and recorded, out counting few ones, straight after the occasion. Interviewing mainly focused on correlation between ecotourism accommodation, architecture and built environment. Interviews was done with

- i. 4 Policy Makers
- ii. 3 Architects and Planners
- iii. 1 Professor

The aim of this interview was to address and solve problems on accommodation due to ecotourism found from survey questionnaires. Alternatively, during problem solving discussion with professional researcher extracted guidelines for designing accommodation in Doi Suthep Pui National Park. For the interview 4 policy makers of were selected namely Mr. Kritsayarm Kongsatree (Forestry Technical Officer, Senior Professional Level) at Doi Suthep-Pui National Park, Mrs. Pawilai Chalamat (Plan and Policy Analyst, Practitioner Level) at Chiang Mai Provincial Office of Tourism and Sports, Mr. Ariya Chouchom (Director of Tourism and Recreation Division) at Department of National Park, Thailand and Mr. Prommate Nathonthong (Executive Director, Tourism Products and Promotion Department) at Tourism Authority of Thailand. Interview with policy makers was focused on problems, policy and upcoming project whereas interview with architects and professor focused on architecture and design of accommodation. Interview was taken with 3 architects and planners namely Dr. Rattapong Angkasith (Faculty of Architecture, Chiang Mai University), Dr. Pranom Tansukanun (Faculty of Architecture, Chiang Mai University) and Dr. Chulathat Kitibutr (Managing Director of Chiang Mai Architects Collaborative Co. Ltd.). Dr. Nantawan Muangyai from (Department of Tourism, Faculty of Humanities, Chiang Mai University) was also interviewed. Interview was conducted from 22 September to 18 October 2016 in Chiang Mai and Bangkok and recorded with mobile devices (See Appendix D). The enquiry for interview was mainly divided into two types, one for the policy makers and another for architects and urban planners. Questionnaire for policy makers tried to find

problems and issues related ecotourism accommodation and government current policies whereas questionnaires to architects tried to solve the problems with design guidelines The enquiry for policy makers tried to find answers like total times he/she visited Doi Suthep-Pui National Park, medium of transportation they used to reach there, their opinion on total capacity of accommodation, their opinion on famous national park in Thailand, attraction places in Doi Suthep-Pui National Park, their interest involving in ecotourism activities and interest making some policies about ecotourism activities over Doi Suthep-Pui National Park, the main policies of government for National Park in Thailand, their saying on the number of tourist in Doi Suthep-Pui National Park increasing or decreasing, their opinion on the ratio of Thai tourist and international tourist, the upcoming plans and projects of government in Doi Suthep-Pui National Park, their views for extending area of old accommodation or constructing new one, tour programs, educational programs and cultural programs offered by government on Doi Suthep-Pui National Park, involvement of private sector involved in ecotourism work in Doi Suthep-Pui National Park, management during low season and conservation works, relation of national park with local people living in Doi Suthep-Pui National Park, their opinion on the cable car project in Doi Suthep-Pui National Park and their opinion on the problems of ecotourism in Doi Suthep-Pui National Park and the solutions (See Appendix E).

The enquiry for architects tried to find answers like total times he/she visited Doi Suthep-Pui National Park. Medium of transportation they used to reach there, their opinion on total capacity of accommodation, their opinion on famous national park in Thailand, attraction places in Doi Suthep-Pui National Park, their interest involving in ecotourism activities and interest making some design for ecotourism activities over Doi Suthep-Pui National Park, their opinions on local architectural feelings in terms of materials and construction of accommodation, their suggestion on scale of development required in Doi Suthep-Pui National Park, their views on both options extending the current area of accommodation and creating a new area, the best location for new accommodation, techniques should be used to conserve the cultural and architectural heritages, the main reason of tourist not staying in accommodation provide by Doi Suthep-Pui National Park, their opinion on additional ecotourism activities suitable for Doi Suthep-Pui National Park, their suggestion on alternative energy source, transportation, water filtration and harvesting, managing solid and liquid waste at Doi Suthep-Pui National Park, their

suggestion on avoiding usage of harmful chemicals in building construction, heating and ventilation system protecting buildings from natural hazards such as wildfire and their views on the main problem of ecotourism in accommodation. (See Appendix F)

3.5.5 Comparison for Design Criteria

Final step used in this research was comparison for design criteria. The main objective of this method was to find accommodation design criteria for ecotourism and natural conservation in Doi Suthep-Pui National Park, Chiang Mai, Thailand. For finding criteria findings from every above methodology are compared individually with the criteria defined from literature review in a tabulated form. For the comparison findings from Literature Review, Site Review/Site Survey, Questionnaires and Interviews are selected. With the help of this comparison table researcher could find design criteria for accommodation in Doi Suthep-Pui national Park. The format of table used was as follows:

Table 3.2 Comparison for Design Criteria

Criteria (11 Factors)	Literature Review	Site Review & Survey	Questionnaires	Interviews
Design and Architecture				
Local involvement				
Energy use				
Transportation				
Construction & Materials				
Water				
Land use and Ecology				
Health				
Pollution				
Sustainable Technology				
Accreditation				