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**Sustainability of Community-Based Ecotourism  
Development Post Tsunami Disasters:  
Comparison Between Buddhism and Muslim  
Communities in Phuket Province, Thailand**

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**Sustainability of Community-Based Ecotourism Development  
Post Tsunami Disasters: Comparison Between Buddhism and  
Muslim Communities in Phuket Province, Thailand**

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## ABSTRACT

Community-based ecotourism represents a vital tool for rural community development, while biodiversity conservation and environmental protection has an important value for raising competitiveness of ecotourism destinations leading to social sustainability and sustainable community economic development. The paper aimed to the assess ecotourism attractions potential for sustainable development, to set a model of sustainable ecotourism development, to assess the implementation of community-based ecotourism. Comparison between a Ban Bang Rong Muslim community and a Ban Tha Chat Chai Buddhism community concerning sustainability of community-based ecotourism development, and outcomes of points of distinction rooted in spiritual and religious traditions. This study was conducted to provide in-depth understanding of the concept and theoretical and empirical findings insights into the suitable implementation of ecotourism development context. The study employed a mixed of both qualitative and quantitative methodologies for data collection. In a cluster sampling, at difference five groups (government agencies and local authorities, tourism business stakeholders, local people, Thai tourists and international tourists). Using the quantitative method, 315 households were interviewed for this paper including 160 of Ban Tha Chat Chai Buddhism and 155 of Ban Bang Rong Muslim participants to assess the impacts of ecotourism on the community and assessment implementation of community- based ecotourism development. The study uses 74 indicators based on 7 dimensions, environment, social, cultural heritage, economic, marketing, spirituality and religious traditions and policy. Furthermore, the study to an assessment of participation of local people in spirituality and religious traditional beliefs and practices for ecotourism destinations and ecological restoration post-tsunami disaster base on questionnaire surveys of 235 of Muslims and 225 of Buddhists.

The results show that residents of Ban Bang Rong Muslim community perceived a few negative natural environmental and ecological impacts, economic impacts, and social and culture impacts on community, and the most important dimensions that have positive influence on the sustainability of community-based ecotourism development concept are spirituality and religious traditions dimensions, and cultural heritage

dimensions respectively. On the other hand, the residents of Ban Tha Chat Chai Buddhism community perceived more negative natural environmental and ecological impacts, economic impacts and the most important dimensions that have positive influence on the sustainability of CBED concept are the cultural heritage dimensions followed by spirituality and religious traditions dimensions respectively. As a result, Ban Bang Rong Muslim community is more successful in sustainability of CBED compared with the Ban Tha Chat Chai Buddhism community.

The concept of ecotourism as sustainable alternative tourism, is defined by its potential to provide alternative income to the local people and or native people derived from good management of ecotourism based on seven principles: 1) environment (ecological integrity), 2) economic (ecotourism businesses), 3) cultural (safeguard cultural heritage), 4) social (community empowerment), 5) marketing (competitiveness of destination), 6) spirituality and religious tradition (beliefs and practice), and 7) policy (ecotourism policy compliance) outcome. The results of the present study reveal great variety between two communities according with empowerment and local community involvement in the implementation of community- based ecotourism. While, both communities show poorest sustainability on the economic dimension, the most important dimension remains spirituality and religious traditional dimension. Both communities' adherence to their respective religious precepts can promote harmoniousness and the require to achieving the balanced use of natural resource, sharing benefits equally. Measures to promote preservation of the ecosystems, conserving and enhancing biodiversity and natural resource conservation, through help protect the natural and cultural heritage that are associated with ecotourism, have the potential to lead to the creation of a beautiful ecotourist destination and support positive economic growth and contribute to the planet's sustainability. The need to achieve sustainable community-based ecotourism development, partnerships should be collaborative making design policies for enhancing community-based ecotourism's role in sustainable development

**Keyword:** Community based ecotourism, sustainability ecotourism, tsunami disaster, Thai Muslim community, Thai Buddhism community

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## LIST OF ABBREVIATIONS

<b>ADAST</b>	Administration of Designated Areas for Sustainable Tourism
<b>AGT</b>	Agrotourism
<b>AOG</b>	Agricultural occupational group
<b>ACFRDCP</b>	Andaman Coastal Fisheries Research and Development Center (Phuket)
<b>BBR</b>	Ban Bang Rong
<b>BMAC</b>	Ban Bang Rong Mosque Administrative Committee
<b>BTCC</b>	Ban Tha Chat Chai
<b>CBE</b>	Community-based ecotourism
<b>CBED</b>	Community-based ecotourism development
<b>CBEM</b>	Community- based ecotourism management
<b>CODI</b>	Community Organizations Development Institute
<b>CTT</b>	Cultural tourism
<b>DEO</b>	Department of Economic Opportunity
<b>DMCR</b>	Department of Marine and Coastal Resources
<b>ETC</b>	English Tourism Council
<b>GEN</b>	Global Ecovillage Network
<b>GDP</b>	Gross domestic product
<b>HCCC</b>	Health Communication Capacity Collaborative
<b>ILO</b>	International Labor Organization
<b>KPTNHA</b>	Khao Pra Theaw Non-Hunting Area
<b>KPTWCDEC</b>	Khao Phra Thaeo Wildlife Conservation Development and Extension Centre
<b>MGT</b>	Mangrove trail tourism
<b>MIT</b>	Ministry of the Interior of Thailand
<b>MKMTF</b>	Mai Khao Marine Turtle Foundation
<b>MRT</b>	Marine tourism
<b>MRLs</b>	Muslim religious leaders
<b>NGOs</b>	Non- Government Organizations

<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>PDDPM</b>	Phuket of Department of Disaster Prevention and Mitigation
<b>PMBC</b>	Phuket Marine Biological Centre
<b>PR</b>	Public relations
<b>RFT</b>	Rainforest tourism
<b>SDI</b>	Sustainable Development Indicators
<b>SMEs</b>	Small and Medium Enterprises
<b>SNMP</b>	Sirinath National Marine Park
<b>TEI</b>	Thailand Environment Institute
<b>WLT</b>	Wildlife tourism
<b>WTO</b>	World Tourism Organization
<b>UNCSD</b>	The United Nations Commission on Sustainable Development
<b>UNDOC</b>	United Nations office on Drugs and Crime
<b>UN-REDD</b>	United Nations Collaborative Initiative on Reducing Emissions from Deforestation and Forest Degradation

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## SUMMARY

Phuket is largest island of south-west coast of Thailand, we called as a Pearl of Andaman sea, and which popularity center of marine tourism through a few decades promoting ecotourism, and high potential of social-cultural capital for community economic development. There are a variety of natural heritage, cultural traditions and lifestyle inherited long time ago, especially Buddhists and Islam, I am pay more interested in the BBR Muslim and the BTCC Buddhism communities, because there are establish CBE programs for recovery economic, social and environment which relate to my framework and objective.

In the part, the managed ecotourism of Phuket as grows on the large scale become mass tourism it can lead toward negative impacts ecosystem, social-culture and economic no community. Besides, natural hazard, such as tsunami, flood, typhoon, phenomenon climate change, and drought, it effected to natural environment and ecosystems and local people of live, especially food short stage, water short stage as well as high of cost.

Post tsunami disaster, Phuket government and local agencies have collaboration in established CBE programs for recovery community economic while encouragement environmental preservation and conservation. However, there are some problems have occurred, and obstacles to sustainability in the ecotourism. Yet, lack of driven approach addressing the sustainability achieve in implementation of CBE.

This study was conducted to provide in-depth understanding the concept and theoretical and empirical finding to the suitable implementation of ecotourism development context. It aimed to study the assessment of ecotourism attractions potential for sustainable development, to set a model of sustainable ecotourism development, to assess the implementation of CBE. Comparison between the BBR Muslim and the BTCC Buddhism communities. There are differences and similarities between the BBR Muslim and the BTCC communities concerning sustainability of CBED. However, this study was not only focus on ecotourism development, but was also study on spiritual and religious traditional too added. Besides, this study regarding

to the mainly holy of religious in Phuket Island as Buddhism and Muslim, as well as spiritual and religious communities engaged in environmental conservation and climate change (IUCN, 2018). Instance, namely, there appear four of the world's major religious belief and practices through faiths and ritual which intimately related between human life and environment conservation and balance consumption of natural and ecotourism of resources, all of the faiths share a common ethic based on harmoniousness with natural, they include Christian, Muslim, Hindus, and Buddhists (Hope & Jones, 2014; Oliver, 2008; Weeramantry, 2017). In addition, according to IEF (2010) given discussion in sub- religious that relationship between religious and environment and ethics of Sikhs, Jews, Jains, Baha, and Shinto in Japan which various traditional based on beliefs animism have led to established sacred the nature sites that mean to they display respect on sacred site such rivers, mountains as important for preservation and conservation of practices in all of plants and animals and may not destroy biological diversity and ecosystems and do not destroy God's creation and love act of God.

This study employed a mixed of both qualitative and quantitative methodologies for data collection from wide range on five group of population sampling as mentioned above Chapter 2. The study relevant secondary data on demographic, natural resources and geographical and social-cultural of the BBR Muslim and the BTCC Buddhism communities through the management policy and projects implementation of community-based on collaboration of responsible government agencies and NGOs were analysis. The primary data were various applied methods as mentioned above Chapter 3. In the process of impacts assessment of ecotourism on communities aim to study is to compare the impact of ecotourism which occurred before and after the tsunami disaster by considering 3 criteria: social, economic and the environment. In the process of assesses the implementation of CBED and compares sustainability of ecotourism development between the BTCC Buddhism and the BBR Muslim communities, the data were collected mainly through household questionnaire surveys, field observation, in depth interviews and focus group discussions. A total of 315 households were informed in this paper including 160 of TCCB and 155 of BRM participants. The study uses 74 indicators based on 7 dimensions, environment, social,



cultural heritage, economic, marketing, spirituality and religious traditions and policy as mentioned above Chapter 8. And assessment participation of local people in spirituality and religious traditional belief and practices for ecotourism destinations and ecological restoration post-tsunami disaster base on questionnaire surveys 235 of Muslim and 225 of Buddhist as mentioned above Chapter 4 and Chapter 5, and tourists' attitude toward spirituality and religious traditional beliefs and practices in natural environment conservation and preserving ecotourism destination base on questionnaire surveys total 411 respondents consist of four groups; 150 domestic tourists and 56 international tourists in BBR Muslim community, 150 domestic tourists and 55 international tourists in Buddhism community were conducted during fieldwork period, through the questionnaire to residents and tourists' perception in assessment of ecotourism potential base on 6 criteria; physical and ecology characteristics, ecosystem management in ecotourism attractions, value and important of tourism attractions, education, management and participation in conservation as mentioned above Chapter 7. Using multiple methods for analysis of data, namely, used parametric statistical technique is Analysis of Variance (ANOVA) to compare data sets and the fits of different models (F- statistics and F-test, t-test), the finally discussion of descriptive interpretation (percentage, mean, S.D.), and basic statistical analysis by Microsoft Excel 2013 software package to analysis questionnaires and R for data analysis.

Community-based ecotourism development as a tool for biodiversity conservation and environment protection including social sustainability and sustainable community economic development, this study can be applied the concept of sustainability of community-based ecotourism development based on seven dimensions as great tool for recovery communities economic and restoration ecotourism destinations at risk areas.

The study demonstrates that the residents of BBR Muslim community perceived post- tsunami disaster event, outcome of implementation of CBE have a few decreased negative natural environment and ecology impact, economic impact, and society and culture impact on community, but highest the negative impacts on community economic, where compare between pre- tsunami disaster implementation of CBE, however post-tsunami disaster have a few increased the positive society and cultural

impacts of CBE, Muslim people seeking to support restorations ecotourism destinations for attract tourists to revisit, increased residents involved in cultural activities, traditions, historical and religious heritages, increase quality of children education and efficient safety and or clean drinking water, increase quality of local healthy and social welfare. Community leaders and committees are most like playing a volunteer role to making development of grass roots innovations in sustainable development or intentions to act in social-environmental sustainability manner, indicates that they have a good spiritual of leaderships. Finding that the most important dimensions that have positive influencing the sustainability of CBED concept are spirituality and religious traditions dimensions, and cultural heritage dimensions, respective in the Muslim community. The residents of the BTCC Buddhism community perceived have more increased negative natural environment and ecology impact, economic impact and the most important dimensions that have positive influencing the sustainability of CBED concept are cultural heritage dimensions and spirituality and religious traditions dimensions, respective. Finding that both domestic and international can have great influence on community ecotourism, most of domestic tourists who visit at BTCC Buddhism community have a good attituded in ecotourism destinations based on themselves spirituality and religious traditional beliefs and practices in natural environment conservation and preserving ecotourism destinations.

The study indicates that ecotourism attractions in the BBR Muslim community have high potential, different between the BTCC Buddhism community have moderate potential, where different with effective of implementation in development of ecotourism attractions and restoration ecotourism destinations.

Concluded, the spirituality and religious traditional dimension have had major positively influences on the social, cultural, economic, natural environment, and marketing. Thus, the government and policies makers should establish the policy of ecotourism management with spirituality and religious traditional dimension add, that mean to adherence to practices of participants on conservation and management ecosystems outcome lead to sustainable development.

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Background and Study context**

Phuket is largest island of south-west coast of Thailand, we called as a “Pearl of Andaman sea” and one of the most popular marine tourism center and high potential of social-cultural capital for community economic development that can attract many tourists to visit. Moreover, Phuket are a variety of natural heritage, cultural traditions and lifestyle inherited long time ago, especially Buddhists and Islamic. There are fairly large number of religious communities in the Phuket Island, found that 246,739 of the largest resident population identified themselves as Buddhists, 84,201 of resident population identified themselves as Muslims, 4,537 of resident population identified themselves as Christians and 1,450 of resident population identified themselves as others in 2010 (Phuket Cultural Office, 2010), where 75% Buddhists, 20% Muslims, 4% Christians, and 1% Hindus and ethics of Sikhs (Phuket City Municipality, 2018), with 2018 consists of 38 Buddhist temples and 20 monk residences (Phuket Provincial Buddhist Office , 2018) includes 56 Mosques (The Islamic Committee of Phuket, 2018) and 3 Christ Church, 1Sikh temple and 1 Hindu temple in Phuket town (Phuket City Municipality, 2018). Indeed, the importance of religious belief and practices related positively to environmental protection and conservation of ecosystems as well as the concepts of ecotourism such as Buddhists and Islamic were difference in attitudes and adherence toward individuals to practices of moral precepts. Ecotourism, a few decades has been promoting in Phuket, Thailand as a tool for protection, restoration or conservation of natural environment and economic development opportunity in rural communities (Leksakundilok, 2004). Hence it is evident that stakeholders, local government agencies, entrepreneurs and local people recognizes the importance of addressing sustainability development of ecotourism policy together. Especially promoting in the Bang Rong community, Thalang sub-district and Tha Chat Chai community, Mai Kao sub-district in Phuket province (Phuket Office of Tourism and Sports, 2017). Tourism is the largest industry in Phuket and many uses of the natural resources on tourism industry. But it has serious impact on nature and the environment,

and communities of culture, must realize a sustainable future for tourism. Purpose of sustainable tourism development should be measures to promote and establish ecotourism in Thailand (Governor of Phuket, 2015).

Ecotourism is a concept that still appears close to nature-based tourism, bio-tourism or green tourism, which provides to meeting the need of tourist and residents and use existing resources wisely, preserve cultural traditions and heritage and benefit for local community.

However, ecotourism also brings positive and negative impact on economic, environmental, and social-cultural aspects. Inadequate ecotourism management and plan can have caused negative impact on community and decreasing eco-tourists and stakeholders' environmental awareness causing severe environmental degradation that indirectly leads to natural habitat destruction.

For sustainable tourism development the impact assessment is a process of reviewing and assessing the impact of ecotourism on the community (natural resources environment, social-culture, economy, etc.) Sustainable ecotourism development based on ecological integrity, economic viability, and social justice (Klak, 2007). I offer the concept of sustainable ecotourism development refer to sustainability management on policy, spirituality and religious traditional, economic, environment, social, culture heritage and marketing. The results of the impact assessment of ecotourism attractions and assessment the implementation of CBED and compare sustainability of ecotourism indicators. Sustainable ecotourism development based on the sustainable management seven dimensions will help to make it more profitable for the host community and provides to approach the guideline or model for sustainable development rural tourism. Since this paper proposes sustainable ecotourism development for post-tsunami disaster, we look at how the natural disaster affected the local tourism industry based on other industries crisis such as fisheries, agricultures, natural resources, and ecotourism attractions that impact could have directly factorized ecotourism industry. The impact from economy, social-culture and environment is highly related issues. This research focus on the impact on community and ecotourism's potential attractions as an effective tool for sustainable ecotourism planning, potential important information for tourism recovery policy making for community-based management (Waris, Shahir

Liew, Faris Khamidi, & Idrus, 2014). With BBR Muslim of CBE establishment before tsunami, poverty issue can be recovered through existing financial. In general, CBE is a form of ecotourism which aims to development of local communities and supporting socio-cultural environment conservation and protection of natural areas by local residents and community development organizations for tourist attractions (Richard, 2001) sustainable CBE to encourage awareness on environment protection and rehabilitation of nature also wildlife among both tourists and local community (TAT NEWS, 2016). In the conservation theory and practice, CBE is community- based natural resource management and biodiversity conservation (Salafsky, et al., 2001). Identically, the term 'Ecotourism' focuses on conservation and protection of the natural resources (Boley & Green, 2015). There are numerous ecotourism attractions such as mangrove forest trail, rainforest, Gibbon Rehabilitation, mangrove monkey and marine tourism, Muslim's spiritual and religious traditional activities is attractive for both religious and non- religious tourist. Moreover, spirituality and religious traditional beliefs can be integrated into tourism for sustainable ecotourism development while the theme of spirituality and religious traditional plays a role in ecotourism attractions and new one's ecotourism product development, it's beliefs that cultivate inner awareness and enhancing cultural exchange and promote mutual understanding between local people and tourists to participate in the protection of cultural and natural heritage by promote activities spirituality and religious practices and beliefs within community. Acknowledging the main part of cultural heritage which contribute to the reality reflecting the spiritual and religious practices. The important role of spirituality and religious values can play in conservation biology and ecosystem management and including cultural landscapes (Infield & Mugisha, 2010). Example sacred natural sites (SNSs) also indigenous communities; rural traditional cultures and lifestyles such as, sacred mountains, rivers, forests, mangrove, beach or coastal, islands and animal species are the world's oldest natural environment conservation (IUCN Org, 2016), including promote environmental conservation and habitat protection, and supporting community-based natural resource management through ecological implications of Buddhist tradition and teaching at the grassroots level by providing monks with training in Buddhism and Ecology (Mlup Baitong;, 1998). Besides, indigenous spirituality and

religious beliefs is the relationship to the environment; most of the activities of daily life are accompanied by rituals and specific religious practices or training aimed at preserve the natural environment (Naomi , 2009). For example, believers who are involved in religious pilgrimages such as Muslim doing the Hajj or Mecca, Buddhists visiting the four sacred sites in India and Nepal. Actually, sustainable ecotourism which requires the protection and preservation of cultural and natural heritage, the spiritual and religious values of the tourism sites. In the case of BTCC Buddhism of CBE established post tsunami disaster for recovery community economic and nature environment. There are numerous ecotourism attractions such as mangrove forest tail, Swamp forest, National Park and marine tourism, Buddhist's spiritual and religious traditional activities is attractive for both religious and non- religious tourist. The foremost principles of Buddhist should be applied in sustainable ecotourism development guidelines for social and environment sustainability in rural communities. The Buddhist teacher Thich Nhat Hanh (1991, pp. 146-151) can to application of Buddhist ethics to a range of sustainable development such as meditation based on your own depth of practice to help us maintain mindfulness as the following major principle are Buddhist practice of the Precepts (14 precepts), which we are fully aware of the responsibility of bringing new lives and forgiveness and reconciliation to all of people. Furthermore, the Four Noble Truths, the Noble Eightfold Path, Refuge in Three Jewels, and other making merits (Kamma), Buddhist meditation, the Simple life, Middle way (moderation), practice vegetarianism might help provide a balanced consumption of natural resources for sustainability human being (Rao C. , 2013).

However, there are differences between the two CBE in the term of religious aspect in BBR Muslim community has high potential more than BTCC community such as community of implementation on spirituality and religious management within community; BBR Islamic strictly spirituality and religious tradition of regulations more than BTCC Buddhist particularly religious practice and rituals, every Muslim respect the Five Pillars: Faith, Prayer, Alms, Pilgrimage, and Fasting. They need to go to participate in religious activities at the Mosques Center on Friday. In case study, community religious leaders of vision to strengthen positive and make the community policy for human happiness such as not support selling and purchased alcohol, not offer

service sex tourism club and night bar in this community, enhance spiritually and religious practice and faiths to children in holiday related to the pilgrimage and fast of Ramadan, safeguarding the spirit of places, community religious leaders was cooperating with Chaipattana Foundation for sustainable development among the Thai royal ideas given to be guideline based on Sufficiency Economic Philosophy (SEP) that leading one's life by following the middle path (Mongsawad, 2010) and conducting financial transactions based on religious belief, and adapted principles on teaching about religious and Islamic faiths for conservation. Examples, resident's attention to energy management and water conservation, priorities for natural environment protection and rehabilitation projects, supporting environmental spirituality and environmental volunteerism groups for rehabilitation mangrove and marine resource. Beside post tsunami disaster, BBR Muslims people constantly bring the spiritual and religious dimension into peacemaking process by Muslim religious leaders (MRLs) and institutions for resolving violent conflicts between conservationist and investors. In a case of BTCC Buddhism community, lack of cooperation between community religious leaders and community leaders to resolve social and environment problem also intensity of religious conflict within community, residents perceive that lack of attention to spiritually and religious practice and management for environment conservation, also intensity of religious conflict within community, many residents do not go to meditation and merit on Buddhist holidays in community temples. According to (Horie, 2013), community-based spiritually and religious belief and practice can have an important role in natural resources conservation and preservation of ecotourism destinations. As described by Mulyasari and Shaw (Mulyasari & Shaw, 2012), providing that a crisis or disaster threatens a tourism destination, community-based disaster risk reduction is the formed delivery service to community, which participation of community groups such as women, youth, and faith-based or religious organizations as grass root level and therefore need to mainstream and conduct activities in reducing the disaster risk.

Recommendations section is also provided in this paper to advice specific approach based on seven dimensions which are economic, environment, social, cultural heritage, spirituality and religious traditions, marketing and policy planning for

sustainable ecotourism development. Sustainable tourism development in rural area under concept of ecotourism can to help generate revenue and poverty alleviation, increasing employment opportunities for local people with job related to tourism such as restaurants, tour guides, transportation, accommodation, and souvenir shops etc., while biodiversity conservation and environmental protection has an important value for raising competitiveness of ecotourism destinations leading to social sustainability and sustainable community economic development. In this concept, sustainable ecotourism development refers to sustainability and promotion practices amongst all of seven dimensions and suitable balance must be established management and owned by communities; government agencies, tourism business stakeholders, and local people should be involved in opinion of planning in ecotourism development by defining economic, ecotourism marketing, social, culture heritage, spirituality and religious traditions, environment of policy, and operating as planned. Each of seven dimensions of sustainable ecotourism development can be further described. Community economic refers to equivalent to financial viability, important economic efficiently indicators for CBEM that include investments, revenues, costs, cash flow, source of income, dynamic network of funds or financial support and insurance. Tourism marketing was suggested to make moderate marketing planning also middle way tourism policy. Social justice means equality or equal opportunity in society, welfare, not mutual conflict, safety and security. Cultural vitality means well-being, creativity, diversity, unique, distinctive and innovation. For sustainable urban community planning, cultural dimension plays a major role in supporting the three dimensions of sustainability: social-culture, economic and environment (Alex , 2015). Spirituality and religious traditions are important in ecotourism attractions development, such principles religious and beliefs encourages a spirit of mutual harmony in community and natural environment protection with spiritual awareness (UNESCO;, 1999). Indeed, the environment responsibility means striving to reduce the environment impact, restoration, protection, conservation. Policy dimension refers to decision on ecotourism development of policy must address all dimensions. On comparison, provide information for stakeholders from different level between two areas in which improvement are needed and can develop or design marketing strategy plan.



## **1.2 Statement of the research problem**

Global change caused by the influence of human activity, has caused severe problems to the environment. In recent years, the trend of more frequent global natural disasters continues, for example including earthquakes, tsunamis, typhoons, a volcanic eruption affect thousands of people every year. A natural disaster, sudden events caused on the environment that injure people, loss of life and damage on property.

On December 26, 2004, in the Andaman coast of southern Thailand. A tsunami damaged utilization of six prefectures coastal resources of Phang Nga, Ranong, Krabi, Phuket, Trang and Satun. Then, it strongly hit many coastal villages in Thailand including BBR Muslim and BTCC Buddhism communities that is located in Phuket province. Since the disaster occurred, local people tried their best to recover from the big catastrophe. They established a post tsunami sustainable recovery program as a whole and one of the planning development programs is the establishment of CBE. It is important for community development particularly in providing job opportunities and incomes based on tourism that was based on preservation of local ecosystem and community culture heritage, generally ecotourism destinations are an importance of tourist attractions that attract large numbers of tourists to rural communities and residents. They're the destinations that exhibited natural, flora, fauna, indigenous cultural heritage, historical significance, natural or built beauty, offering leisure, adventure and amusement are primary attractions of Phuket province that is highly supported by the government of Thailand, however if the property is not planned and managed in tourism development it will be damaging on risk area include beaches front, coral reef, mangrove, wildlife, forest and marine animals.

## **1.3 Research Objectives**

The objectives of this study are as follow:

1. To study the assessment of ecotourism attractions potential for sustainable development
2. To set a model of sustainable ecotourism development
3. To study the impacts assessment of CBE on Muslim and Buddhism communities

4. To assess effects of spirituality and religious traditions on the restoration ecotourism destination and ecological after Tsunami disaster
5. Sustainability achievement of CBED in Muslim and Buddhism communities
6. Comparison of sustainability of CBED between Muslim and Buddhism communities

#### **1.4 Hypotheses**

The specific hypotheses developed in this research are:

1. The impact of ecotourism
 

H1: The opinions of the local people differ in the impact of ecotourism occurred before and after tsunami disaster
2. Assessment of ecotourism attractions potential for sustainable development after the tsunami disaster.
 

H2: The opinions of local people, domestic tourists and international tourists differ with respect to the ecotourism attractions potential for sustainable development
3. Comparison between BBR Muslim community and BTCC Buddhism community concerning how they develop ecotourism.
 

H3: There are differences and similarities between BBR Muslim community and BTCC Buddhism community concerning how to create implementation CBED and sustainability of CEBD.

#### **1.5 Research Questions**

1. How ecotourism attractions have potential for sustainable development?
2. What impact that occurred before and after the tsunami disaster?
3. How difference between of ecotourism before and after the tsunami disaster when it was implemented in destination areas more than 14 years ago?
4. How community of tourism planning and management for natural resource and ecotourism destination restoration?
5. How local community is involved in its development and management, and a major proportion of benefits from ecotourism?

6. What are the models for sustainable ecotourism development?
7. How differences and similarities between Ban Bang Rong Muslim community and BTCC Buddhism community concerning sustainability of CBED?

## **1.6 Research Significance**

This study provides information for achievement in ecotourism development planning and policy decision-making in rural communities for recovery community economic and environment restoration post tsunami disaster. Studies conducted in areas prone to natural disaster and crisis in Phuket province have focused CBE; knowledge about the level of potential ecotourism attractions, level of impact of ecotourism development on communities and impact of tsunami disaster on communities, also level of compliances and implementation of CBED, also applying sustainable tourism indicators to CBE. Although knowledge about similarities and differences in the rural tourism contexts between the two communities, the contrast between them reveals astonishing differences in their processes and outcome of CBED. The finding of this study can be utilized for stakeholders; understanding community ecotourism problem, natural environment disaster issue, changes community participation in tourism development. Thus, we will suggest the best way for sustainability of implementation CBED through a long-term future.

## **1.7 Definition of Terms**

**Community based ecotourism** refer to a form of ecotourism focused on the development of local communities and management by community organizations for tourist attractions and helps local residents to supplement their income so that they can continue to live in own communities and fosters sustainable use of land and natural resources also responsibility and engagement indigenous spirituality and religious traditional beliefs and practices within community.

**Sustainable tourism development** refers to implementation of sustainable development in the context of tourism with considers the management of all resources in tourist destinations, maintaining cultural and natural heritage, in cooperation of all relevant stakeholders, achieving sustainable tourism is a continuous process and

promoting and strengthening synergies among all three pillars of sustainability are economic, social and environmental (Neto, 2003).

**Ecotourism** refers to travel to nature destinations and cultural heritage that conserves the environment and minimize negative impact on environment and social–culture, and economic benefits to local communities (TIES, 2015).

**Impact of tsunami disaster** refers to tidal waves or seismic sea waves caused by underwater earthquakes occurred on the 2004 Indian Ocean tsunami was among the deadliest natural disasters, it destroyed everything on the shoreline and nearly coastal areas, addressing loss and damage to economic, social-culture, environment and fishery, agriculture and tourism crisis (An ESRI, 2006).

**Impact of ecotourism** refers to positive and negative impact of ecotourism on the environment, economic and social-culture.

**Thai Muslim community** refers to community were location at nearly coastal shoreline and over 80%Thai-Muslims live in BBR community, Paklok subdistrict, Thalang district Phuket province.

**Thai Buddhism community** refer to community were location at nearly coastal shoreline and over 90%Thai Buddhists live in BTCC community, Mai Khao subdistrict, Thalang district Phuket province.

## **1.8 Organization of the remaining chapter**

This thesis is present in ten chapters. Chapter one introduction to background research and study context, and this will provide the statement of research problems and research questions and the objectives, definition of key concepts, hypotheses research questions, research significance, definition of terms, organization of the remaining chapter and study area descriptions.

Chapter Two provides a literature review of concept. The review are discussion and analysis of theoretical background, concentrating on the core concepts of ecotourism, sustainable tourism development, assessing the ecotourism potential process and indicators of sustainable ecotourism for development, CBE, sustainability of CBE indicators, impact of tsunami disasters, impacts of ecotourism on community, community participation and empowerment in ecotourism development , spirituality

and religious traditions, and sustainable ecotourism development

Chapter Three present the research framework and methodology including data analysis.

Chapter Four describes the study area descriptions and background information of Muslim community, tsunami 2004 impact on tourism activities and attractions in BBR Muslim community, CBE in BBR Muslim community, Islam and ecotourism concept, natural ecological environment, conservation and rural community development in BBR Muslim community, and community-based spirituality and religious traditional practices for ecotourism destinations and ecological restoration post-tsunami disaster.

Chapter Five describes the study area descriptions and background information of Buddhism community, tsunami 2004 impact on tourism activities and attractions in BTCC Buddhism community, CBE in BTCC Buddhism community, Buddhism and ecotourism concept, natural ecological environment, conservation and rural community development in BTCC Buddhism community, and community-based spirituality and religious traditional practices for ecotourism destinations and ecological restoration post-tsunami disaster.

Chapter Six describes study the impact assessment of ecotourism on community, how the impact of ecotourism on community and comparative that impact occurred before tsunami and after tsunami disaster in BBR Muslim and BTCC Buddhism community, and comparative two community that how increases or decreases in impact of ecotourism operations.

Chapter Seven describes study the assessment of ecotourism potentials for sustainable development, the potential assessment studies are used as a basis for ecotourism decision making and planning, the study use assessment technique through stakeholder's interviews as the key tools to achieve study objective.

Chapter Eight describes study the comparing Muslim and Buddhism community, study on implementation of sustainable ecotourism management, using apply the sustainable tourism indicators for measuring the sustainability of CBED ventures and management indicator for ecotourism based on seven dimensions.

Chapter Nine focuses on analysis and the discussion of the results in chapters

Four, Five, Six, Seven, and Eight. Explained the relationship between impact of ecotourism and potentials of ecotourism attractions. The indicators that emerged from the results will be comparative analysis from literature reviews, case studies, research objectives and questions, comparing between Muslim and Buddhism community to concerning develop ecotourism attractions.

Chapter Ten, present the conclusions and recommendations for sustainable ecotourism development in local community will be outlined. The structure of this research and chapter breakdown are shown in Figure 1.1

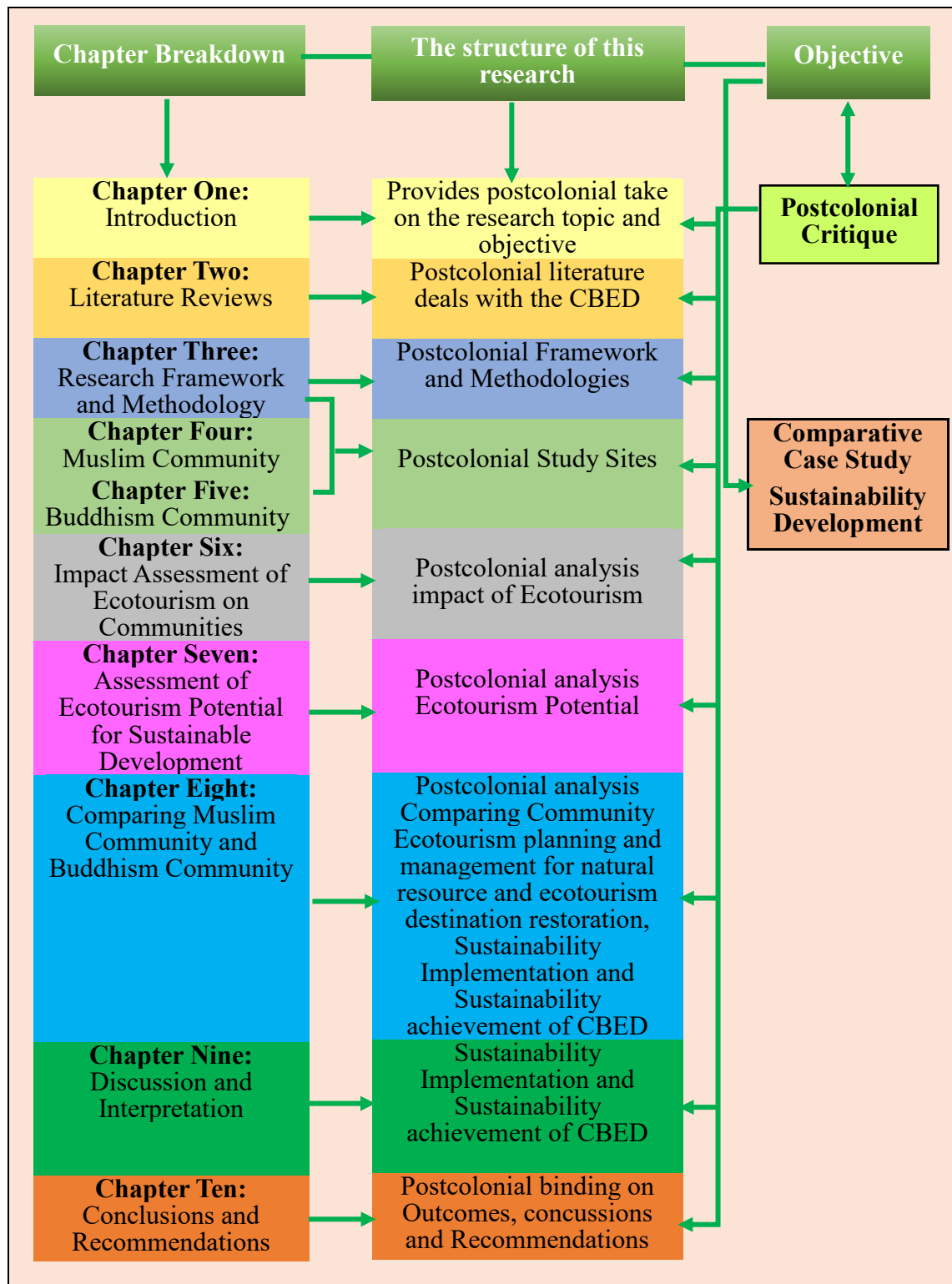


Figure 1. 1 Structure of the research and links between chapters

## **1.9 Study area descriptions**

This study, selection of two cased studies area in Phuket province. There are several compelling reasons for cased study selection, criteria for case study selection were developed at outset of study, also selected under the consideration of criteria use to enhance the relevance of research result and richness of information from the cases to communities. To achieve appropriateness, linked to both objective of study and literature reviews and the theoretical framework (Shakir , 2002). The purpose of this paper is to provide the context of CBE, the both Muslim and Buddhism community. Furthermore, brief review of case study background.

### **1.10 Selection of cased studies**

The selection of research cased studies is based on specific characteristics of ecotourism attractions for ecotourism development in Phuket province. The criteria for selecting the case studies as follows:

1. Phuket as a center of marine tourism in Thailand and promote ecotourism

Phuket province has the high potential of social-cultural capital for community economic development. There are a variety of natural heritage, cultural traditions and lifestyle inherited long time ago. Phuket as one of 20 provinces to welcome visitors from ASEAN countries for tourism and study. Moreover, promote community tourism base on Sufficiency Economic village (Office of the Prime Minister, 2014) and promote CBE.

2. Impact of tsunami disasters

Selected communities were affected by December 26, 2004 Indian Ocean Tsunami. In disaster-impacted communities, economic, social-culture, and environment. The most damaged on fisheries sector, such as fish cages and shrimp hatcheries, mangrove forest ecosystem through loss and damage to fish of species and marine of species while damage to livestock and agriculture was negligible.

3. Nature Disaster Risk and Natural Hazards in coastal area

Selected communities were risk from natural hazards and occurred event will have negative effect on human's life and property. Then they can develop and manage the actions plan to take to minimize the risk or hazard mitigation and prepare



for natural disaster in future.

4. Types of tourism resources.

Selected ecotourism sites were distinctive elements of natural and cultural heritage, facilities, and types of tourism activities, beautiful tourism attractions, which there are prime motivation of observation.

5. Community involvement

Selected communities were expected to have community participation, CBE operation, environmental and cultural resources management, and including community tourism network.

6. Ecotourism management

Communities have their own ecotourism established and have experience to community participation in ecotourism management at least five years ago (time frame was important for assessing changes in implementation and practices through benefits/costs distribution to community).

7. Religions and cultures

Select communities have different religions and cultural, traditional ethnological and located on coastal areas.

8. Location and status of site protection

They are situated in or near protected area such as Marine National Park wildlife Sanctuary and Forest Reserve.

9. The village have some problems related to the tourism marketing aspect, tourism competitiveness, the effects of increased the number of tourists visiting the village in the peak season, but decreased number of local people participation in tourism management and conflicts of interests between the villagers and other stakeholders in the village. But this issue has been hidden from public discourse no have support tourism research and studied was done in these areas.

10. Strong religious in this two villages.

According to the 2015, 80% of residents of Bang Rong community is Muslim, most of whom are Sunni, and very strong Muslim traditional with well - established Mosque and maintain their strong cultural, ideological. And one village is Tha Chat Chai community is Buddhism. In 2015, 90.59% residents are Buddhist and as a part of

national identity but in fact 38.03 % of residents strongly believe the spirit of ancient ancestors or animists and ghosts of ancestors. One of the main differences between 57.63% of Buddhists who do believe in Siddhartha Gautama (Buddha).

Therefore, these researches can be learning experiences from CBE and environment protection. The outsiders can help and support the community on ecotourism development, environment conservation, training, study, research, is bringing a new concept for CBE. The selected based on these criteria, two communities have been selected as cased studies: 1) BBR Muslim community 2) BTCC Buddhism community. Location of each community is presented as follow (Figure 1.2):



Figure 1. 2 Study area location

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **Introduction**

This chapter presents the review of the literature to provide theoretically and covers sustainability of community-based ecotourism development (SCBED). This research of literature review can be separated into 11 issues as follow:

#### **2.1 Sustainable tourism development**

Even in the part, Thailand is successful tourism development country and many organizations are involved in the tourism business to focus on sustainable tourism. Tourism Authority of Thailand (2011), is the definition of sustainable tourism development as a means to tourism resources development to meet the need of economic, social, cultural, and aesthetics using valuable resources wisely, maintain the natural and cultural unique as long as possible, minimal impact and use the nature resources in a long term. Ritchie & Crouch (2010), a model of tourism destination development must be sustainability on economically, ecologically, socially, culturally, and politically as well on long-term. McKercher (2003), principles of sustainable tourism as having four pillars; economic, ecological, cultural, and community sustainability. Implementation sustainable tourism need to adapt at the institutional level the integration of environmental, economic, social-cultural and ethical concerns in the functioning of tourist destinations and businesses also comprise the commitment of tourism stakeholders (Khaled Alduais, 2009).

#### **2.2 Assessing tourism potential based on indicators of sustainable tourism for ecotourism development**

Assessment of potential destinations is an important method for improving ecotourist destination and development planning. Salmi and Hasnan argued that in order to increasing tourism destination competitiveness, both private sectors and

government should put extra considerations to development innovation of tourism products for more attracts tourist (2016). Tourism potential has been measured base on the individual spots and clusters, to meet the main objectives of the study (Al Mamun & Mitra, 2012). Assessing the potential that must be considered the factors of destination's existing tourism resources in the rural community (Munglun, 2011). According to Na Pikul and Madhyamapurush (2011), assessment of potential sites to established guidelines for tourism development must be analyzed physical, environmental, economic, social, cultural, natural, administrative and management. In this study potential indicators were screened for relevance and practicality as well as their applicability to CBED it took 6 variables to assess ecotourism potential including physical and ecology characteristics, ecosystem management in tourism attractions, value and important of tourism attractions, education, management, participation in conservation. The United Nations Commission on Sustainable Development (UN, 1992) has developed sustainability indicators it can be designed to be a guideline for the sustainable development of communities, indicators measurements are divided into 4 dimensional, social, economic, environmental and institutional indicators that can provide a solid basis for decision- making concerning sustainable development. In 2002, English Tourism Council (ECT) is developing a set of sustainable tourism indicators to measure national trends and performance, for local community development within economic, social – cultural and environment indicators (White, McCrum, Blackstock, & Scott, 2006). And SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis assesses tourism potential can help to decide what type of indicators that would be useful in monitoring trends and progress towards achieving the sustainable tourism goals (Okan , Kose, Arifoglu, & Kose, 2016), types of indicators that would be useful and important information that may help in building consensus on key issues and risks, indicators of sustainable tourism as an essential tool for policy formulation, planning and management processes attractions (UNWTO, 2004). The Global Ecovillage Network (GEN) (2017) has developed ecovillage impact assessment tools for local and community-based planning to transitions to sustainability that local community can design participatory processes in all four dimensions of sustainability; social (empower

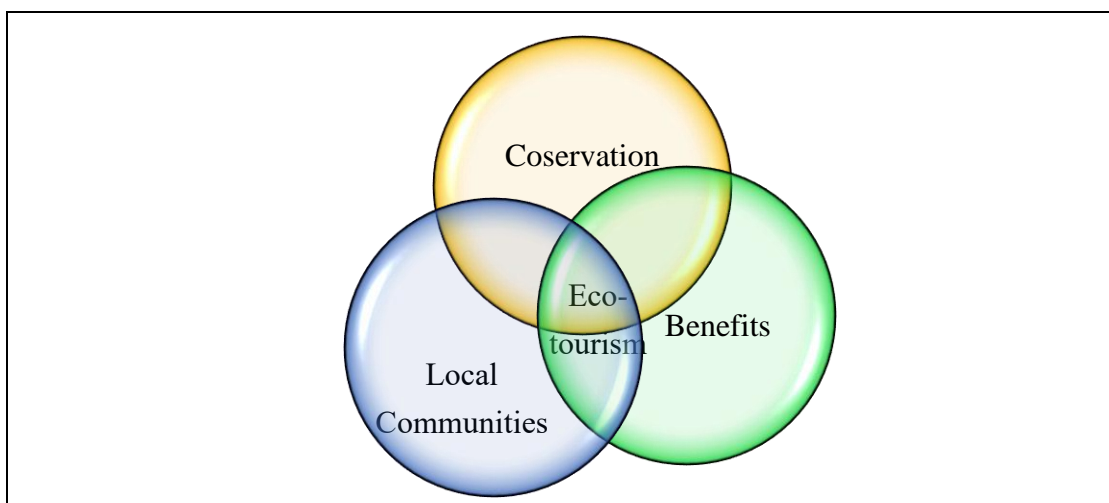
participatory), cultural (respect cultural traditional), ecological (regenerate ecosystems) and economic (equitable and justice)

### **2.3 Ecotourism**

Ecotourism as a concept which appears relied on recently. Many words with multiple meanings exist in the English language, such as Nature tourism, Bio- tourism, Green tourism etc. (Rahemtula & Wellstead, 2001). Experts and academics to provide a definition of ecotourism that it is a form of tourism that involves travel to natural resources which without any interference or damage to nature, but are intended to appreciate, learning, enjoy the scenery, plants, and animals as well as features cultural reflected in situating these things within the natural (Ceballos-Lascurain, 1991). Ecotourism is nature-based tourism that will benefit conservation due to the availability of funding for protected areas to maintain, create jobs for local communities, and provide education create environmental awareness issue (Boo, 1991), visit to the natural resources with the purpose to carefully learning the culture and history not to change or destroy the value of the ecosystem, while it helps to create economic opportunities, resulting in the conservation of natural resources and benefits to local people (The Ecotourism Society, 1993), responsible travel to natural resources with the conservation of the environment and get better local people's way of life (Western, 1993), have a role in planning, operating practice, monitoring and evaluation in conjunction with all other stakeholders (Donohoe & Needham, 2006 ), in order to continue promoting ecotourism destinations, requires the public sector and local tourism private sectors have collaborations and encouraged developing innovation of ecotourism products and services and it has provide an importance source of revenue raising and improve local quality of life (Bhuiyan, Siwar, Ismail, & Islam, 2011), encouragement of local people participation in conservation of the flora and fauna in ecotourism destinations (Sharpley R. , 2006). According to some scholar has been written about characteristics of ecotourism, one such distinction is natural and associated cultural features, due to many forms in ecotourism activities are offered tourists, for instance, ecotourism can hence be viewed as geotourism, wildlife tourism, marine tourism, agricultural tourism, culture tourism, science tourism, natural tourism and heritage tourism (Buckley R. ,

Environmental Inputs and Outputs in Ecotourism: Geotourism with a Positive Triple Bottom Line?, 2003; Erdogan & Erdogan, 2010; Pomfret, 2006)

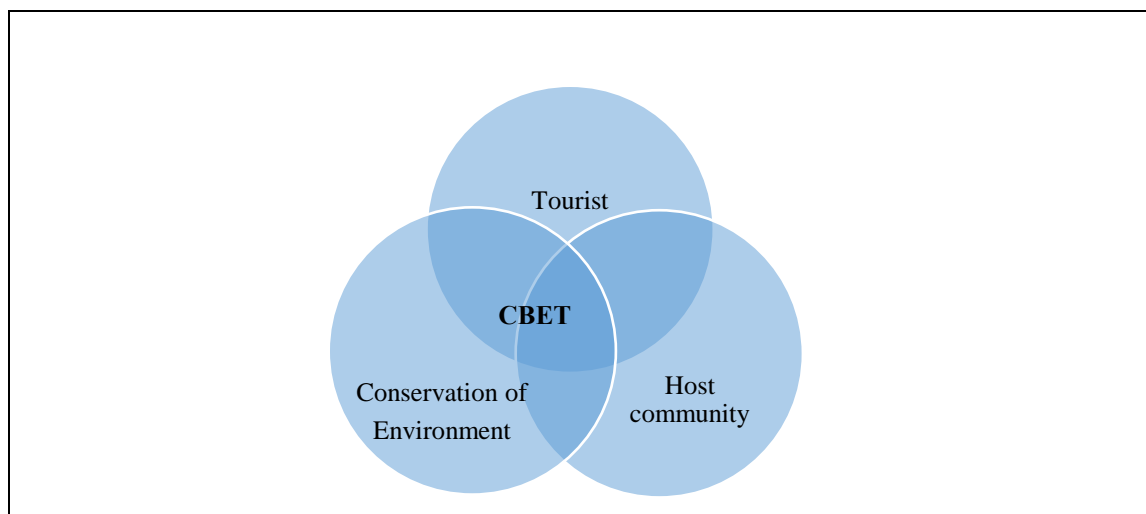
Ecotourism in terms of sustainability beneficial and contribute to the well-being of local communities (Erich & Hvenegaard , 2002). The tourism destination that has natural resources which maintain the integrity of nature and low impact on the environment and the culture by the tourists during visit there (Weaver, 2001), must to be combines conservation of resources, tourism, and include promotion ecotourism, it is indispensable to maintain balance of cooperation among travelers and stakeholders (Hirotsume, 2011). Beeton (1998) addressed concerns to be successful ecotourism development, must to promote planning, management and marketing of tourism. Chan and Bhatta (2013)strongly argued that local community must take responsibility in sustainable ecotourism practice and towards Community-Oriented Collaborative (Co-C) Ecotourism plan for achievement to a sustainable rural community development, which require enthusiastically support by the government and villagers. So that ecotourism refers to one form of sustainable tourism with its own special characteristics and different from other types of tourism, involves travel to natural resources and unique cultural and traditions with the conservation of the environment, control impact and create an atmosphere of learning nature, as well as benefits to nature resources offer opportunities to enrich the quality of life for local residents are well balanced. Show in figure 2.1:



**Figure 2. 1 Ecotourism Concept**

However, ecotourism can have an economic, social-cultural and environment impact which can have both positive and negative impact on local community when done without respect or increasing eco- tourists and stakeholders' awareness. All policy-decisions should be based on sound analysis supported by the best data available.

## 2.4 Community- Based Ecotourism



**Figure 2. 2 Communities Based Ecotourism**

The term of CBE referring to the relationship between conservationist, the tourist and communities (Manu & Wuleka, 2012), for more successful ecotourism development in rural community should be considered in principal of participants in ecotourism based on combination of environment conservation, social justices and equality, and economic efficiency as well as direction can be divided into four groups; business sector, ecotourist, government sector and NGOs (Wen & Tisdell, 2001). Kumara (2016) defines CBE as the implementation of ecotourism management by the empowerment of community through to engage all stakeholders to implement ecotourism policies based on sustainable development to protect environment and biodiversity conservation. Some scholars argue that the most important reason for ecotourism development must provide self – determination from the large number of stakeholders such as local organization or community-level associations in regarding to control and operation tourism marketing and consideration natural resources

management through conservation of the risk areas inevitably entails restriction and protection in the traditional usage of resources (Kumara C. , 2015; Ekwale, 2014; Drakopoulou, N.d.; Bith, 2011; Ounmany, 2014; Moswete, 2009). CBE as a tool for biodiversity conservation, based on the principle of ecotourism that conserve and maintaining attractive natural landscape and the rich flora and fauna native, with many indigenous species at least one way to attract visitors (Asteray, 2011). A community based ecotourism project implementation must be self-managing in implementation plan and practice for poverty reduction and indigenous people and local community of economic development, particularly in marginal rural areas with limited agricultural potential that usage of local resource (Kiss, 2004) and expanding agriculture is likely to have major impact on natural ecosystems and going to cause deforestation through soil degradation and erosion (SoCo Project Team, 2009). The main understanding concept of CBE is the empowerment of host community. Host community are organizations, institutions, community leaders, local people and including entrepreneurs, they have been involved in decision- making ecotourism planning that takes into consideration the positive and negative impact on the environment, social-culture and economic. There are varieties ecotourism activities such as reforest, mangrove trail, wildlife tourism, marine tourism, agro-tourism, culture tourism. And biological diversity and ecological integrity, many types of a natural resource such as seagrass bed, coral reef, rainforests, white palms, waterfall, rubber plantation, orchard, goat farm, organic farm, pearl farm, monkeys, birds, gibbon including National park and Marine Protected Areas.

## 2.5 Sustainability indicators for the community- based ecotourism development

**Table 2. 1 Sustainability indicators**

<b>Dimensions</b>	<b>indicators</b>
Environment	<ol style="list-style-type: none"> <li>1. The existence of management plans for Convenience of access to tourist attractions and basic tourist facilities</li> <li>2. Quality improvement plan of the roads transportation</li> <li>3. The existence of landscape management plan</li> </ol>



	<ol style="list-style-type: none"> <li>4. The existence of management plans for geomorphological formations and soils</li> <li>5. The existence of flora biodiversity management plan</li> <li>6. The existence of faunal biodiversity management plan</li> <li>7. Local people participation in land conservation</li> <li>8. Participation in environment rehabilitation</li> <li>9. Participation in culture conservation</li> <li>10. Participation in environment protection</li> <li>11. Tourist participation in ecotourism attractions protection</li> <li>12. Quality of maintaining an environment</li> <li>13. Voice quality management</li> <li>14. Solid waste management</li> <li>15. Wastewater management</li> <li>16. Water availability and conservation</li> <li>17. Energy management</li> <li>18. Air pollution management</li> </ol>
Social	<ol style="list-style-type: none"> <li>1. Safety management for creating community Images</li> <li>2. Strictly Islamic spirituality and religious tradition of regulations/ Strictly Buddhism spirituality and religious tradition of regulations management</li> <li>3. Control land use in tourist attractions, Adequate Housing</li> <li>4. The existence of program of spiritual and religious activities with youth</li> <li>5. Providing and development knowledge of local people in environment conservation</li> <li>6. Trained and development knowledge of local people in ecotourism management</li> <li>7. Environmental compliance</li> <li>8. Conflict management in tourism</li> <li>9. To capture (keep) levels of environmental consciousness existent</li> <li>10. Implementation of quality infrastructure development</li> </ol>
Culture and heritage	<ol style="list-style-type: none"> <li>1. The existence of protecting cultural heritage values</li> <li>2. Participation in culture conservation</li> <li>3. Program of recovery fishery way of life /Traditional Agriculture</li> <li>4. Existence and Revival program of traditional clothing, music and dance</li> </ol>

	<ol style="list-style-type: none"> <li>5. Conservation of value and management of artistic archaeological, and heritage buildings</li> <li>6. Awareness of the existence of inherited Buddhist tradition/ Muslim tradition</li> <li>7. Providing and development of local foods and Restaurants</li> <li>8. Recovery &amp; Implementation of local traditional rituals and festivals</li> </ol>
Economic	<ol style="list-style-type: none"> <li>1. Tour operator and tourism activities management</li> <li>2. Accommodations service</li> <li>3. Restaurant and local product</li> <li>4. Transportation and another service</li> <li>5. Local culture and heritage</li> <li>6. Commercial fishery activity</li> <li>7. Commercial agriculture activity</li> <li>8. Commercial livestock activity</li> </ol>
Marketing	<ol style="list-style-type: none"> <li>1. Implementation of plan for Ecotourism marketing management</li> <li>2. Promote CBE management and marketing destinations</li> <li>3. Community base spirituality and religious tradition tourism management</li> <li>4. Development of Tourist activities and tourism products to impress the tourist</li> <li>5. Development of local products for sale to tourist</li> <li>6. Providing and development knowledge experience and skills of local people in tourism hospitality operations management</li> <li>7. No. of tourist visitation</li> <li>8. Preserve the existing value of tourism resources</li> <li>9. Stakeholders Coordination Management on tourism</li> <li>10. The existence of Tourism- Services management at fair price</li> </ol>
Spirituality and religious traditions	<ol style="list-style-type: none"> <li>1. Often adopt your own religious teachings to daily life</li> <li>2. Have opportunities to participate in practices of your own religious</li> <li>3. Participation in your own evangelism and their faith to children</li> <li>4. Supporting spirituality and religious traditional activities for children</li> <li>5. Often to foster care and conscience protection on your own</li> </ol>

	<p>religious and other.</p> <ol style="list-style-type: none"> <li>6. Respect the religion and traditional culture of the Buddhism community/ Muslim community</li> <li>7. Obtaining equality and justice and encourage local communities to value and benefit from the natural and cultural resource.</li> <li>8. Participate in the preservation and promotion of local traditional culture, historical and religious heritage</li> <li>9. Compliance with all of low and land use regulations and zone management</li> <li>10. Involved in the care, attention to protecting and rehabilitation the nature resource</li> </ol>
Policy	<ol style="list-style-type: none"> <li>1. Restoration flora and fauna project</li> <li>2. Management of ecosystem, ecological health, and Process</li> <li>3. Promote education and public awareness</li> <li>4. Rehabilitation and conservation of local cultural and historical values</li> <li>5. Land use management</li> <li>6. Regularly landscape improvements</li> <li>7. Conservation of biological diversity and ecosystem</li> <li>8. Safety management for local people and tourist</li> <li>9. The existence of policy and planning in religious or spirituality sector for enhancing sustainable ecotourism development</li> <li>10. Promote investment that supports local development</li> </ol>

As the baseline issues and indicators left some holes with respect to the CBE nature of my investigation, it was important to include additional issues and indicators which relate more specifically to the characteristics of ecotourism. As explained in table 2.1 above. Additional issues and indicators relating to environment, social, culture heritage, economic, marketing, spiritual and religious traditions and policy.

Seven dimensions with 74 associated indicators were selected for the evaluation framework for the investigation of the sustainability of the identified CBE risks. Each of these indicators required a specific data collection method in order to establish the performance of each CBE risks with respect to each specific indicator. Before the data collection instruments that were used to collect data relating to the

selected dimensions and associated indicators are discussed, each dimension and its associated indicators are discussed in more detail.

## 2.6 Tsunami disasters

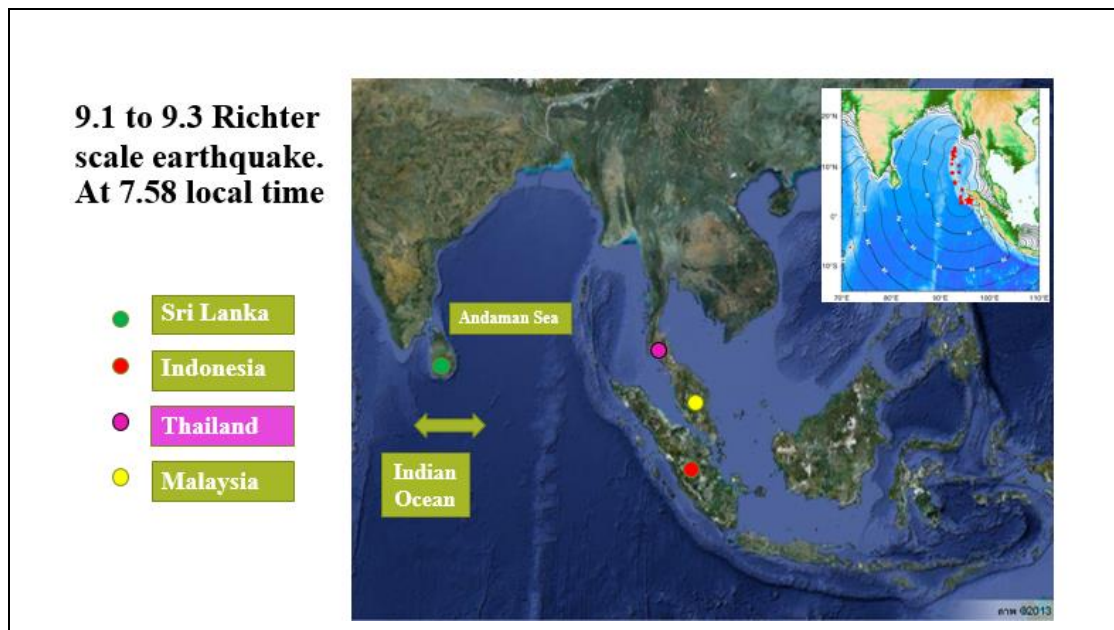
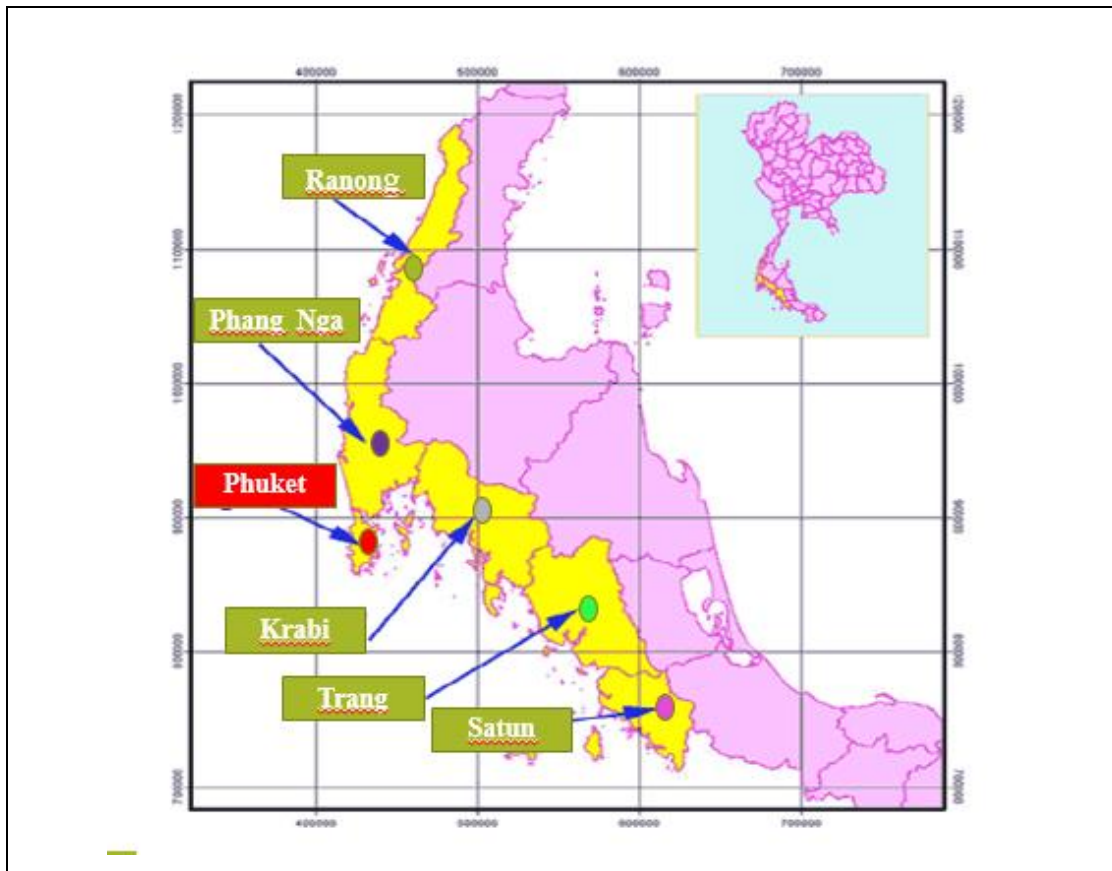


Figure 2. 3 The earthquake and tsunami in the coastal area



**Figure 2. 4 Southern coastal areas were strongly affected in six provinces on the Andaman Sea**

In 2004, around the world including Thailand suffered strong natural disasters. Natural disasters, directly impact on the coastal communities caused the earthquake and tsunami disaster events on December 26, Andaman Coast in southern Thailand, damaged on coastal natural resources and ecotourism destination including Phang-Nga, Ranong, Krabi, Phuket, Trang and Satun, particularly, Phuket is the most important tourist destinations in southern Thailand (Suanrattachai, Chenkitkosol, Kuga, & Yamao, 2005). There was directed impact of the tsunami on the tourism, fishing and agricultural industries (Rosa, 2012). This is the major sources of income to Phuket government and local communities, many people in the tourism sector have lost their jobs and livelihoods of coastal communities (ILO, 2005). The effects of tsunami disasters, caused tourism crisis although direct impacts on the local community economic, investor and the state. Besides, impacts of nature disasters on social-culture such as loss of life and poverty, damage on housing, infrastructure, psychological and

negative environment impacts aspect such as damage on marine and shoreline ecosystems (coral reefs, mangrove of ecosystems), marine wildlife, coastal water and quality and smallholder farmers through agricultural land that shown on figure 2.3 and 2.4. However, 10 years ago after the tsunami disaster, Phuket lack of commitment to development plans or regulations, and guidelines to solve security problems through the restoration of natural and cultural in order to cope with in some future natural disasters (Kruahong, 2008). From Phuket Strategic plan 2013-2017 “Lack of safety system standards management in the risk area” (Phuket Town Municipal office, 2013). The recovery tourism industry in Phuket is important for the national economic development and distribution of income to the local community that Phuket has high potentiality and as one of popular tourist destination in the south of Thailand, and various tourist resources both natural and cultural heritage to attract tourists come visit with the unique characteristics of the local community and indigenous peoples (Phuket Gazette, 2013 ).

However, Phuket’s post-crisis tourism recovery which occurred negative impact of the earthquake and tsunami on tourism and hospitality industries that would promote under the sustainable management and development by community participation (Rice & Haynes, 2005).

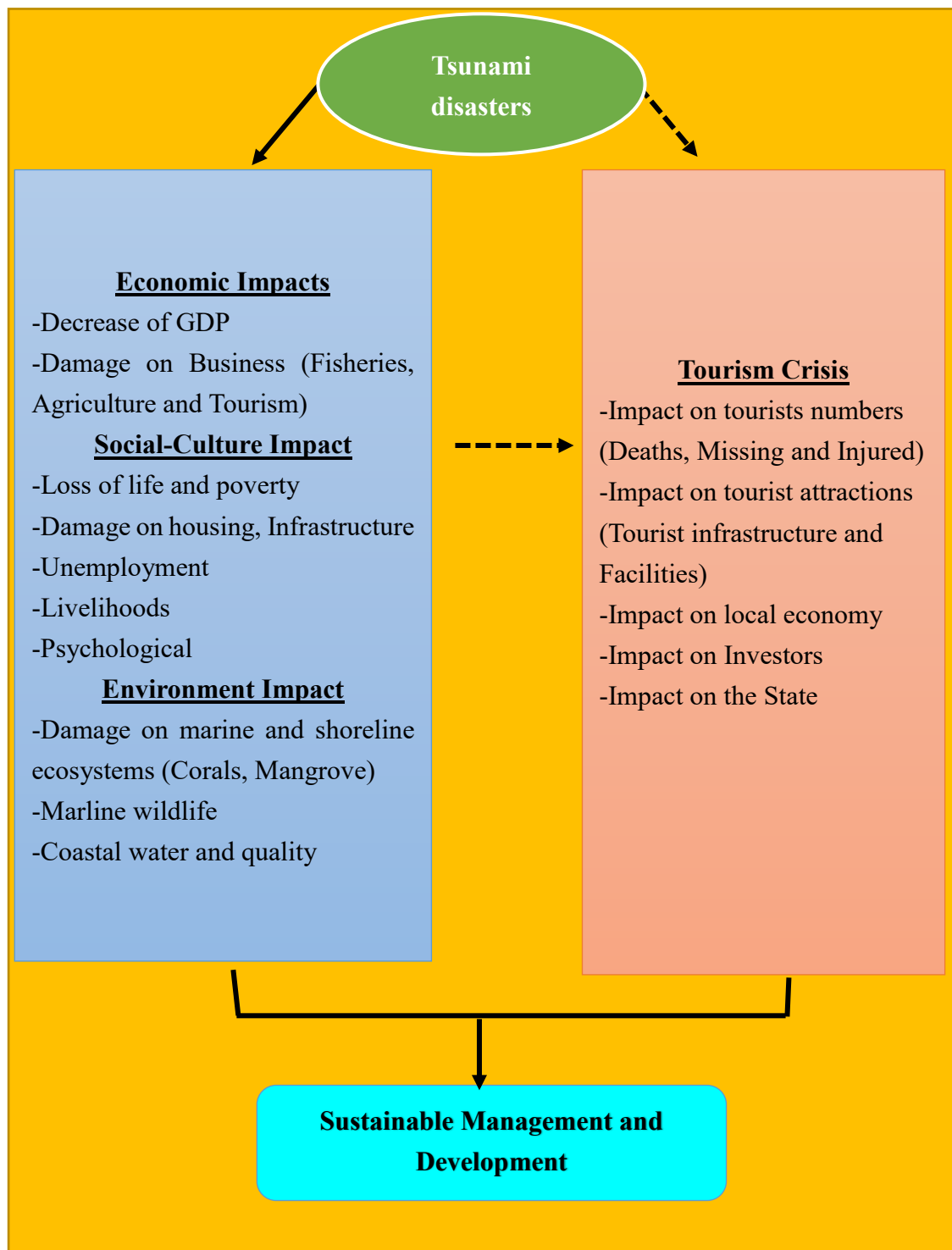


Figure 2. 5 Tsunami Impact on coastal communities

Source: Author's Own

## 2.7 Impact of ecotourism on community

The study about the impact of ecotourism on communities are difficult to assess. However, the methods use determine impact on host communities has both positive and negative impact which considering sustainability criteria and indicators as a tool to assessment of impact on ecotourism attractions adapting from ecotourism as a tool for sustainable rural community development and natural resources management (Neth, 2008) and environment impact of ecotourism (Yogi, 2010), including impact socio-cultural and economic impact of ecotourism (Vishwanatha & Chandrashekara, 2014) both positive impact and negative impact of each issue is added in the table above 2.2:

**Table 2. 2 Positive and Negative Impact of Ecotourism**

<b>Sustainability criteria</b>	<b>Positive impacts</b>	<b>Negative impact</b>
Environmental	<ul style="list-style-type: none"><li>-Provide a natural resource for conservation and management</li><li>-Provide biodiversity management</li><li>-Enhancing forest management</li><li>-Successfully agriculture and Sufficient marine resource to ensure seafood supply for the community</li></ul>	<ul style="list-style-type: none"><li>-Direct and indirect damage to vegetation</li><li>-Altered habitats</li><li>-Pollutions; air, noise, and waste</li><li>-Soil erosion</li><li>-Introduction of new species.</li><li>-Natural species decrease</li></ul>
Economic	<ul style="list-style-type: none"><li>-Increased employment opportunities</li><li>- Local building and infrastructures development</li></ul>	<ul style="list-style-type: none"><li>-Leakage of income</li><li>-Inflation</li><li>-Indebtedness</li></ul>



	<ul style="list-style-type: none"> <li>- Motivate tourist to travel, spend and stay longer</li> <li>- Distribution of income to communities</li> <li>-Community economic development</li> </ul>	-Land speculation
Social- Cultural	<ul style="list-style-type: none"> <li>-Increasing food security in a sustainable way</li> <li>-Promote and conservation of local culture, traditions, historical and religious heritage.</li> <li>-Human resources development</li> <li>-Recovery local culture</li> <li>-Encourage local communities to value and benefit from the natural and cultural resource.</li> <li>-Diversification of facilities and another service</li> </ul>	<ul style="list-style-type: none"> <li>-Effect of seasonality</li> <li>-Risk of cultural degradation due to tourist behavior</li> <li>-Social conflict</li> <li>-Youth copies foreign culture, not respect traditions</li> </ul>

Source: Yogi, H. (2010, p. 21), Neth B. (2008, p. 35), Vishwanatha.S and Chandrashekara B. (2014, p. 261), adapted from Environment impact of Ecotourism (Buckley R. , 2004, pp. 5-13).

## 2.8 Community participation and empowerment in ecotourism development

Ecotourism is important for the local community, particularly in the Andaman Coastal communities. It also provided rich natural and cultural tourism resources as a part of tourism product, tourism businesses will be a benefit to the local community (Himoonde , 2007). Therefore, the development of ecotourism in the community should be committed to supporting the community participation in environmental management, aims to improve the awareness and protect the resources of tourism attractions (Wang, & Min , 2009, pp. 1-5). According to Stem and *et al.*, (2003) as a sector ecotourism also provides significant employment, and including many job it can

opportunities to make income for rural communities, stakeholders participation which benefit-sharing from ecotourism activities both directly and indirectly should contribute to the fund, must continue to encourage ecotourism development while protecting natural and cultural resources. In proposing the initiative, providing information and make recommendations about local community will be important in tourism development planning for appropriate community involvement in ecotourism, which considers four levels of empowerment, economic, psychological, social, political (Scheyvens, 1999).

According to Chaouni (2014) the collaboration with stakeholders and local experts in the design process can help the project's sustainability and successful environmental remediation, management social infrastructure, and it their economic plan base on ecotourism development and conservation of natural resource by communities and local people. At the same time, traditional livelihood activities that impact on the natural environment such as hunting, over-fishing, egg gathering, herb gathering, turtle hunting, livestock, and crop farming gathering (Mensah & Ernest, 2013). Latip N.A., Rasoolimanesh S.M., Jaafar M., Marzuki A. and Umar M.U. (Latip, Rasoolimanesh, Jaafar, Marzuki, & Umar, 2018) asserts that indigenous people of participation are important for ecotourism development and management of the protected areas that maintain and preserve their traditional culture and lifestyle are major source of ecotourism attractions for tourists, yet it will have significant role either for good destination's competitiveness, investigated that the empowerment of local residents for rural ecotourism development should be enabled in multiple domains; social, economic, psychological and political through villagers collectively control all the tourism operation, it is likely that equality benefit sharing to local residents.

## **2.9 Spirituality and religious traditions**

Spirituality and religious are part of the cultural inheritance. Spirituality and religious traditions can play an important a role and have a profoundly positive impact on the human being and environment interactions, where success would have to compliance with spirituality practices. Many scholars have expressed that religion relationships with nature and environmental conservation; ritual, ceremony, sacred

natural site, faith (James S. P., 2006; Woodhouse, 2012; Keown, 2006; Woodhouse, Mills, Philip, & Gulland, 2015). Scholarships argued that spirituality and religious are different, where spiritual but not religious (SBNR), or religious but not spiritual (RBNS), it was widespread that individual players has spirituality into practices and adherence to religious faiths and belief, such as in the term of spiritual of ecosystems, alongside a wish to respects the religious practices (Cooper, Brady, Steen, & Bryce, 2016).

In the term of spirituality and religious concepts that are difficult to define and separate, in this study to interpret and describe the significance that spirituality can be as deeply personal experience or unique individuals that searches for truth or ultimate reality of themselves meaning to feel it right which relate to a human of heart; make awareness, harmoniously, love etc. (Cline, 2017), people who have experienced a spiritual in loved and respected natural resources toward management perspective that the spirituality of natural environments (Schoeder, 1991). Demers (2018) has defined religion that as an institution with a set of an organized system of beliefs and practices which sharing religion's teaching to members or local people by a community of groups or community religion organizations such as Buddhism, Islam, Christianity, Hinduism etc. According to Contributor (2014), defined religion as a foundation of one religion that tell about beliefs in God or gods to be worshipped, usually expressed in practices and ritual, and traditional.

GEN (2018) to support ecovillage strategies based on community empowerment for sustainable development which cooperative between government and stakeholder to engaged the old spirituality and religious traditions beliefs and practice, with a vision for sustainable human development, also encourage environmental conservation and ecological recovery. According to Sobian (2012), discussed that religious readers should communicate religious principles that are relevant environment awareness through environmental education programmes to all adherents or players, which promote moral and ethical responsibilities toward the natural and cultural environment based on involving partnerships between government, NGOs, industries, conservationists, and indigenous peoples for sustainable community development.

## **2.10 Sustainable ecotourism development**

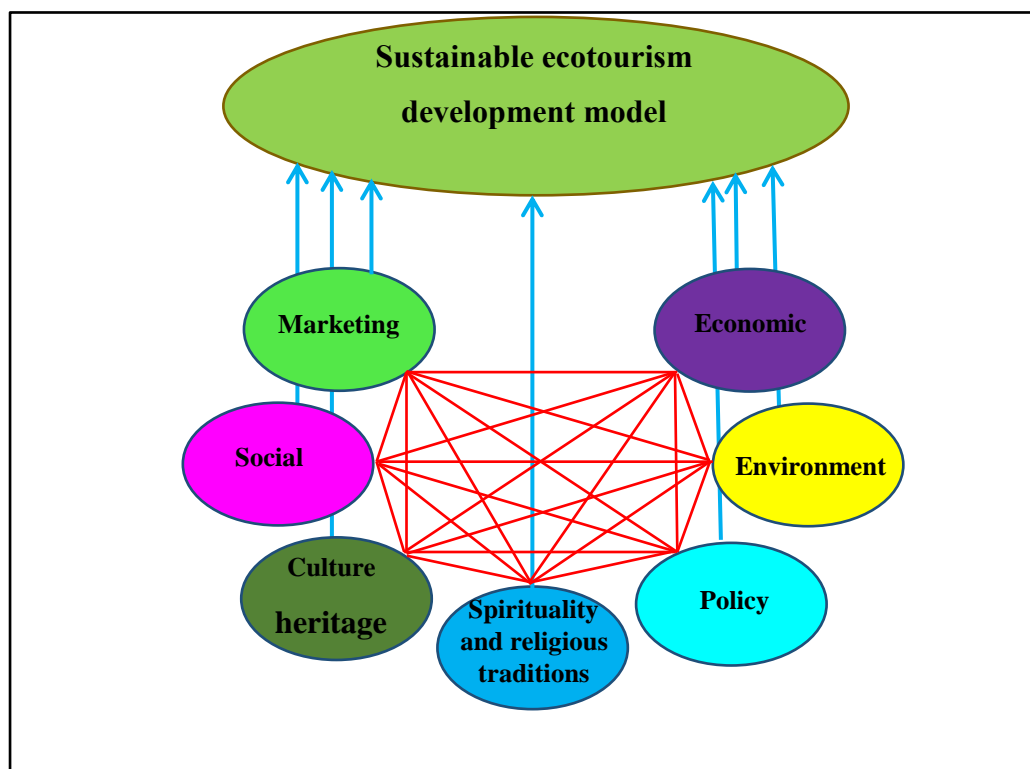
Sustainable ecotourism development refers to guidelines and models for sustainable ecotourism planning and development under community participation on the economic, environment, social (Klak, 2007), to engaging effectively for supporting local community business and promoting conservation in the protected areas (Tungchawal, 2001). Aup K.C (2016) affirmed that sustainable tourism development in a rural area under the concept of ecotourism can to help generate revenue and poverty alleviation, increasing employment opportunities for local people by job-related to tourism such as restaurants, tour guide, transportation, accommodation, restaurants and souvenir shops (OTOP) etc. Rinzin, Vermeulen, and Glasbergen (2007) argue that ecotourism as a mechanism for sustainable development in the rural community by comprehensive tourism policy that can be labeled as “controlled liberalization” it aims to contribute to the socio-economic development and avoid impacts on the unique nature and culture of the country. Government agencies, tourism business stakeholder, and local people should be involved in the opinion of planning in tourism development by defining economic, tourism marketing, social, culture and environment of policy, and operating as planned. While we take advantage of natural and cultural resources to be tourism product to support tourist to consider in environmental, cultural and social impact (Matthews, 2002). Miyakawa (2002) believe that implementing development of ecotourism should keep four important points for sustainable development and management; promote involvement of local people, should be made aware the a way to sustainable use of regional resources also benefits for local economies, need to be developed with researchers for assess and manage resources base on scientific knowledge, and establish an interpreter’s and local guide’s education system. Consequently, it offers a seven-dimensional view of sustainable ecotourism development based on environment (ecological integrity), economic (ecotourism businesses), cultural (safeguard cultural heritage), social (community empowerment), marketing (competitiveness of destination), spirituality and religious tradition (beliefs and practice), and policy (ecotourism policy compliance).

## **2.11 Sustainability of CBED**

Sustainability of CBED aimed to residents' perception to the actual implementation based on sustainable practices, will also be considered seven dimensions as sustainability. Social sustainability will benefit from tourism. Tourism will create jobs such as wildlife tour guides, cultural tours and sightseeing with the native people. It also helps with social interactions by letting the local people meet and talk to the tourists from other countries, which helps them learn about other countries as well. Cultural heritage sustainability can also benefit from tourism; originally, it includes both tangible cultural heritage, such as buildings, monuments, work of art and masterpieces of artistic and historical value passed; and intangible cultural heritage, such as folklore, traditions, language and knowledge as an inherited from the past and passed into future generation (Loach , Rowley, & Griffiths , 2017). Ecotourism providing an opportunity to local people can support sustainable use of culture and heritage sites also revenues generated from culture and heritage sites conservation and maintenance. For example, the local people can teach tourists about their culture and religion. When the tourists visit they will be able to bring their experience they learned and spread it to their own country thus spreading the word around the world about the culture in Phuket. Acknowledging the main part of cultural heritage, which contributes to the reality reflecting the spiritual and religious practices. Spiritual and religious tradition of sustainability, it can play a role for sustainable community development which indigenous peoples have a spiritual and religious tradition that is rooted in an original community with ascetic ideal of a simple life (Hessel , 2002), religious beliefs and teaching on stewardship and harmony support to social sustainability ( Almann, Bubta , & Mazimpaka , 2012), including promoting environmental conservation and habitat protection and supporting community based natural resource management through ecological implications of Buddhist tradition or teaching at the grassroots level by providing monks with training in Buddhism and Ecology (Mlup Baitong, 1998). Environmental sustainability can also get help from sustainable ecotourism, which effectively management practices implementation and long-term maintenance of natural resource planning so they are available for the use of future generations. Another way ecotourism has affected the environment is that people are raising

concerns on how to make the fisheries, wildlife better. Such as if the people overuse the natural resources such as logging, it would cause problems for the tourism. Ecotourism can have a great impact on the economic sustainability in Phuket both positive and negative. The positive impacts it can have is if the economy around the world is a good many people will go on vacations in such places as Phuket and spend more money on different activities such as wildlife tourism, marine tourism and buy the thing that they can only get in Phuket which would put money into the economy of Phuket. The negative effect tourism can have on the community that if the economy is in a recession many people would not be able to travel thus not spending money in the local community. Sustainability marketing extends to support tourism-marketing, stakeholder and public-private partnerships are main important sectors that involved in tourism marketing plan such as regional tourism organizations, hotel, restaurant and travel agencies (Sharpley & Pearce , 2009). Although the use of marketing techniques to promote tourism service-products and attractive to the diversity of tourists with respect to long-term maintenance unique environment while it can make an economic benefit to the community economic and contribute revenue to local people ( Gilmore , Carson , & Ascencao , 2007). In order to achieve long-term success in community ecotourism development, the government should be addressing policies for reducing poverty base on local resident's involvement and participation in decision- making a plan and implementation and benefit sharing accrued from community tourism management (Keovilay , 2012).Wearing, Archer and Beeton (2007) providing sustainability marketing also need to be enhancing visitor satisfaction and should be promoting the responsibility and protection of environmental services and natural resource. In the context of sustainable ecotourism market, should be developed and manage marketing activities to meet the demand of ecotourists market and need to sustainability management of ecotourism destinations (Lai & Shafer , 2005), should focus on the environment, social, cultural and economic sustainability (Wood , 2002). CBE to achieve successful implementation of ecotourism marketing which needs to consider the tourism marketing mix based on tourist surveys (Denman , 2001). According to Denman (2017), the sustainability of ecotourism products should be addressed quality service, authenticity and attention about visitor safety while

respecting the cultural sensitivities and conservation environments (Pomeroy , Johnson , & Noble , 2009). Political sustainability can also affect ecotourism if the government owns much of the land in Phuket but only allow tourist to visit certain areas that would greatly decrease the effect that ecotourism would have on Phuket. Thus, the government should not monopolize the ecotourism of Phuket but allow all native groups to market and to profit from the ecotourism of Phuket. The politicians should improve the policy of the seven dimensions below (Figure 2.6).



**Figure 2. 6 Sustainable ecotourism development model**

**Source:** Author's Own.

## **2.12 Chapter Summary**

Post-impact of the tsunami disaster, appeared that environmental and ecosystems degradation and rapidly increasing negative economic impact, especially high of cost and poverty. However, strategic tourism planning was adopted as an approach for the tourism sector Phuket action plan to address these issues have failed

to achieve intended goals, including not involve the rebuilding of infrastructure, recovery of the tourism sector in the affected destination (Teresa, 2005). Phuket government agencies involved in tourism policy focus on community-based tourism management which aims to conservation local cultural and natural environment resources based on the involvement of local community in development, and improvement of their living conditions through poverty alleviation.

The literature review has important for this research, gaps highlighted to the sustainably used paradigm which focused on all 7 dimensions of sustainability: economic, environment, policy, spirituality and religious traditional, cultural and heritage, social, and marketing, in order to improve the performance of CBETD in Phuket Island. CBETD has become population tool sustainable rural community development, based on empowerment of community and on the natural environment and ecological conservation through cultural heritage.

In practices, many scholars have shown that ecotourism attractions as one segment in their development tourism market to the current expectation of the new tourists without paying any in-depth attention the grassroots level situations; indigenous people in its planning and development and does not focus on operation contributing to their well – being. On the other hand, management decisions are made by community leaders and entrepreneurship as result indirect benefits of tourism management to local residents or indigenous people. For instance, lack of research on the sustainability of CBETD in Phuket and lack of studies attempting to spirituality and religious beliefs and practices for the natural environment and ecological restoration as well as adaptation use of sustainable ecotourism indicators as a tool for measuring and monitoring the success of their sustainability plans. Furthermore, pay more attention to negative economic, society and culture, and natural environment and ecology its can be brought into the corresponding rise in pressure to improve implementation of CBETD as well as a pathway or plan to be sustainability.

Discussion from the literature review in this chapter was justification that brings the research design and combined with the use of the methodology for selection of two case studies to investigate a research issue.



## **CHAPTER 3**

### **RESEARCH FRAMEWORK AND METHODOLOGY**

#### **Introduction**

This chapter described the research framework and methodology, including the research design, research process, data collection, data analysis. This research employed a mixed of both qualitative and quantitative methodologies which warranted. The study was focused on five group of population sampling is that toward sustainable development as mentioned above (Chapter 2).

#### **3.1 Research Framework**

##### **3.1.1 Scope of study**

This study focuses on ecotourism and sustainable development, both Muslim and Buddhism communities includes an assessment the impact of ecotourism on community occurred pre-tsunami disaster and post-tsunami disaster, which considers 3 criteria: economic, social and environment. Also, to study assessment of ecotourism attractions potential for sustainable development, the baseline for sustainable ecotourism indicators that is beneficial in ecotourism attractions were established based on sustainable development model. There were 40 comprehensive indicators based on physical and ecological characteristics, ecosystem management in tourism attractions, value, and importance of tourism attractions, education, management, participation in conservation used in the model. The population sampling groups are governments' agencies and local authorities based on in-depth interviews, business stakeholders, and questionnaires distribution from local peoples and tourists to the results of this ecotourism attractions potentials assessment, and impact of ecotourism, and comparative sustainability of CBED between Muslim and Buddhism communities based on comprehensive 74 indicators, can suggest specific approach to seven dimensions or theme models for sustainable ecotourism development. I have drawn the steps in conceptual framework of my research paper as Figure 3.1:

### 3.1.2 Conceptual Framework of the research

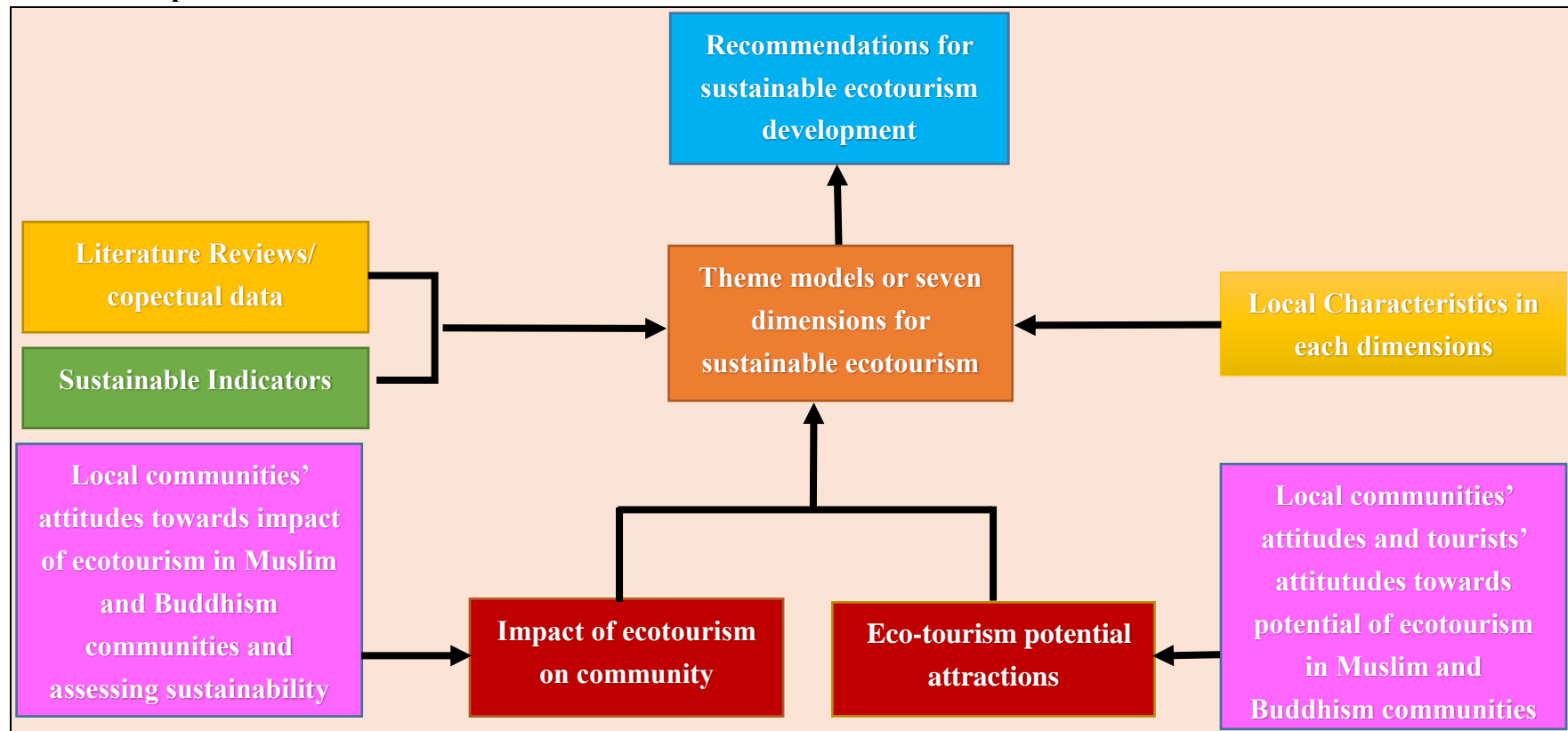


Figure 3. 1 Conceptual Framework of the research

Source: Author's Own.

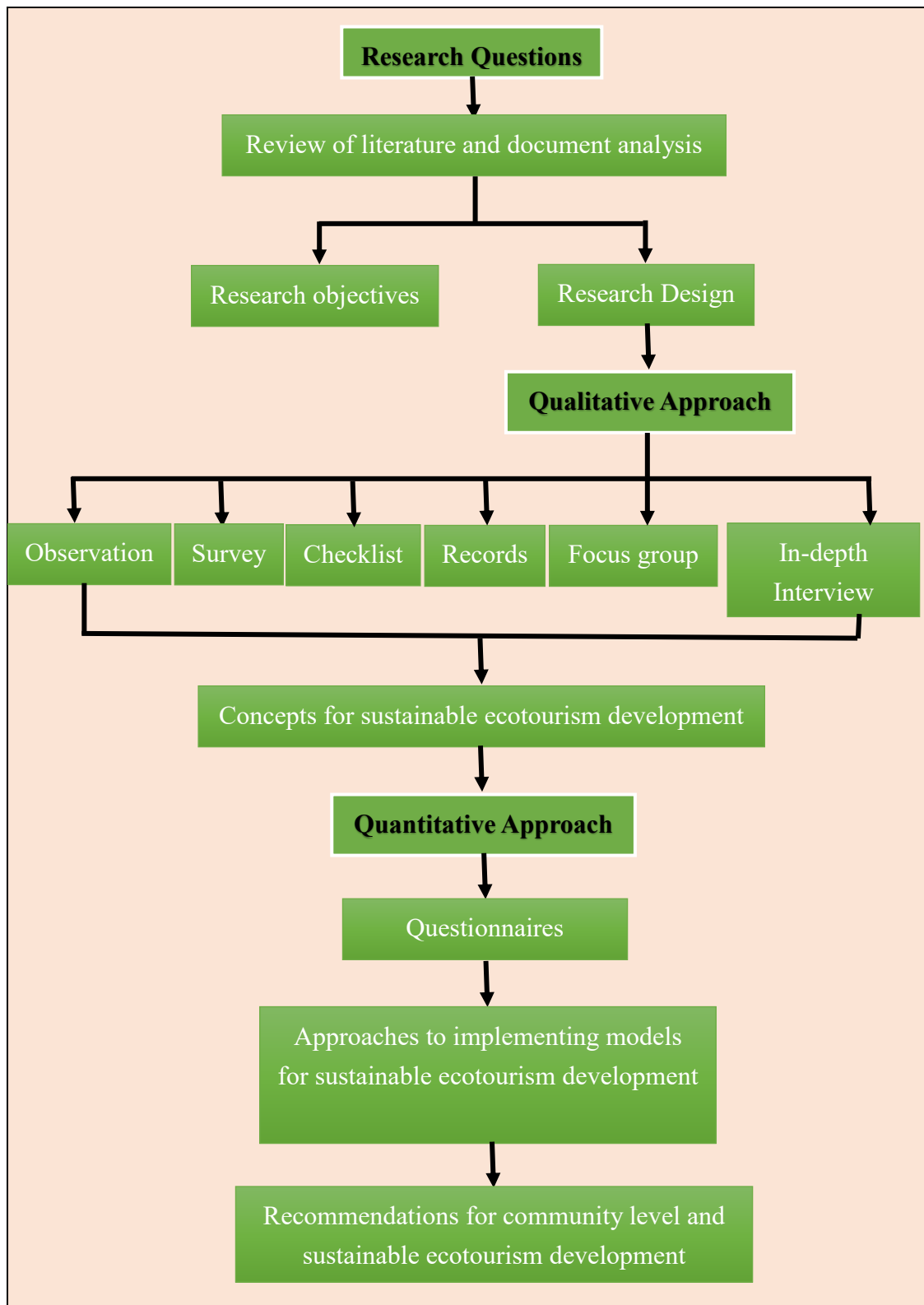
## **3.2 Research Methodology**

### **3.2.1 Research Design**

This study was design to cover two communities and their ecotourism development, and related to a literature concerning sustainable tourism development, assessing tourism potential and using sustainable tourism indicators for sustainability of CBED, Tsunami disasters, and impact of ecotourism on community, CBE, Muslim community and CBE, Buddhist community and CBE, community participation in ecotourism development, sustainable ecotourism development.

### **3.2.2 Research Process**

Research process of this study beginning from the statement of the research problem or research questions, research objectives, research design, review of literature and documents, data collection, which provided the background of two case studies. The research methods of collecting both quantitative data and qualitative data. Including data analysis, data interpretation questions and answers from in-depth interviews with key information, questionnaires, focus-group and observation understanding of the issue, such as community problem and solving, impact on community, environmental issue, potential of ecotourism in these two communities, thus resulting in approaches to implementing models for sustainable ecotourism development, which the result of this analysis then reviews and discussion in a manner that is directly related to the research question or hypothesis with a diagrammatic representation of seven dimensions of envisaged framework. Finally, conclusion and recommendations for this study. The research process in this study as Figure 3.2:



**Figure 3. 2 Research Process of the study**

**Source:** Author's Own

### **3.2.3 Data Collection**

Various types of data collection methods for this research were used to collect the information needed to answer the research problem, and based on the identified hypothesis, research design, information gathered about variable, which according to research questionnaires, research objective. Data collection was conducted between November 2014 to February 2017. Details of the data collection methods are as follows:

3.2.3.1 Survey: survey the community context, such as locations, geographical boundaries, physical and environment, occupation groups, infrastructures, ecotourism attractions, household locations, homestays, hotels & resorts, community restaurants and transportations.

3.2.3.2 Observation: observation of activities of community events, fairs, fundraisers, local festivals, local weekend markets, local restaurants and souvenir shops.

3.2.3.3 Checklist: Check the potentials of local facilities, infrastructure, tourism resources.

3.2.3.4 Records: record data between in-depth interviews during the long time.

3.2.3.5 Questionnaires: questionnaires were given to local residents, domestic and international tourists. Detail of the questionnaires were potential assessment of ecotourism attractions, comprehensive indicators based on physical and ecological characteristics, ecosystem management in tourism attractions, values and importance of tourism attractions, education, management, participation in conservation, community economic, and policy compliance used the Likert scale with five answers to choose from. And interview residents on their perception on ecotourism impact which occurred before and after the tsunami disaster by considering the positive and negative based on 3 criteria's: economic, social-culture, and environment. Rated score of each indicator were given five difference scales.

3.2.3.6 In-depth interviews: interviews government agencies and local authorities; Lord Mayor of Paklok sub district municipality, household leader, tourism community manager, children development center interviews teacher, municipal officer, group of organic agriculture extension, group of housewives, crystal and OTOP group, culture and local artistic conservationist, community restaurant manager. Detail of interviews

is problem and threats facing tourism management, community tourism situation, and histories and cultural of community tourism management and important factors affecting the model of sustainable ecotourism development. Interviews tourism business stakeholder; home stays and resorts, travel agencies, transportations.

3.2.3.7 Focus groups: focus groups conducted with community leaders, group housewives and occupations groups.

3.2.3.8 Application of criteria and indicators for assessing sustainability of CBED based

on seven dimension and using 74 indicators as mentioned above in Chapter 2.

3.2.3.9 Application of criteria and indicators for the assessment of ecotourism attractions potential.

UNWTO has developed sustainable tourism indicators (STI) for all tourism destinations (UNWTO, 2004). In this workshop, the specific selection criteria and indicators were made by focus group participants and previous literature consideration. Indicators for assessment of ecotourism potential process that each of indicators link to physical and ecology characteristics, ecosystem management in ecotourism attractions, value and importance of tourism attractions, education, management, participation in conservation. There were 40 comprehensive indicators, which cover sustainable ecotourism of concept as follow Table 3.1:

**Table 3. 1 Application of criteria and indicators for the assessment of ecotourism attractions**

Criteria	Indicators
Physical and Ecology characteristics	1. PHY1= Convenient access to tourist attractions
	2. PHY2= Quality of roads (Slope, dangerous curve, road surface)
	3. PHY3= Landscape (Minimal number of building around nature public area, the height of the building, etc.)
	4. PHY4= Geomorphological formations and soils
	5. PHY5= Flora biodiversity

	6. PHY6= Faunal biodiversity
Ecosystem management in tourism attractions	7. EN1= Quality of maintaining environment (Protection, maintenance, restoration)
	8. EN2= Air pollution management
	9. EN3= Voice quality management
	10.EN4= Solid waste management
	11. EN5= Wastewater management
	12. EN6= Water availability and conservation
	13. EN7= Energy management (Per capita consumption of energy from all sources, applying energy saving policy, renewable resources)
	14. EN8= Forest and Mangrove management
Value and importance of tourism attractions	15. VA1= Complete ecosystem /Biological diversity/ original and natural condition
	16. VA2= Beautiful landscape
	17. VA3= Fisheries as a way of life or Agriculture way of life
	18. VA4= Uniqueness and distinctive culture
	19. VA5= Various tourism activities
	20. VA6= Value and importance of archaeological, artistic and heritage
	21. VA7= Inherited Buddhist tradition and Acquired Buddhists/ Inherited Muslim tradition and Acquired Muslim
	22. VA8= Fair price
Education	23. ED1= Knowledge of local people in environment conservation
	24. ED2= Knowledge of local people in ecotourism management
	25. ED3= Environmental compliance (Environment laws, regulations, standards)
	26. ED4= Knowledge of local people in tourism hospitality operations management (Skills, communication, kindness)

	27. ED5= Environmental conscious
Management	28. MA1= Ecotourism marketing management
	29. MA2= Spirituality and religious tradition tourism management
	30. MA3= Protecting cultural heritage values (Interpretation, renovation or restorations)
	31. MA4= Safety management (Possible occurrence of natural hazard, accidents statistics, and damage, immigration measure)
	32. MA5= Support spirituality and religious tradition beliefs and practice for human source management
	33. MA6= Strictly Buddhism spirituality and religious tradition of regulations/ Strictly Muslim spirituality and religious tradition of regulations
	34. MA7= Control land use in tourist attractions, Adequate housing
	35. MA8= Networking ecotourism with other villages
Participation in conservation	36. PA1= Local people participation in land conservation
	37. PA2= Participation in environment rehabilitation
	38. PA3= Participation in culture conservation
	39. PA4= Participation in environment protection
	40. PA5= Tourist participation in ecotourism attractions protection



### 3.2.4 Sample Selection

In small community, households were random based on total households and required sample. Households and sub-sample sizes for each community are shown in Table 3.2:

**Table 3. 2 Household and sub-sample sizes**

	<b>House Holds</b>	<b>Household Sample</b>	<b>Local people</b>	<b>Government agencies and local authorities</b>	<b>Tourism business stakeholder</b>	<b>Thai tourist</b>	<b>Intern ational tourist</b>
<b>BBR Muslim Community</b>	920	155	235	18	6	150	56
<b>BTCC Buddhism Community</b>	948	160	225	10	8	150	55

### 3.2.5 Data Analysis

An analysis of qualitative data after interviews from three groups then discussion the problem and threats facing tourism management, and important factors affecting the model of sustainable ecotourism development.

An analysis of quantitative data using the Microsoft Excel 2013 software package to analysis questionnaires and R for data analysis (Statistics relationships to, percentage, mean, standard deviation) from local people, domestic tourist and international tourist by descriptive statistic and presentation with table and histograms

In the case study finding the sample sizes in the two groups being compared are equal, the null hypothesis tested by analysis of variance (ANOVA) is that the mean of several populations are all equal (Berger, 2015, p. 1). Which uses mean and standard deviations of two samples to make a comparison.

### **3.3 Chapter Summary**

This research focuses on sustainability of community-based ecotourism development based on seven dimensions, and comparison, between BBR Muslim and BTCC Buddhism communities concerning how they develop ecotourism attractions and impact of ecotourism through impact tsunami disaster on the community. This study is not a new methodology, but I having been applied in previous research studies into the community- based ecotourism development (CBED), which some different techniques have been adopted and Operations Research (OR) methods in order to establish a new concept for sustainability of CBED. Thus, I do apply a qualitative methodology as one part of quantitative, both methodologies were selected in this thesis based on descriptive analysis and comparative case studies method. Although collected primary data can help me measuring, assessing and discussing the results of data collection from ideological perspective of diverse respondent, stakeholders of ecotourism and local people are the main of respondent groups that were selected for this thesis with interviews or questionnaires and observation; community leader, religious leader, government agencies, NGOs, business and tourists, I have to make a concerted effort to diversity in qualitative interviews and secondary data is important information in this research; journals, on the internet, incorporate or governmental archives, reports, news. Furthermore, a chapter of analysis and discussion of a qualitative database on discourse analysis, and quantitative data were used for analysis questionnaires with Microsoft 2013 and R Statistics analysis to achieve my research goals.

## **CHAPTER 4**

### **MUSLIM COMMUNITY**

#### **Introduction**

This chapter brief review of case study background (Muslim community) and richness of information from the cases to communities. To achieve appropriateness, linked to both objective of study and literature reviews and the theoretical framework (Shakir, 2002). The purpose of this paper is to provide the context of ecotourism.

#### **4.1 Ban Bang Rong Muslim Community Background**

In this study, researcher interesting in BBR Muslim community it one of the village were not strongly affected by natural disaster (Department of Disaster Prevention and Mitigation, 2005), the population were affected by the tsunami disaster 92 cases and 28 households, height of tsunami 1.75 meters (PDDPM;, 2006). For example, the impact of the tsunami on coastal ecosystems such as mangroves, seagrass bed, marine tourism attractions, community restaurant and souvenir shop etc. The impact of the tsunami on Muslim community show on figure 4.1. The village located in Moo 3 Paklok district, Thalang, Phuket, its geographical coordinates are 8°05'N, 98°40'E on the northeast coast of Phuket Island, Thailand. There was a very long history of more than 200 years it is an important historic community in the Mueang Thalang period, multicultural communities have come to trade in the 18<sup>th</sup> Century. After the end of the Myanmar war. Islamic ethnic groups returned to the community again and help with the development of the settlements in this area (Thalang District, 2013). Recent, most people in this community are 80% Islamic. Most Muslims emigrated from Arab and Malaysia during the end of the Ayutthaya period and an overwhelming majority of Muslims are Sunnis. There were 2,312 people, 920 households, most of their income from fishing and employment averaging about 12,000 baht per month (2013). Mostly Muslim populations are committed to preserving their cultural heritage and they are a self-sustaining community and are very aware of the importance of the mangroves. The mangroves protected them from the tsunami in 2004. Bang Rong

Muslim community has established ecotourism in 1999 for community development and help local people especially recovery economic sectors to solve the poverty problem through financing alone. The term of community-based ecotourism refers to the relationship between conservationist, the tourist and communities (Manu & Wuleka, 2012), the local people and tourist should participate in natural and environment conservation (Virojtrairatt, 2010). Ban Bang Rong village in Paklok district is one example community, as known through their rural tourism activity in an agro-tourism project which was established in 2001 (Promchanya, 2006). In addition, a the BBR Muslim community has numerous ecotourism attractions and established boundaries of ecotourism zone such as agriculture area, conservation area, historical and cultural area, marine area etc.

#### **4.2 Tsunami 2004 impact on tourism activities and attractions in BBR Muslim community**

Qualitative finding from In-depth interviews, community workshops and focus groups, were conducted between November 2013 and February 2014; completed interviews were accorded study plan as follow.

1. Analysis of qualitative data after interviewing from three groups, household leaders, entrepreneurs of accommodation, travel companies or agencies. As seen in Table 4.1 above:

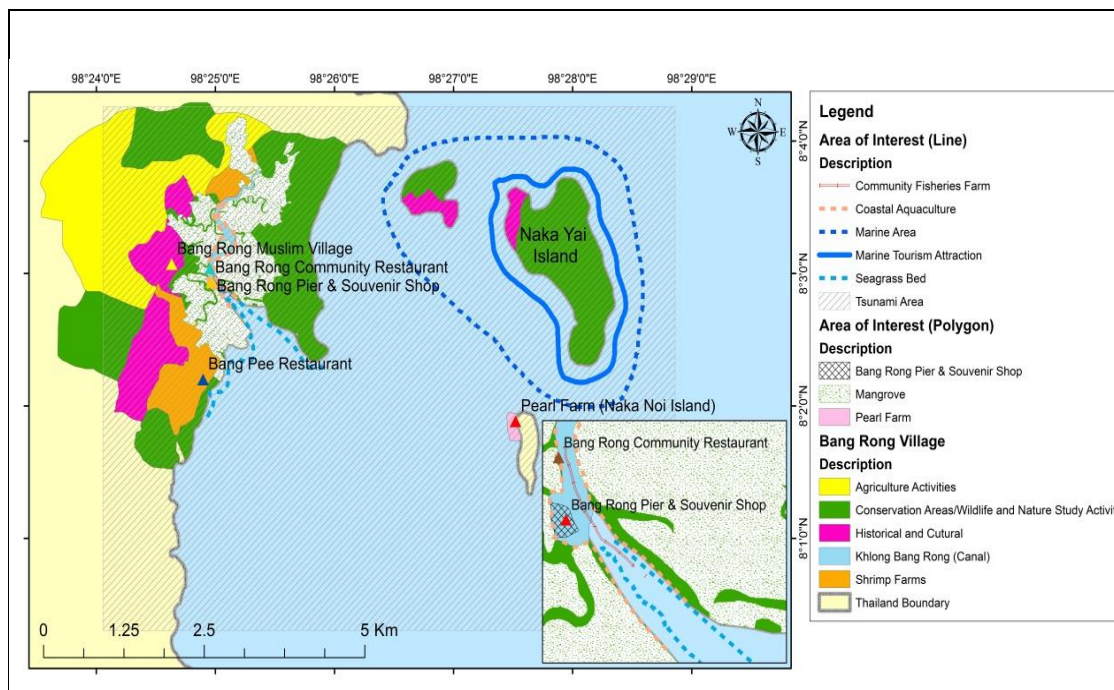
**Table 4. 1 Sample Groups**

<b>Sample Groups</b>	<b>Person</b>
<b>Government agencies and local authorities:</b> Lord Mayor of Paklok subdistrict municipality, Household leader, Tourism Community Manager, Children Development Center interviews a teacher, Municipal Officer, Group of organic Agriculture extension, Group of Housewife, Crystal and OTOP Group, Culture and local artistic conservationist, Religious leaders, Community restaurant manager.	18
<b>Tourism business stakeholders:</b> Homestay and resorts, Travel agencies, Transportation	6

**Local peoples:** Fishermen groups, Children and youth groups, Business or entrepreneurship, Older groups, Farmer groups, Women groups, Volunteer groups, Prayer groups

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The study by interviewing key information to finding that tourism activities before and after the tsunami are different. Tourist destinations were directly and indirectly affected by the tsunami disaster, without personal injury or loss of life. Marine attractions were directly affected by the Tsunami. Tourism activities services and attractions that are highly affected including restaurants, canoes, rowboats, mangrove forest trails, seagrass beds, coral reefs, marine animals, pearl farms, fish farms, snorkeling. Some mangrove aquatic animals were lost in a short time such as crab, turtles, mudskipper fish, young alligators, sea slugs, sea cucumbers etc. Tourism activities which are unrelated to marine tourism were affected indirectly, such as cultural tourism destination (temples, mosques, ancient ruins, boxing stadiums), agro-tourism (goat farms, rubber plantations, organic farming, and fruit orchards) and rainforest tourism.



**Figure 4. 1 Impact of Tsunami on BBR Muslim Community Map**

Source: Own surveys

2. Analysis of qualitative data from a survey by in-depth interview and questionnaires the opinion of 34 entrepreneurs and businesses related to the tourism industry as follow Table 4.2:

**Table 4. 2 Opinion of entrepreneur and business related to the tourism industry**

<b>Types of service</b>	<b>N</b>	<b>%</b>
Accommodation.	3	8.82
Travel companies or agencies and tour operators	5	14.71
Restaurant	8	23.53
Souvenir shop and woman groups	10	29.41
Transportations (Boat, Public transport, Rental car and Motorbikes)	7	20.59
Elephant grounds	1	2.94
<b>Duration of operation</b>		
1-5 years	8	23.53
6 -10years	9	26.47
11-15 years	10	29.41
Over 15 years	7	20.59
<b>Habitations</b>		
Not stay in the village	21	61.76
Stay in village	13	38.24
<b>Mainly customers</b>		
Thai	22	64.71
Foreigners	12	35.29
<b>During peak time</b>		
December-March	8	23.53
April-July	11	32.35
August-November	2	5.88
All year round	13	38.24
<b>Popular tourist attractions</b>		
Cultures and traditions tourism	1	2.94
Agro-tourism	7	20.59
Mangrove forest trail	9	26.47

Rainforest tourism	4	11.76
Marine tourism	3	8.82
Wildlife tourism	10	29.41
<b>Ecotourism attractions at risk of destruction</b>		
Cultures and traditions tourism	0	0.00
Agro-tourism	0	0.00
Mangrove forest trail	2	5.88
Rainforest tourism	7	20.59
Marine tourism	17	50.00
Wildlife tourism	8	23.53
<b>Should be restoring immediately ecotourism attractions after tsunami disaster</b>		
Cultures and traditions tourism	7	20.59
Agro-tourism	5	14.71
Mangrove forest trail	5	14.71
Rainforest tourism	0	0.00
Marine tourism	12	35.29
Wildlife tourism	5	14.71
<b>Perceptions of tourism regulations</b>		
Yes	22	64.71
No	12	35.29

According to interviews with entrepreneurs and businesses related to tourism industry, finding that tourism business are 29.41% souvenir shops and woman groups, 23.53 % restaurant, 20.59% transportations (Boat, Public transport, Rental cars, and Motorbikes), 14.71% travel companies or agencies and tour operators, 8.82% accommodation and 2.94% elephant grounds respectively. The longest duration of enterprise's operations was 29.41% during 11-15 years, and 23.53% shortest estimated durations 1-5 years, respectively. Mainly customers are 64.71% of Thai customers and 35.29% of foreigners, 38.24% having all year-round tourist come to visit, and 5.88% during August-November is low season. The most popular ecotourism attractions for tourist was 29.41 %wildlife tourism, 26.47% mangrove forest trail, 20.59% agro-tourism, 11.76% rainforest tourism, 8.82% marine tourism, and 2.94% cultures and traditions tourism respectively. Ecotourism attractions at the highest risk of destruction

was 50.00% marine tourism, 23.53 % wildlife tourism, 20.59% rainforest tourism, 5.88 % mangrove forest trail respectively. They recommend that, should be restoring immediately ecotourism attractions after tsunami disaster was 35.29% marine tourism, 22.59 % cultures and traditions tourism, 14.71% wildlife tourism, agro-tourism, and mangrove forest trail respectively. Most of entrepreneur's perceptions of tourism regulations at 64.71% and 35.29% do not provide the critical for tourism regulations as mentioned above Table 4.2.

### **4.3 Community-Based Ecotourism in BBR Muslim Community**

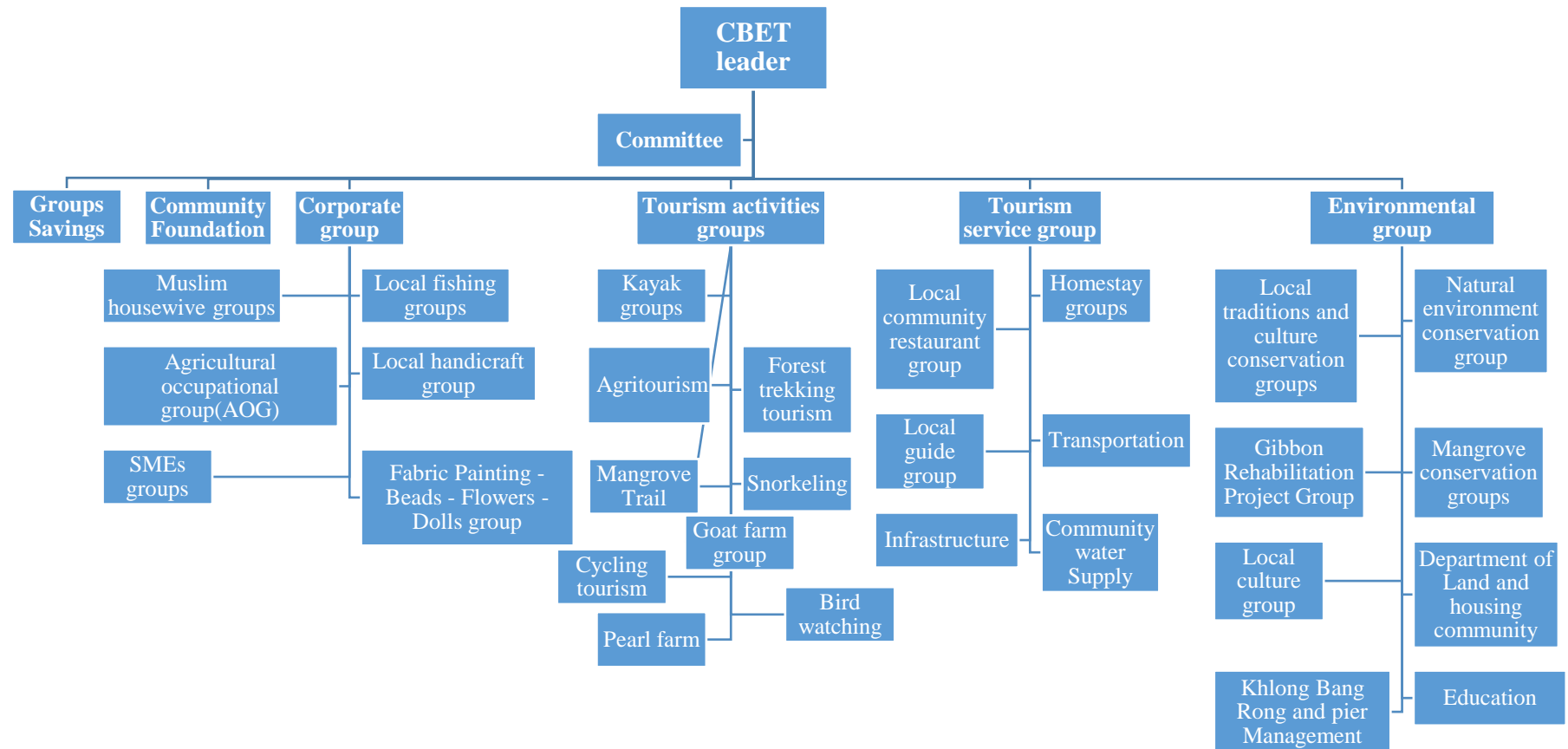
In 1999, CBET was established by Ban Bang Rong Mosque Administrative Committee (BMAC) to solve the problem of mangroves destruction, create jobs and income for people in the community along with the conservation and rehabilitation of the mangroves. In present, CBET was management by BMAC and community board.

#### **4.3.1 Ecotourism management organizations structure of BBR Muslim community**

In figure 4.2 shows the ecotourism management organization structure with CBET leader and member group. Member groups include savings groups, corporate group, tourism activities groups, tourism service group, and environmental group. Each group has a leader responsible for overseeing the management, which primarily functions based on volunteer within the community and outside. It consists of various groups involved in tourism, Muslim-housewives group, local fishing group, agricultural occupational group (AOG), local handicraft group, SMEs groups, fabric Painting - Beads - Flowers - Dolls group, Kayak group, goat farm, agro-tourism, forest trekking tourism, mangrove trail, snorkeling, cycling tourism, local guide, local community restaurant groups, homestay, transportation and infrastructure local traditions and culture conservation groups, natural environment conservation groups, gibbon rehabilitation project groups, mangrove conservation groups (Bang Rong Moque Center, 2013). Host communities are organizations, institutions, community leaders, local people and including entrepreneurs, they have been involved in decision- making ecotourism planning that takes into consideration the positive and negative impact on



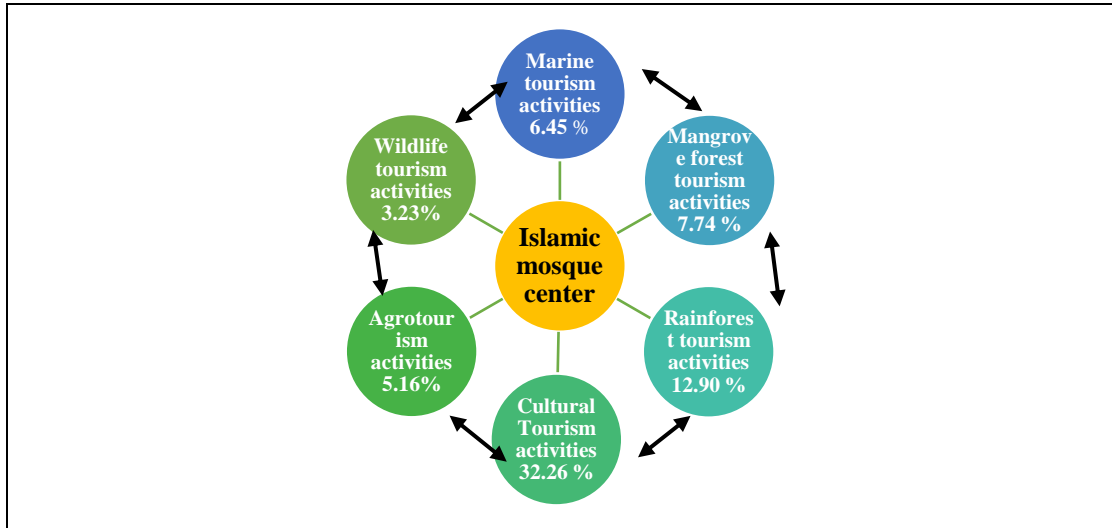
the environment, social-culture and economic. There are varieties of ecotourism activities such as reforest, mangrove trail, wildlife tourism, marine tourism, agro-tourism, culture tourism. And biological diversity and ecological integrity, types of natural resources such as seagrass, coral reefs, rainforests, White Palms, waterfalls, mangrove swamps, rubber plantations, orchards, goat farms, organic farms, pearl farms, shrimp-farming, monkeys, birds, gibbons, other marine of life includes the mammals, dugong, etc.



**Figure 4. 2 Ecotourism management organizations structure of BBR Muslim community**

**Source:** Author's Own.

#### 4.3.2 Networking tourism activities management in BBR Muslim community



**Figure 4. 3 Networking tourism activities management in BBR Muslim Community**

The Bang Rong Islamic mosque center is the BBR Muslim community tourism management center. The objectives of the tourism management center are to be a One Stop Service Centre (OSSC), management and promotion of tourism, to provide the village tourism information and tourist service center, coordinate government agencies, travel agencies tour operator etc. They have many tourism activities, such as marine tourism recreational, mangrove forest tourism, rainforest tourism, cultural tourism, agro-tourism and wildlife tourism. Each activity including multiple sub tourism activities, it is to diversify tourism products and create sustainable tourism, those recreational activities that involve travel away from one's place of residence and host community. Their activities were linked management shown in Table 4.3 and figure 4.3. Despite local government have support management of best practices of sustainable tourism, but also has serious adverse impacts of natural hazards and tourist activities on marine and coastal environments, human health, and ecosystems. According to interviews and questionnaires, local people benefited resulting from CBET; highest was 32.26% cultural tourism activities, 12.90% rainforest tourism

activities, 7.74% mangrove forest tourism activities, 6.45% marine tourism activities, 5.16% agro-tourism activities, and 3.23% wildlife tourism activities respectively.

**Table 4. 3 Types of tourism activities**

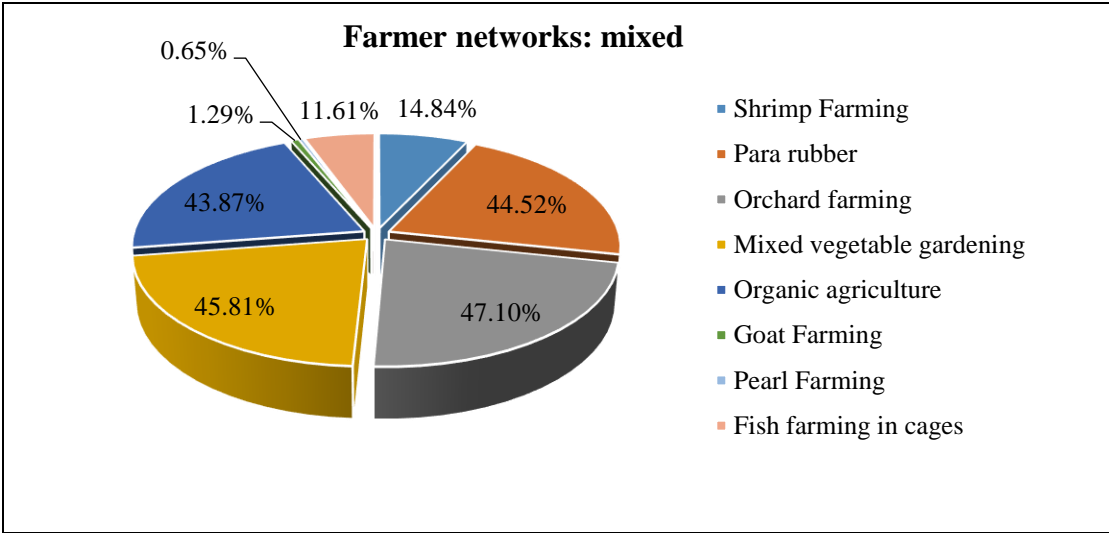
<b>Types of tourism</b>	<b>Activities</b>
Marine tourism	Scuba diving and snorkeling, fishing, observing marine mammals, dugongs, and birds, seagrass beds, coral reef, the cruise ship and ferry industry, windsurfing, pearl farms, shrimp-farming, beaches
Mangrove forest tourism	Mangrove swamps, mangrove trail, mangrove monkeys, birds, boat trip trail (canoeing and kayaking),
Rainforest tourism	White Palms, waterfalls, bike trails, birds watching, jungle survival courses, animals watching, learning about traditional medicinal plants
Cultural tourism	Muslim cultural museum, dance and local folk song, local fishermen catching spider crabs and oyster shells, Muslim festivals and traditions, Muslim arts and handicrafts. Halal foods and restaurant
Wildlife Tourism	Gibbons, birds, elephant camps, forest monkeys
Agro-tourism	Rubber plantations, orchards, goat farms, organic farms, small fishing villages, lobsters' farming (see breeding lobsters and fish)

Source: Own surveys

#### **4.3.3 Agro-tourism activities in the BBR Muslim community**

In terms of their participation in agro-tourism management in BBR Muslim community, respondents were also asked in open-ended and closed-ended questionnaires from local people and local authorities, the finding of the survey suggest that coordination between organizations, local authorities and various groups of farmer networks; 47.10% highly participation on orchard farming, 45.81% mixed vegetable gardening, 44.52% para rubber, 43.87% organic agriculture, 14.84% shrimp farming,

11.61% fish farming in cage, 1.29% goat farming and 0.65% pearl farm, respectively (Figure 4.4,4.5).



**Figure 4. 4 Farmer networks: mixed farming**





**Figure 4. 5 Agro-tourism activities**

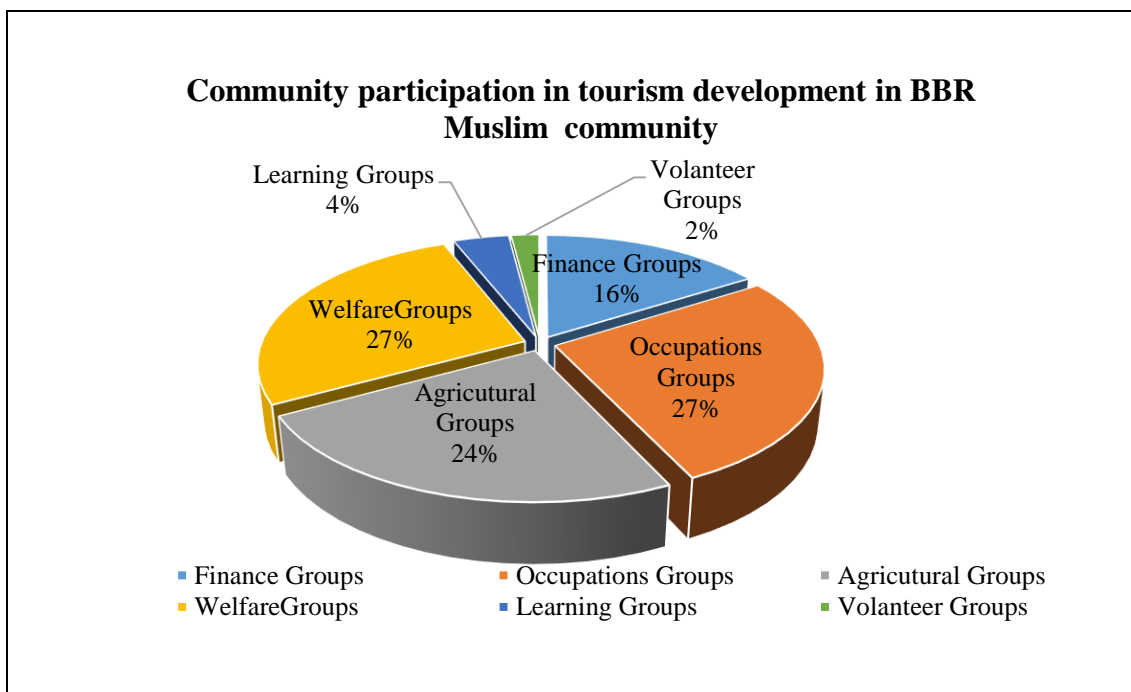
**Source:** Picture taken by author

#### **4.3.4 Community participation in ecotourism development in the BBR Muslim community**

Sustainable ecotourism development in the community should be committed to supporting the community participation. In proposing the initiative, providing information and make recommendations about local community will be important in tourism development planning (Feighery, 2002). The BBR Muslim community has a district improvement plan, collaborate with outside agencies and other community such as Community Organizations Development Institute (CODI). Formal and non-formal education promote, Administration of Designated Areas for Sustainable Tourism (ADAST), Thailand Environment Institute (TEI) to support the strategic plan for the conservation and restoration of the ecological tourism, creating and supporting occupation group as shows the relationship of the corporate group in figure 14. There is also social networking community management in provincial and regional level, coordinate with the other development funding agencies and contributes to the integration organizations scattered throughout the district. It is a path leading to a self-sufficient lifestyle in the community. Indigenous people of empowerment and participation in tourism development are key factors in sustainable development it can

be used to solving poverty problems and management by communal cohesion (A fairer world .org., 2014).

According to 688 community members/households are involved in the empowerment of woman, 27% were minority occupation groups, 27% welfare groups, 24% agricultural groups, 16% financial groups, 4% learning groups, and 2% volunteer groups, respectively. Considerably, amongst in-depth interviews from the head leader that community of financial control system have well processes management, most residents who borrow money from foundation group they can return payment on an interest and have high credit finance and created social network groups within the community. Besides they can have a positive impact on the community financial it could help to solve the debt problem and the community can have an efficient finance capital for the community - based management also self- reliance in community. However, poor residents who lack the opportunity to participate in financial groups and welfare groups they still have an indebt-ness problem and borrow money outside the community finance system. As seen in figure 4.6 above:



**Figure 4. 6 Corporation group in BBR Muslim Community**

**Source:** Adapted from Muslim Community Centre



## Sea cow(dugong)ジュゴン



**Figure 4. 7 Dugongs effected**

**Source:** Phuket of Andaman Fisheries Research and Development Center.  
(22/01/2009, used with permission)

### Dugongs

Dugongs or Sea Cows are only herbivorous marine mammals, closely related to elephants but their closest living aquatic relatives are the manatees that live in fresh coastal waters and the status of dugong population is an important indicator of ecosystem health and measuring the ecological integrity (Great Barrier Reef Marine Park Authority, 2007). According to interviews with community members and conservationists, before tsunami disaster 2004 event, dugongs were commonly seen along Andaman Coastlines and the Gulf of Thailand. Villagers often see single dugong and pairs of sea cows come to feeding and live in benthic seagrass of Ban Paklok and



Ban Rong village. In 2010, the populations of Dugong from the Andaman is report to be in decline, around 170 dugongs were found in Ranong, Phangn-ga, Phuket, Krabi, Trang, Satun, Thailand (Phuket Marine Biological Center, 2010) due to accidental catches and human activities; cause of death from various kind of fishing gear or drowning while on fishing tool, gill net, hook, pontoon boat shallow water, trawler and dugong feeding trails, seagrass habitats have been destroyed by tsunami disaster 2004 and one case the dugong was attacked by shark in shallow water. The deaths of dugongs were not caused by hunting for food more than 40 years (Adulyanukosol & Poovachiranon, Dugong (Dugong dugong) and seagrass in Thailand: present status and future challenges, 2006) show as figure 4.7. Although, government agencies and NGOs to promote dugongs protect and seagrass conservation, and specific attention to implementation and the enforcement of existing Government regulation. Moreover, Thailand has 5 laws for dugong and seagrass conservation: Wildlife Reservation and Protection Acts 1992, Fisheries Acts of 1947, National Park Acts of 1961, Export and Import Product Acts 1979 and CITES (the Convention on the International Trade in Endangered Species) which comprehensive the killing, taking, and trading of dugong body parts (Saranakomkul, 2002; Adulyanukosol, Hines, & Boonyanate, 2010). According to interviews and survey, after tsunami disaster 2004, found that dugongs did not come back to feeding around the BBR community of the coastline.

### **Seagrass Beds -Coral reef boundaries**

After tsunami disaster, seagrass beds are found 58.76 rai along the coastline of Phuket, which occur between the mainland and the sand dune or drift sand such as shallow offshore sides of seagrass meadows or waterways. The dominant species in this area are *Cymodocea rotundata*, it was moderately disturbed (Phuket Marine Biological Center, 2011). According to Southern Andaman Coast of Development Plan of rereporting that the seagrass bed in Bang Rong, Pa Klok district was 50% moderate levels of distribution and abundance of this species, in BTCC, Mai Khao subdistrict, Thalang district was 40% low level of abundance of this species in 2010. Then 2012, 60 % prefer moderate and complete seagrass bed restoration in Bang Rong, BTCC was no significant difference in distribution and abundance between 2010 to 2012 (OSM

Andaman, 2013).

Phuket has about 16.63  $km^2$  of coral reef cover such as Ra Cha island were in fairly good condition where there is no effect from coastal pollution, from the north of Karon beach up to Ni Yang beach, the coral reefs are mostly in a state of decay ( SEEK Phuket, 2013). On the west side of the Andaman Sea, there are large coral reefs and varieties creatures, more than 250 species of coral reef, including more than 600 species of fish (Phuket Community Foundation, 2016). The survey, which interviews community leader and some travel agencies, Ban Rong Pier is the one important transportation services of BBR Muslim community provides ferry service for transfer of tourists to go to visit marine tourism destinations. According to interviews with Bang Mhad Prasert Ritruksa said that “Before the tsunami disaster of 2004, the Naka island was a major marine tourist destination most attracting thousands of tourists, many local people and fishermen get income from boat service but very sadly because of the tourist of demand were deceased in recent years”. There are two islands, Koh Naka Yai and Koh Naka Noi, these destinations offer various activities such as swimming snorkeling, with a marvel of natural vibrant coral reefs that fringe the island and teeming with a variety of tropical fish and other marine life and are accessible by longtail boats and small fishing boats which management by local community. However, after the tsunami of 2004, coral reefs surrounding the island faced devastating damage because of warmer and more acidic oceans through increasing destruction by tourism activities, natural disaster, fishing practices, wastewater and solid waste from coastal communities, industries and shrimp farms. Local fishermen also have a profound impact on the average incomes and financial profits from tourism activities and low level of marine fisheries catching.

### **Gibbon Rehabilitation Project**

In 1992, Gibbon Rehabilitation Project (GRP) was established as an NGOs by Mr. Noppadol Preuksawan, the chief of the Royal Forest Department in Phuket, Mr. Thavrn Sri- Oon, Bang Pae Sub-Station chief, the Asian Wildlife Fund and an American Zoologist called Terrance Dillon Morin. In 1994 the wild Animal Rescue Foundation of Thailand (WARF) to support the project and research with aim to rehabilitate white-

handed gibbons back into their natural habitat, end the demand for the illegal use of gibbons as tourists attractions and as pets through support the education of visitors for Conservation Education and Fund-Raising, to repopulate in Phuket- Khao Pra Theaw Non- Hunting Area, to create awareness of conservation environment with set up program to enable local villagers and children learning about the forest and animals as an essential life, including the opportunity for volunteer groups come to study the white-handed gibbon (GRP organization, 2017). The Rehabilitation Site and Center for Conservation Education and Fun-raising are located in KPTNHA, Thalang district Phuket, Thailand, which charges an entry fee of 200 Baht per person.

According to interviews with conservationists of Gibbons Rehabilitation Centre of Phuket, the hunters capture the animals to sell people who keep them as pets and attract tourists or urging visitors to take photos with the cute baby gibbon and charges a photo fee, the old gibbon were killed while they were trying to protect the project babies. Thipparat Mingpijan, assistant director of the GRP told that gibbons were lost and threatened about 3,000 a year by hunters and causing changes in the environment and ecology that hurt animals and plant species, the gibbons are an essential part of the health of jungle while they eat fruits and drop seeds as they travel through can help the various plant species to spread and best multiplication results (Audiger, 2018). In this project has more than 60 gibbons under maintenance, as the project is found entirely from the generosity of visitors and volunteers and donations, an average of 200,000 Baht amount on following in the project for spent on food and medicine. There are ten Thai staff and five foreign volunteers working such as feeding the gibbons, cleaning the cages and general maintenance, etc.

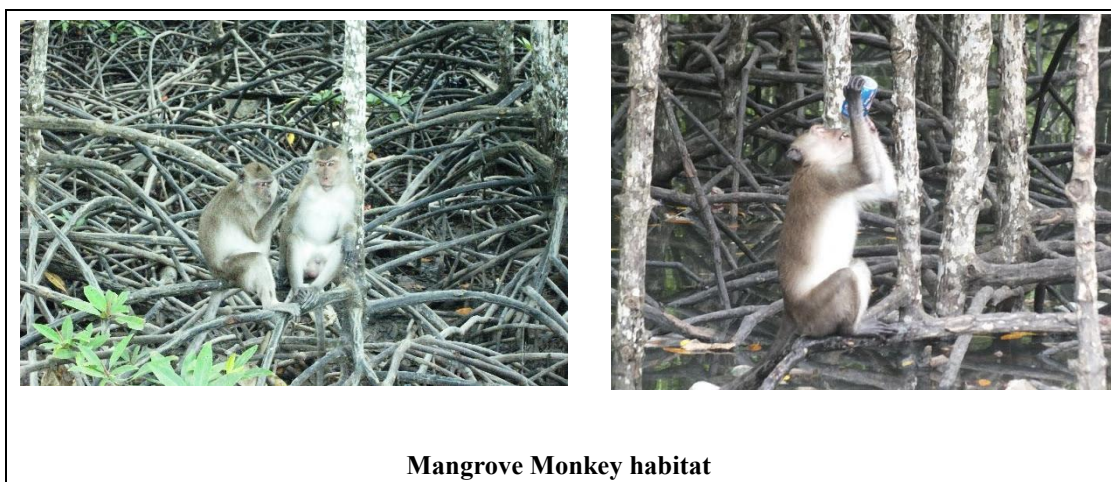


**Figure 4. 8 Gibbon Rehabilitation Project**

**Source:** Department of Marine and Coastal Resources (used with permission)

### **Mangrove Monkey**

Mangrove monkeys are a popular tourist attraction in BBR Muslim community. There are lots of monkeys that live in the mangrove forest around Bang Rong Pier. According to observations, everyday local people and tourist come to see and feed the monkeys. The monkey's behavior was rather aggressive, they hang around in the mangroves, carpark areas but also jump around on the roofs of building, ride on bikes and cars and even steal fruits and tried to grab a bag of taking away food from tourists, sometimes tourists were bitten by monkeys.



**Figure 4. 9 Mangrove Monkey**

### **Khao Phra Thaeo National Park**

Khao Phra Thaeo National Park was covered 22.28  $km^2$  (13,925 Rai) of virgin rainforest located in the northern part of Phuket island. There are comprised of the highest hill in the park, Khao Prathiu at 384 m, Khao Bang Pae at 388 m and Khao Prara at 422 m. It is the protected area and wildlife sanctuary that was established in September 1977. There are a high diversity of plants and around 100 species of animals, the most commonly plants are *Dipterocarpus* Spp., *Hopea odorata* Roxb., *Intsia palembanica* Miq Other small trees and shrubs, including vines, are found in the lower level of this forest such as Palms (Palm Lang Kaw), Rattans, Bamboos, including Climbers, Orchids, Ferns and Mosses which sometimes can be found on the tree branches and diverse wildlife including tusked hairy wild boars, Malayan sun bear, slow lorises, langurs, porcupines, deer, palm civets, monkeys, gibbons, cobras, pythons, monitor lizards, flying foxes, squirrels, crab (*Phricotelphusa limula*) which lives underneath the stones in the shallow part of a fast- running stream, and many species of bird. There are found two types of birds; native and migratory birds, the native birds such as Asian Fairy- bluebird, Green Leafbird, Red-Billed Malkoha, Greater Racket- tailed Drongo and Brahminy Kite were found year building their nest and lay their eggs. The migratory birds, such as Forest wagtail, Blue-Winged Pitta, Siberian Blue Robin do not build nest in this area they can be found from October to March (KPTWCDEC, 2017). Therefore, birds-watching became a popular tourist attraction for ecotourists. According to in-depth interviews from National Park staff, we can't easily observe all of the species of peninsular fauna due to the community seeking to promote local economic growth through community tourism development without controlling and managing the negative impact of tourism and industries on environment and ecosystem. In addition, the KPT National Park is completely surrounded by villages, roads and agricultural plantations such as pineapple and rubber plantations which brush against the conservation area and national park boundary. Historically, there has been a conflict between wildlife conservationists and farmers through animal hunters. For example, agricultural activities are unsustainable for environment and damaged on wildlife and ecosystem such as land and soil degradation, chemical emissions, pesticide and fertilizer run-off, drainage, over-harvesting and burning of wetlands and fields,

pollution of water bodies and land also electric light, noise pollution effects on small animals and plants of habitats. However, Khao Phra Thaeo Wildlife Conservation Development and Extension Centre (KPTWCDEC) seeking to reduce and also actively conserve a number of wild animals and forest stewardship based on ecological sustainability projects for the promotion of ecotourism in the national parks with a focus on the sustainability education and empowerment of local people through their involvement in natural resource management.

### **Bang Pae Waterfall**

Bang Pae waterfall is located at the KPT National Park. There is the nice natural destination and quite popular with locals and tourists on the weekends, for recreation spot, picnic place and swimming destination in the rainy season there 10 meters high of waterfall and quite precipitous. They observed around 200-250 people per day, both Thai and international tourists go there to visit, the overall negative effects on destination environment in the peak tourism season such as over garbage, some tourist else's garbage thrown into their destination, tourists bring noise pollution often suffer negative impacts on wildlife species, tourists' behavior gives the animals less time to forage, rest and breed.

### **White Elephant Palm**

White elephant palm or white backed palm is the unique one of flora species of palm tree in the genus "*Kerriodoxa elegans*" (Pooma, 2005). It is very rare due to the seed is often not available from cultivated plants, first discovered in the KPT National Park in 1929 and described as a new genus and species in 1983, divided fan-shaped leaves and bright white underneath. In recent years, cultivation of white-backed palm trees has gained popularity in the topical as some gardens also make a stunning houseplant and it has been an expensive item. However, Department of National Parks is promoting white backed palm cultivation and cooperation with Institute for the encouragement of rainforest reversion, especially implemented on the restoration of cultivation of white-backed palm, as seen in figure 4.10 above:



**Figure 4. 10 White-Backed palm restoration project**

**Source:** Department of Marine and Coastal Resources (used with permission)

### **Mangrove Forest**

The mangroves are an important part of coastal areas and marine ecosystem which provides economic as well as ecological benefits to BBR Muslim community such as charcoal, medicine, house materials, provide nursery ground, shelter and food for fish and others aquaculture through protection of the community from storm surges, waves, tsunamis, protect erosion of the coastlines and carbon sink of pollution. In past, mangroves were in abundance and covered the areas of Phuket extensively. In 1961 mangrove forests covered an estimated 28,125 acres. During the period 1975 to 1996 mangrove forests declined rapidly due to the local government support of charcoal and tannin production for export business. Since then, the large areas of mangrove forest have been destroyed and converted to shrimp farms, golf courses, restaurants, accommodation, hotels, and resorts. In 1991 until late 2000, the government of Thailand has encouraged shrimp farming for export and it became a widespread activity for poverty alleviation and creation of employment and income without sustainability management. In addition, the actively Tourism Authority of Thailand promotion of the amazing Thailand Campaign between 1998 and 2000 to attract tourists to Thailand, resulting in expansion of accommodation and tourism hospitality such as restaurants, bars, nightclubs and other services increased in this area. In 2004 the tsunami had an

## **CHAPTER 5**

### **BUDDHISM COMMUNITY**

#### **Introduction**

This chapter describes the Buddhism community background. This community is located in a protected area (Sirinath Marine National Park). It is one of the most popular and variety of marine ecotourism attractions and activities, the most interactive takes place within the water (e.g. snorkeling and scuba-diving, swimming, sea or mangrove kayaking route, whale watching, feeding of marine wildlife, underwater observation, visiting sea turtle conservation area, and sea turtle breeding area) that take place within a marine ecotourism context but it has been threatened by degradation pre-tsunami disaster.

#### **5.1 Ban Tha Chat Chai Buddhism Community Background**

Ban Tha Chat Chai Buddhism community (BTCC) is one of the villages that were strongly affected by the natural disaster, the population was affected by the tsunami disaster 1,000 cases and 312 households, the height of tsunami 5.92 meters (Department of Disaster Prevention and Mitigation, 2005). For example, the impact of the tsunami on coastal ecosystem such as sand crabs, jellyfish, oysters including houses, restaurants etc. Tsunami Disaster Area show on figure 5.1. Village located in Moo5 Mai Khao subdistrict, Thalang district its geographical coordinates are 8°19' N, 98°29' E on the northwest coast of Phuket Island, Thailand. The population consists of aboriginal groups; Thai Buddhism (Theravada Buddhism), Sunrise, Moken or Sea Gypsies. There were 2,567 people, 948 households (MIT, 2013), the major income from trading, employment and fishing averaging less than 5,000 per month. They have established a CBE in 2014. BTCC is seen as a frontline village of Phuket with slogan "Frontier city, home of the Moken, beautiful culture and legend of Sarasin Bridge". This village still preserves ancient culture such as the traditional way of life Sea Gypsies from the Moken tribe. The Moken are indigenous people (seafaring people) or we call Thai Mai (New



Thai) living on the west coast of BTCC. There are two villages; Baan Hin Look Diew village and Baan Laem La village. They use the Buddhist religion on their identification card but their faith revolves around spiritual of ancestors or animists and angels, whom they believe protect them from misfortune, with a strong connection to both the natural spirits of sea and Island. There are various dominate types of natural resources such as jellyfish, sand crabs, seashells, oysters and they have some famous festivals; Loy Krathong festival, floating boat and reclining festival beach of Moken tribe; two times a year they celebrate the most important ritual in animism the “Loy Ruea”. However, the traditional religion of Thai Mai still lives with the old belief and traditions. In this case, the youth and child get the influence of modern technology on society, the domination of the Thai language and missionary activities, traditional culture and unique religious beliefs are a constant threat.

## 5.2 Tsunami 2004 impact on tourism activities and attractions

Qualitative finding from In-depth interviews, community workshops and focus groups, were conducted between November and December 2016; completed interviews were accorded study plan as follow.

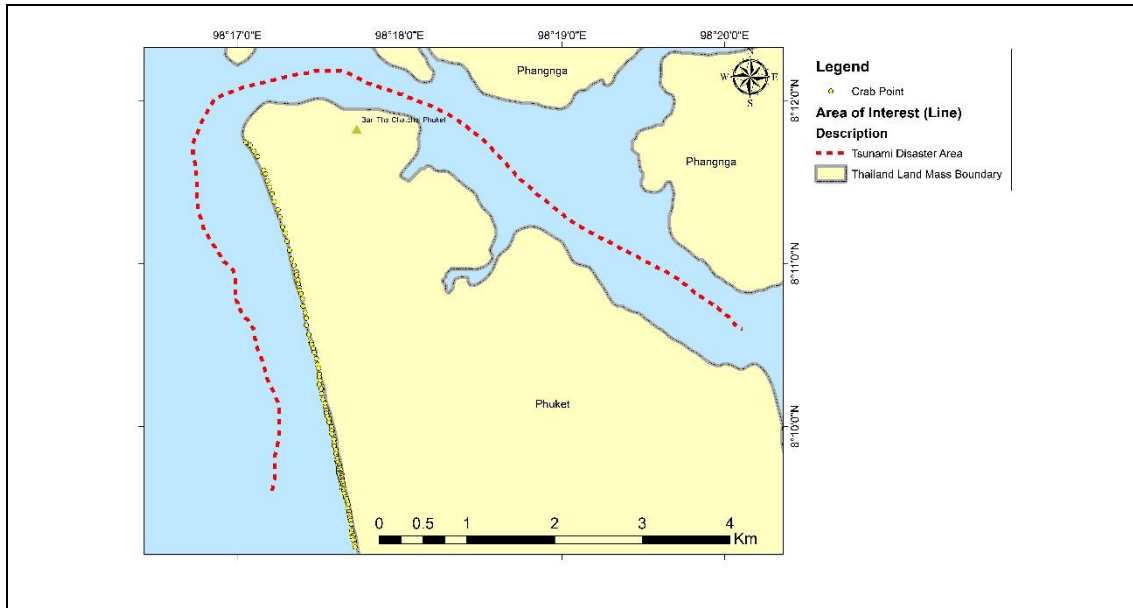
1. Analysis of qualitative data after interviewing from three group, household leaders, entrepreneurs of accommodation, travel companies or agencies. As seen in Table 5 above:

**Table 5. 1 Sample Groups**

<b>Sample Groups</b>	<b>Person</b>
<b>Government agencies and local authorities:</b> Assistant Lord Mayor of MaiKao subdistrict municipality, Household leaders, Tourism Community Manager, Children Development Center interviews teacher, Municipal Officer, Group of Agriculture saving, Group of Housewife, Batik and OTOP Group, Culture and local artistic conservationist, Religious leaders or monk, restaurant manager, and Moken tribe of leaders.	20
<b>Tourism business stakeholders:</b> Homestay and resorts (3), Travel agencies	22

(4), Transportation (10) Restaurants (5)	
<b>Local peoples:</b> Fishermen groups, Moken tribe, Children and youth groups, Business or entrepreneurship, Older groups, Farmer groups, Women groups, Volunteer groups, Prayer groups	225

According to interviewing key information to finding that tourism activities and attractions before and after the tsunami had a different impact. The community was directly affected by the big catastrophe on local people and Moken livelihood, houses, restaurants the tsunami hit strongly from Had Sai Kaew beach to Tha Cha Chai village of shoreline, fishery farming, beaches forest, swamp forest, and infrastructures. Although strongly affected marine destination, coral reefs, seagrass bed, and various marine species were destroyed such as marine mammals, dugongs, fish, sea turtles etc. In some tourism activities, are were affected indirectly, such as mangrove forest and habilitation, temple, and mosque. Besides, after the tsunami disaster, still finding that every year during November to Murch the hight wave attacking the north-west coast of Phuket island. According to interviews with Vitoon Dechpramualpol, Chief of Sirinath National Park, he said that “since 2014, the government have more serious about coastal erosion these problems have affected on Sirinath National Park and coastal communities, particularly along Had Sai Kaew shoreline and Tha Chat Chai community has been severely eroded, magnitude was greater more than 24 m” as well as affected on more coastal trees are falling and dying every year. Saengsupavanich (2017) provide several reason for causes of the erosion due to tourist and fishermen activities as well as natural phenomena such as typhoon, tsunami, big wave, storm etc. Currently, the front of Sirinath National Park and Had Sai Kaew beach became risky areas and unsuitable swimming.



**Figure 5. 1 Impact of Tsunami on BTCC Buddhism Community Map**

Source: Own surveys

2. Analysis of qualitative data from the survey by in-depth interviews and questionnaires the opinion of 43 entrepreneurs and businesses related to the tourism industry as follow:

**Table 5. 2 Opinion of entrepreneur and business related to the tourism industries**

<b>Types of service</b>	<b>N</b>	<b>%</b>
Accommodation	3	6.98
Travel companies or agencies and tour operators	4	9.30
Restaurants	5	11.63
Souvenir shops and woman groups	15	34.88
Transportation (Boat, Public transport, Rental car, and Motorbikes)	10	23.26
Fishermen	6	13.95
<b>Duration of operation</b>		
1-5 years	12	27.91
6 -10years	9	20.93
11-15 years	6	13.95
Over 15 years	16	37.21

<b>Habitation</b>		
Not stay in village	27	62.79
Stay in village	16	37.21
<b>Mainly customers</b>		
Thai	34	79.07
Foreigners	9	20.93
<b>During peak time</b>		
December-March	22	51.16
April-July	16	37.21
August-November	2	4.65
All year round	3	6.98
<b>Popular tourist attractions</b>		
Culture and traditions tourism	13	30.23
Mangrove forest trail	7	16.28
Beach forest tourism	7	16.28
Marine tourism	8	18.60
Marine Wildlife tourism	8	18.60
<b>Ecotourism attractions at risk of destruction</b>		
Culture and traditions tourism	2	4.65
Mangrove forest trail	4	9.30
Beach forest tourism	10	23.26
Marine tourism	14	32.56
Marine Wildlife tourism	13	30.23
<b>Should be restoring immediately ecotourism attractions after the tsunami disaster</b>		
Culture and traditions tourism	0	0.00
Mangrove forest trail	0	0.00
Swamp and Beach forest tourism	0	0.00
Marine tourism activities (scuba diving, swimming, coral reef, boat, kayak, etc)	20	46.51
Marine Wildlife tourism species (Birds, dugongs, sea turtles, fish, sand crabs, etc.)	23	53.49
<b>Perceptions of tourism regulations</b>		
Yes	13	30.23
No	30	69.77

According to interviews with entrepreneurs and businesses related to tourism industry, finding that most of tourism business are 34.88 % souvenir shops and woman groups, 23.26 % transportation (boat, public transport, rental car, and motorbikes), 13.95 % fishermen, 11.63 % restaurants, 9.30% travel companies or agencies and tour operators, and 6.98 % accommodation, respectively. The longest duration of enterprise's operations business was 37.21% over 15 years, and 27.91% shortest estimated durations 1-5 years, respectively. Mainly customers are 79.07 % of Thai customers and 20.93% of foreigners, 51.16% tourist come to visit during December-March and 4.65% during August-November is low season. The most popular ecotourism attractions for tourist was 30.23 % cultures and traditions tourism, 18.60 % marine tourism and wildlife tourism 16.28 % mangrove forest trail and mangrove forest trail, respectively. Ecotourism attractions at the highest risk of destruction was 32.56 % marine tourism. They have recommendation, should be restoring immediately ecotourism attractions after tsunami disaster was 53.49% marine wildlife tourism species such as birds, dugongs, sea turtles, fish, sand crabs, etc. through 46.515 % marine tourism activities such as scuba diving, swimming, coral reef, boat, kayak, etc. Most of entrepreneurs and businesses owners was 69.77% lack of tourism regulations.

### **5.3 Community-Based Ecotourism in BTCC Buddhism Community**

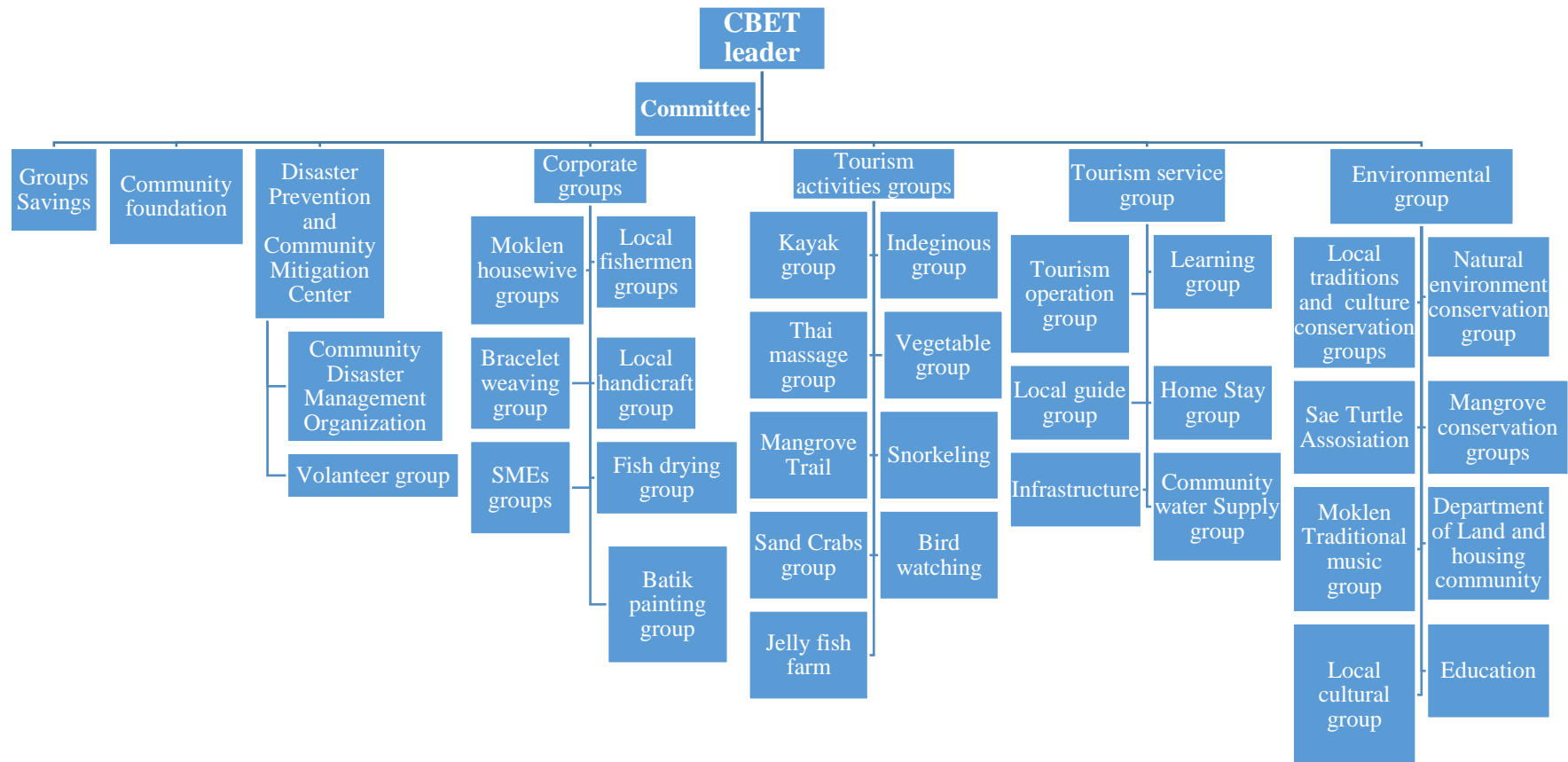
BTCC Buddhism community had established a community-based ecotourism in 2014 for recovery community economic post-tsunami disaster through to enhancing the opportunity for local people and increase income to the community while preserving local culture and conservation environment of the host community, based on the principle of ecotourism. According, to promote a "Sufficiency Economy Village" is the part of the approach for the mobilization of the Development Strategic Plan, including operating new tourism products and the development of "One Village, One Product" to attract visitors, especially those from other ASEAN countries. An ecotourism activity consists of mangrove forest, a traditional life of Sea Gypsies or Moken, land of history and ancient culture, mangrove, Sirinart National park, Marine Protected Areas, Sai Kaew beach, local people believe that the sand of this beach is rich in minerals that can

alleviate numbness in the hands and feet or even paralysis. Their method is very simple with a long and shallow hole being dug in the sand for clients to lie down; then more sand is placed on the top of body and they can relax, long enough for the benefits of the minerals to seep into the skin and to be therapeutic for many ailments (Sand Spa) and the beach is popular activity with catching the sand crabs (Mole crab), they are a crustacean with DNA crossed between crab and shrimp, these creatures normally bury themselves in groups under the sand it, as food the best way to cook them is deep frying them.

### **5.3.1 Ecotourism management organizations structure of BTCC Buddhism community**

Figure 5.2 shows the ecotourism management organization structure with CBET leaders and member groups, the government agencies have funded and provided support community-based management and established career groups and provide financial help for individuals and organizations from government agencies. However, after 3 years some projects are unsuccessful or failed management. For example, indigenous people or native people of knowledge about ecotourism management were low and did not understand approach for sustainability management with themselves. According to interviews with some Moken people, they said they want to participate in ecotourism of operations such as homestays, souvenir shops or Moken handicraft, community of restaurants and others as business, while they feel that the government agencies and entrepreneurs took them of cultural and heritage is one of its greatest uniqueness tourism products for selling to tourist, but without organize and participate due to them of home is not suitable for homestays also lack of support land use management to build the community of souvenir shops. In financial management, conflicts between corporate management and shares to grass root level, particularly operating financial for investment are a risk that members borrowed money from the community of financial credit find that around 75% of members don't pay interest and the repayment. However, there are some projects which do not need a long time that project is successful management, Somporn Tansakul, headman of Moo 5, BTCC

Buddhism community said that the final report on the implementation of the 9101 projects in following the footsteps of his father for sustainable agriculture development in the area of Thalang district has been promoted to cultivation of Japanese melon, as a result in cultivating of Japanese melon plants in a greenhouse orchard of BTCC Buddhism community had succeeded with yield satisfactory output and can be sold at a high price, the price is 230-250 baht/kg or average price is 400- 500 baht of each. For community's habitability and safety, the government has implemented a coordination with local and international organizations to mobilize disaster management, prevention, mitigation and in the relief operation.

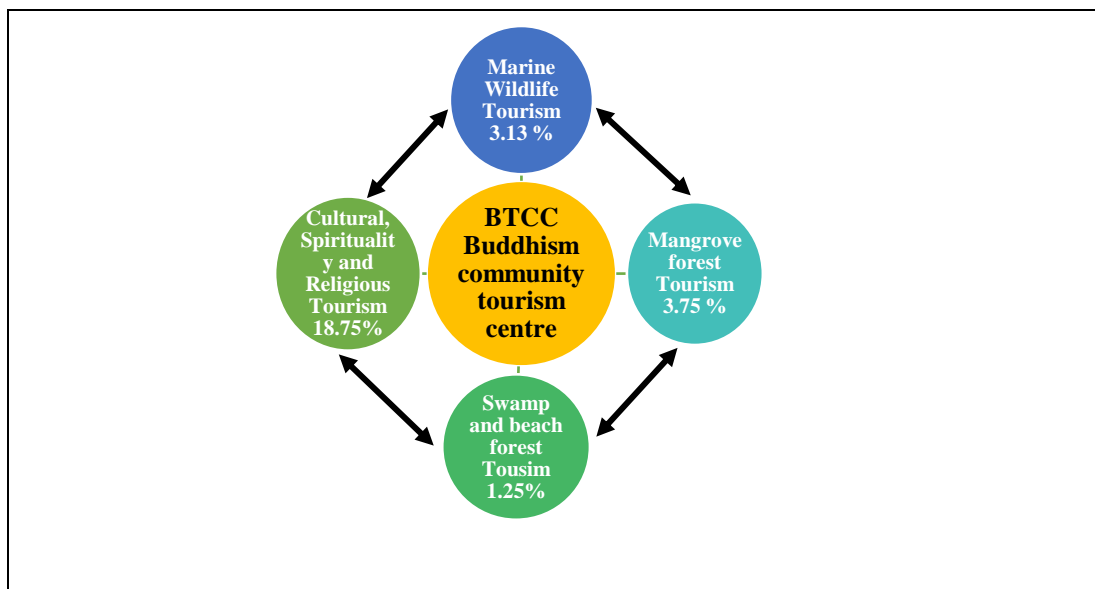


**Figure 5. 2 Ecotourism management organizations structure of BTCC Buddhism community**

**Source:** Author's Own



### 5.3.2 Networking tourism activities management BTCC Buddhism community



**Figure 5. 3 Networking tourism activities management in BTCC Buddhism community**

Moo 5 Ban Tha Chat Chai center is the BTCC Buddhism community-based ecotourism management center. The objectives of tourism management centre is to be an One Stop Service Centre (OSSC), management and promotion of tourism, to support sufficient economy and natural resource management, providing job opportunities and incomes based on tourism also indebtedness management, to provide the village tourism information and tourist service centre, coordinate government agencies, travel agencies tour operators etc., and to create local destination tourism networks; cultural, spirituality and religious tourism, mangrove forest tourism, swamp forest tourism and marine wildlife tourism. According to interviews and questionnaires, indigenous people participation in tourism particularly woman highest participated in four different aspects with covered 18.75 % cultural, spirituality and religious tourism activities, 3.75 % mangrove forest tourism activities, 3.13 % marine wildlife tourism activities and 1.25 % swamp forest tourism activities respectively as mentioned above Figure 5.3 and table 5.3.

**Table 5. 3 Types of tourism activities in BTCC Buddhism community**

<b>Types of tourism</b>	<b>Activities</b>
Marine wildlife tourism	Scuba diving and snorkeling, fishing, observing marine mammals, turtles and birds, coral reef, the cruise ship and ferry industry, windsurfing, fisheries farms, shrimp-farming, white sand beaches, sand spa, sea turtles nesting areas, sea turtles' sanctuary
Mangrove forest tourism	Mangrove swamps, mangrove trail birds, boat trip trail
Cultural, spirituality and religious tourism	Moken dance and folk song, local fishermen catching the sand crabs (Mole crab) and oyster shells, Moken festivals and traditions, small fishing villages
Swamp and beach forest tourism	Photography

Source: Own surveys

### **5.3.3 Community participation in tourism development in BTCC Buddhism community**

According to 948 community members/ households are involved in power of management, which naturally create diversity in culture and groups of profession, 23% Finance groups, 22% Jellyfish processing plant, 20% fishermen, 14% agricultural groups, 11% learning groups, 4% volunteer groups, 2% handcraft, 2 % fish drying, 0.63% Thai massage, 1% batik painting, 0.32% bracelet weaving, respectively as shown in figure 5.6. Considerably, amongst in-depth interviews from head leaders, that most of people who borrow money from a foundation group they cannot return payment on an interest-bearing debt on principal this problem affected the community financial system were fail and not successful tourism management and cause of serious conflicts within the community also occurred negative impact on economy in the community, measure of residents' debt increased and there was no flow of money within the community.

development of the individual spiritual life of qualities.

## **5.5 Natural Ecological Environment**

Ban Tha Chat Chai, Mai Khao sub-district is located along Phuket's north-eastern coast, surrounded by lush mangrove greenery and gorgeous scenery, this village is praised as a frontline village of Phuket, home of the Mokens and unique history of Sarasin Bridge Love story has become a popular tourist attraction on Phuket. Overall, there are various types of natural resource and biodiversity, such as marine national park is like heaven on earth and unique natural heritage, wetlands, swamp forest, mangrove, beaches, including marine animal's species reserve that pushes towards began established community-based ecotourism in 2014.

### **Sirinath National Park**

Sirinath National Park located in the northwest of Phuket island with the protection of land and sea. The boundary covered 90 sq. km. which 68 sq. km (76%) is marine and 22 sq. km. (24%) is terrestrial ( Sawadee Plc., 2017). In 1980 originally known as Nai Yang National Park and became the 31 National Park of Thailand in 1981. In 1992, to celebrate the 60<sup>th</sup> anniversary of Her Majesty the Queen, the parks name was changed to Sirinath Marine National Park and 13 km. coastline of the national park covers four main beaches; Hat Nai Thon, Hat Nai Yang, Hat Mai Khao, and Hat Sai Kaew. The most interesting attractions in this park; beach forests, mangrove forest, coral reefs, sand crabs, sea turtles nesting site, beach forest birds, mangrove forest birds (Mai Kao Subdistrict Administration Organization, 2017). According to interviews with head leaders and indigenous people, over 40 years, Srinath Marine zone has been continuously severe conflicts between small-scale fishermen and large commercial fishing business; and between local community and investors in commercial shrimp farms; Moken fishermen said that several years ago they were threatened by large commercial fishing ships with firearms and could not catch fish surrounding a particular spot where fish hang up, they suffered a decline in catching without receiving help from government agencies. Also conflicts between Srinath National Park and investors in

tourism business and other projects. Among the most conflicts on rise, the Royal Thai Navy has moved into the park providing security service, but the threats to this national land became a problem that could not be resolved. In 2014, ASTV said that Sirinath National Park over 3,000 acres was compromised by investors (ASTV, 2014). In 2015, they established Phuket Marine National Parks Operation Center 2 (MNPOC) located BTCC which aims to conserve the environment and promote sustainable tourism management based on involvement of the local community while supporting education and research, including support marine ecosystems restoration. In 2016, according to Damrong Phidet the Former Director General of the Department of National Parks, Wildlife and Plant Conservation Ministry of Natural Resources and Environment, said in a telephone interview, approximately 1,200 acres of Sirinath National Park was detached from the park and but sadly, it was sold to investors for constructing luxury hotel and resort with illegal deeds by dishonorable government officials.

### **Beach Forest**

The forest covers approximately 2 sq. kms. along the beach line of the park, Tha Chat Chai has quite an abundant forest, it is about 150 meters wide, and moderate abundance of fauna species, rich of beach forest birds species; *Magpie Robin*, *Common Myna*, *Spotted dove*, *Asian fairy bluebird*, *Black-naped oriole*, *Greater racket-tailed drongo* and several *Bulbul species*. Tree species occur in this beach forest; *Common Ironwood*, *Tulip tree*, *Tropical almond*, *White Barringtonia*, *Cajeput tree*, *Alexandrian laurel*, *Screwpine*, *Asoke tree*, and *Convolvulus* etc. Native beach plants of species; *Casuarina equisetifolia*, *Seavveola taccada*, *Pandanus tecctoriu*, *Cocos nucifear*, *Barringtonia aciatica*, *Brugulea gymnorhiaz*, *Terminalia catapoa*, *Lpomoeq Pes-Caprae*, *Lpomoeq stolonifera*, *Vitex ovata*, *Spinifex littoer*, *Anacardium poccidentale*, *Tetracera lquireiri*, *Atalatia minophylla*, *Abrus precatorius*, *Utricularia aurea*, *Pteridium aquilimum*, and *Neptumia oleracea* etc. (Mai Kao Subdistrict Administration Organization, 2017; Office of Environmental policy and planning, 2002). According to interviews with native people, rich types of herbs and medications in this forest when they have a sickness, they still conserve and use the medicinal plants for treatments and bring any plants making food in their leaves through its root. They have gained

substantial knowledge of traditional medicinal plants which has been transmitted from generation to generation, but young people pay less attention to the use of medicinal plants and have a lack of knowledge of the medicinal plants for treatment, however, some of plants species are on the verge of extinction because of tourism development and economic growth that has a negative impact on protected areas through deceased beach forest species (Wikipedia, 2017).

### **Mangrove forest**

Sirinath National Park mangrove forest cover approximately 1sq.kms. Although this area is a small mangrove forest which occurs here is unspoiled nature mangrove forest, very beautiful because indigenous people participation in the preserve and protect this mangrove forest. In 2013, found 3,000 acres distribution and abundance of mangrove forest in Ban Tha Chat Chai are low levels because land is sandy soil and shallow that do not support the growth of mangrove. The part of BTCC Buddhism community of mangrove trails covered 1,920 ft (600 meters) and follows a raised wooden walkway through mangrove swamp which post-tsunami mangrove trails was restored for a one of an ecotourism rout. They found many species of mangrove birds ; *Collared kingfisher, Roseate tern, Sanderling, Terek sandpiper, Bar-tailed godwit, White- breasted waterhen* etc., mangrove forest hosts some reptiles such as *monitor lizard, mangrove snake and turtles, and macaque monkeys*, mangrove marine species; *shrimps, shellfish, crabs, mudskippers, mullet, grouper and garfish* etc., mangrove tree species; *Red mangrove, White mangrove, Olive mangrove, Black mangrove, Rhizophora apiculata, lumnitzera racemos, Heritiera littoralis and Derris trifoliata* etc. (Wikipedia, 2017).

### **Hat Sai Kaew Beach**

Hat Sai Kaew Beach is located in the Sirinath National park, is the main natural tourist attractions of BTCC Buddhism community which covers an area of 3 sq.kms. The beaches were declared a National Park or conservation area to protect and preserve clean white sand beaches and marine species; sea turtles to lay their eggs, mole crabs, and seashells. Yet, this beach is a quiet beach and uniqueness of natural destination with

## CHAPTER 6

### IMPACT ASSESSMENT OF ECOTOURISM ON COMMUNITIES

#### Introduction

Recently, with the rapidly developing tourism industry, Thailand's recovery and development of local communities economic, ecotourism has contributed significantly to Phuket Island, particularly in the conservation and protection areas such as Sirinat Marine National Park, Khao Pratheaw National Park. However, quantitative approach to examine the conditions under which scientific knowledge about the levels of impact of ecotourism on community and comparative occurred before the tsunami and after the tsunami disaster in the BBR Muslim community and the BTCC Buddhism community. This study will show how the impacts of the ecotourism operations after the tsunami occurred.

#### 6.1 Personnel demographic characteristics

According to the quantitative method, the questionnaires were distributed to a total of 155 households of the BBR Muslim community and 160 households of the BTCC Buddhism community. The results are as follow:

**Table 6. 1 Personnel demographic characteristics**

		Muslim Community	Buddhism Community
		Percentage (%)	
Gender	Male	31.0	45.0
	Female	69.0	55.0
Age	Under	0.0	5.6
	20-30	20.0	22.5
	31-40	16.8	28.8
	41-50	23.9	21.3
	51-60	26.5	18.1

	Over 61	12.9	3.8
Education level	Under High School	26.5	60.0
	High School	19.4	12.50
	Diploma	30.3	19.38
	Bachelor's degree	9.7	7.50
	Master's degree or above	14.2	0.63
Occupation	Students	0.7	3.1
	Employees of privately	11.6	8.1
	Employee of state enterprises	4.5	5.0
	Public servants	5.8	30.6
	Commercial	14.8	6.9
	Farmers	36.1	1.9
	Fisheries	21.3	35.0
	Home duties and others	5.2	9.4
Income	Less than 5,000 baht	12.3	38.8
	5,000-10,000 baht	32.9	18.6
	10,001-15,000 baht	25.2	17.5
	15,001-20,000 baht	20.0	11.26
	20,001-25,000 baht	9.7	5.6
	Over25,000 baht	0.0	8.1
Income from	Tour operators and tourism activities management	3.9	1.9
	Accommodations service	1.9	3.1
	Restaurants and local products	9.7	9.4
	Transportation and other service	1.3	2.5
	Local culture, traditional and heritage	3.23	0.6
	Fishery	20.7	37.5
	Agriculture	31.6	1.8
	Livestock	7.7	0.0
	Other	20.0	43.1
Impact of Tsunami	Affected by the tsunami disaster	43.9	61.3
	Not affected by the tsunami disaster	56.1	38.8
How affected	Pradhan family	0.0	0.6
	Losing family	0.0	8.1
	Loss of housing and restaurant	11.6	13.8

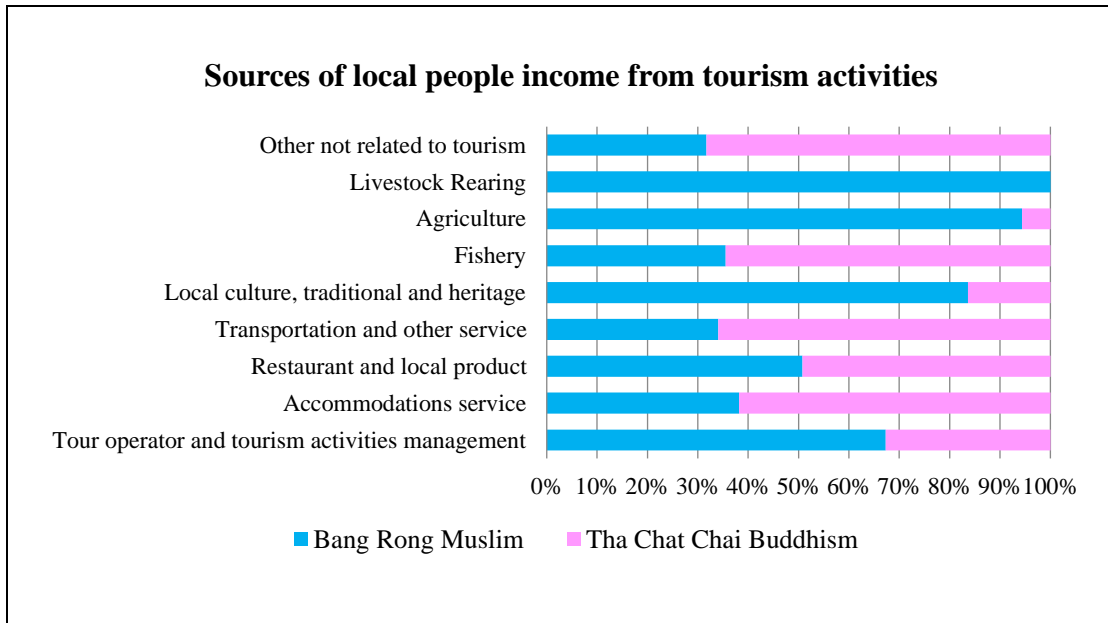
	Employment/livelihoods/yachts, fishing boats and equipment	16.1	23.8
	Psychological trauma/Mental changes	16.1	14.4
	More (Please specify)	0.0	0.63

Of the 155 Muslim responses received, demographic characteristics of local people that most Muslim people were female representing 69.0% of sample and male representing 31.0%, and 26.5% were aged between 51-60 years, 40.0% had completed high school, 48.4% had farmers, 32.9% had income about 5,000-10,000 baht per month, 56.1% were not affected by the tsunami disaster, had 43.9% were affected by the tsunami disaster, indirect affected on 16.1% employment/livelihoods, 16.1% psychological trauma and mental changes and 11.6% loss of housing. Of the 160 Buddhist responses received, demographic characteristics were female representing 55.0 % and male representing 45.0 %, and 28.8% were aged between 31-40 years, 35.0% fishermen, 38.8% income less than 5,000 baht per month, 61.3% affected by the tsunami disaster, 38.8% were not affected by the tsunami disaster, indirect affected on employment/livelihoods/yachts, fishing boat and equipment 23.8%, 14.4% psychological trauma and mental changes.

According to education Muslim and Buddhism community education of Buddhism community show level of human development of the region is low more than Muslim community depict that the education level of local people is basically low with 60.0% have received under high school and no education which hinders their human resource development also hinder their participation in CBEM.



## 6.2 Sources of local people income



**Figure 6. 1 Local people income from tourism activities**

**Source:** Author's Own survey.

Of the 155 Muslim responses received, the main source of income from agriculture is 31.61%, the fishery is 20.65%, restaurant and local products is 9.68% and livestock is 7.74%, respectively. However, analyzed data ranked and presented that, a respondent's income is low income from accommodations service transportations and another services, local culture and tradition and heritage, tour operators and tourism activities management. This indicates that local people had little benefit from tourism.

Of the 160 Buddhist responses received, the main source of income from other not related to ecotourism is 43.13%, the fishery is 37.5%, respectively. However, analyzed data ranked and presented that, respondent's income is low income from local culture and tradition and heritage, tour operators and tourism activities management, transportation and other service, accommodations service. This indicates that local people had little benefit from tourism, and low income from livestock and agriculture due to lack of land to support these actives, and their affordability to pay the government officers and local authorities to use these areas is limited.

### 6.3 Impact assessments of ecotourism before and after tsunami disaster in BBR Muslim community and BTCC Buddhism Community

Table 6. 2 Impact assessments of ecotourism before and after the tsunami disaster

	Criteria	Impact of Indicators	BBR Muslim community						BTCC Buddhism community					
			Before tsunami disaster			After tsunami disaster			Before tsunami disaster			After tsunami disaster		
			Mean	RII	Rank	Mean	RII	Rank	Mean	RII	Rank	Mean	RII	Rank
Negative Impact	Natural environment and ecology	NN1	2.59	0.8624	1	2.25	0.7505	2	2.09	0.6979	2	2.74	0.9146	2
		NN2	2.57	0.8581	2	1.95	0.6473	5	2.00	0.6666	5	2.10	0.7000	9
		NN3	2.46	0.8194	3	2.55	0.8495	1	1.78	0.5938	9	2.76	0.9208	1
		NN4	2.16	0.7204	5	1.45	0.4839	6	2.08	0.6917	3	2.71	0.9021	3
		NN5	2.19	0.7312	4	2.07	0.6903	3	1.94	0.6479	6	2.28	0.7583	7
		NN6	1.68	0.5613	8	1.16	0.3871	8	2.02	0.6729	4	2.42	0.8063	5
		NN7	1.69	0.5634	7	1.14	0.3785	9	1.94	0.6458	7	2.29	0.7625	6
		NN8	1.05	0.3505	10	1.17	0.3892	7	2.19	0.7313	1	2.63	0.8750	4
		NN9	1.07	0.3570	9	1.10	0.3656	10	1.84	0.6125	8	2.11	0.7042	8
		NN10	2.10	0.6989	6	1.97	0.6559	4	1.61	0.5354	10	2.03	0.6771	10
	Economic	NE1	2.48	0.8280	1	2.21	0.7376	4	1.80	0.6000	5	2.68	0.6604	5

		NE2	2.45	0.8172	2	2.48	0.8280	1	2.34	0.7792	1	2.59	0.8646	1
		NE3	1.89	0.6301	3	2.36	0.7871	2	2.07	0.6896	3	2.33	0.7750	2
		NE4	1.86	0.6215	4	2.36	0.7871	2	2.09	0.6958	2	2.28	0.7604	3
		NE5	1.66	0.5548	5	1.68	0.5613	5	1.81	0.6021	4	1.99	0.6625	4
	Society and Culture	NS1	2.05	0.6817	5	2.35	0.5699	9	1.91	0.6375	6	2.23	0.8917	1
		NS2	2.16	0.7204	3	2.25	0.7484	2	2.05	0.6833	2	2.41	0.8021	4
		NS3	2.41	0.8022	1	2.00	0.6667	7	1.93	0.6417	4	2.07	0.6896	7
		NS4	2.35	0.7828	2	1.91	0.6366	8	2.18	0.7250	1	2.37	0.7896	5
		NS5	1.89	0.6301	6	2.01	0.6688	6	1.93	0.6417	4	2.08	0.6917	6
		NS6	1.75	0.5849	8	2.26	0.7527	1	1.81	0.6042	8	1.94	0.6458	8
NS7		2.14	0.7118	4	2.22	0.7398	4	1.99	0.6625	3	2.54	0.8458	2	
NS8		1.79	0.5957	7	2.25	0.7484	2	1.83	0.6104	7	2.43	0.8104	3	
NS9		1.32	0.4409	10	1.46	0.4860	10	1.60	0.5333	10	1.69	0.5646	10	
NS10		1.42	0.4731	9	2.14	0.7140	5	1.61	0.5375	9	1.72	0.5729	9	
Positive Impact	Natural environment and ecology	PN1	1.42	0.4731	3	1.93	0.6430	4	1.76	0.5875	4	1.94	0.6458	3
		PN2	1.38	0.4602	4	2.22	0.7398	3	1.86	0.6208	3	2.16	0.7208	2
		PN3	1.52	0.5075	2	2.42	0.8065	1	1.70	0.5667	5	1.94	0.6458	3
		PN4	1.23	0.4108	5	2.28	0.7591	2	1.89	0.6313	2	2.29	0.7625	1
		PN5	2.26	0.7548	1	1.71	0.5699	5	2.74	0.9146	1	1.15	0.3833	5
	Economic	PE1	1.14	0.3785	8	1.55	0.5161	5	1.94	0.6479	3	2.27	0.7563	1
		PE2	1.63	0.5419	4	1.61	0.5355	3	1.81	0.6021	4	1.93	0.6417	2
		PE3	1.34	0.4452	6	2.18	0.7269	1	1.76	0.5875	5	1.89	0.6292	3

		PE4	1.38	0.4602	5	1.43	0.4753	7	2.02	0.6729	2	1.73	0.5750	4
		PE5	2.06	0.6882	3	1.35	0.4516	8	1.62	0.5396	6	1.53	0.5104	8
		PE6	2.13	0.7097	2	1.48	0.4946	6	2.47	0.7479	1	1.67	0.5563	5
		PE7	2.29	0.7634	1	2.05	0.6817	2	1.58	0.5250	7	1.59	0.5313	7
		PE8	1.32	0.4387	7	1.58	0.5269	4	1.56	0.5208	8	1.63	0.5417	6
	Society and Culture	PS1	1.94	0.6473	4	1.71	0.5699	6	2.12	0.7063	1	2.41	0.8042	3
		PS2	1.24	0.4129	10	2.05	0.6839	5	1.71	0.5708	7	1.84	0.6125	10
		PS3	1.34	0.4473	8	2.19	0.7290	2	1.84	0.6125	5	2.11	0.7021	7
		PS4	1.35	0.4516	7	1.44	0.4796	9	1.83	0.6083	6	2.08	0.6917	8
		PS5	1.34	0.4473	8	1.55	0.5183	7	1.99	0.6646	3	2.31	0.7688	4
		PS6	1.77	0.5892	5	2.29	0.7634	1	2.00	0.6667	2	2.16	0.7208	5
		PS7	2.14	0.7140	1	1.19	0.3978	10	1.98	0.6604	4	2.15	0.7167	6
		PS8	1.72	0.5720	6	2.07	0.6903	4	1.58	0.5271	8	2.49	0.8313	2
		PS9	1.97	0.6559	3	2.12	0.7075	3	1.34	0.4458	10	2.92	0.9729	1
		PS10	2.01	0.6710	2	1.45	0.4817	8	1.39	0.4646	9	2.07	0.6896	9

#### 6.4 Comparative meaning of negative impacts and positive assessments of ecotourism before and after the tsunami disaster in BBR Muslim community

**Table 6. 3 Comparative assessments of ecotourism before and after the tsunami disaster in BBR Muslim community**

Criteria	Negative Impact				Positive Impact			
	Before	After	t	P-value	Before	After	t	P-value
Natural environment and ecology	2.18	1.82	1.6357	0.0620	1.39	2.21	6.9121	0.0002
Economic	2.07	2.22	0.6862	0.2559*	1.66	1.65	0.0399	0.4843*
Society and Culture	2.11	2.15	0.7162	0.2443*	1.56	1.69	0.5941	0.2828*
<b>Total</b>	<b>2.12</b>	<b>2.06</b>	<b>0.4446</b>	<b>0.3398</b>	<b>1.54</b>	<b>1.85</b>	<b>1.5919</b>	<b>0.0933*</b>

Source: Own survey

Remark: The level of impact interpretation that 1.00-1.66 were lowest, 1.67-2.33 were moderate and 2.34-3.00 were highest. The statistically significant difference between groups at  $p \leq 0.05$  (Significant)

#### **Negative impacts of ecotourism before tsunami disaster**

The impact that occurred before tsunami disaster assessment by local people. The majority of the respondents being moderate negative nature environment and ecology impacts (2.18) the set of indicators latent variable are coastal ecosystems (2.59) and mangroves were destroyed issue had the highest impact (2.57) respectively. In addition, had moderate negative economic impacts (2.07), indicators latent variable are land speculation (2.48) and high cost of live (2.54) respectively, and had moderate negative society and culture impacts (2.41), indicators latent variable are residential environment and habitat change (2.35), social conflict and collision (2.05) respectively.

### **Positive impacts of ecotourism before tsunami disaster**

The impact that occurred before the tsunami disaster assessment by local people. The majority of the respondents being lowest positive economic impacts (1.66), the set of indicators latent variable are increased income from agriculture (2.29), increase income from coastal fishing (2.13) and increase income from tourism activities (2.06) respectively. In addition, had lowest positive society and culture impacts (1.56), indicators latent variable are increase quality of infrastructure and facilities (2.14), increase tourism facilities (1.94), and increase employment opportunities or jobs (only 1.35,) respectively, and had lowest positive nature environment and ecology impacts (1.39), set of indicators latent variable are fauna restoration (1.52), wildlife conservation (1.42), mangrove restoration (1.38), and flora restoration (1.23) respectively.

### **Negative impacts of ecotourism after the tsunami disaster**

The impact that occurred after the tsunami disaster assessment with local people. The majority of the respondents being the moderate negative impact on economic impacts (2.22), the set of indicators latent variable are high cost of living (2.48), indebtedness (2.36), low-income (2.36) respectively. In addition, had moderate negative natural environment and ecology impacts (1.68), the set of indicators latent variable are fauna were destroyed (2.55), coastal ecosystems were destroyed (2.25), natural areas and mangrove encroachment (2.07) respectively, and had moderate society and culture impacts (2.15), indicators latent variable are social conflicts and collision (2.35), crime, drugs, accidents, infectious diseases (2.26), unemployed (2.20) and water shortage (2.25) respectively.

### **Positive impacts of ecotourism after the tsunami disaster**

The impacts that occurred after the tsunami disaster assessment with local people. The majority of the respondents being moderate positive natural environment and ecology impacts (2.21), indicators latent variable are fauna restorations (2.42), flora restorations (2.28) and mangrove restorations (2.22) respectively. In addition, had moderate positive society and culture impacts (1.69), indicators latent variable are

increased quality of local health and social welfare (2.19), improve quality of education and tourism human resource development (2.05), and increase tourism facilities (1.71) respectively. And had lowest positive economic impacts (1.65), indicators latent variable were increased income from agriculture (2.05), increase village fund and well fare (1.61) and increase income distribution or flow of money in the village (1.58) respectively.

#### **6.4.1 Negative impact of ecotourism before and after the tsunami disaster in BBR Muslim Community**

According to table 6.2 and 6.3, as a result which considered intersection relationship between the impact on natural environment and ecology, economic and society and culture that were different, before the tsunami disaster of ecotourism had highest negative natural environment and ecology impacts, indicators latent variable are highest level impacts on coastal ecosystems were destroyed, mangroves were destroyed, and fauna were destroyed due to government support the charcoal and shrimp farms for export products through Thailand tourism authority have actively promote marine tourism destinations in Phuket island, including surround BBR Muslim community appearance mass tourism in this destinations seeking to the development of community economic without sustainability plan and controlling management environment conservation cause the death of marine animals, coral reefs and other marine species. After the tsunami, had negative moderate natural environment and ecology impacts which examination from coefficients of mean deviation ( $p \leq 0.05$ ) to be serious. Moreover, before and after the tsunami disaster appears the moderate negative economic impacts, and moderate negative society and culture impacts, which comparisons between differences statistical testing using t-test it found to a test of the null hypothesis with mean scores of the reviews is significant ( $p \geq 0.05$ ) were almost the same. Ecotourism development in this community had the highest impacts on the cost of living, increased the cost of products and service on the local community. According to interviews with community leaders that as result of tourist demands were increased tourism products and service need selling to tourists in this community without considering impacts on the grass root livelihood, it would lead to a social problem such

as expensive place and living, price of food rose up all year which became a problem for poor people or fishermen as results that most of the residents have paid a little attention to the management of ecotourism themselves. Therefore, respondent's residents believed that ecotourism has negative impacts more than positive impacts on the economic aspects that tend to support ecotourism.

#### **6.4.2 Positive impact of ecotourism before and after the tsunami disaster in BBR Muslim Community**

According to the positive impact before and after the tsunami disaster of ecotourism on natural environment and ecology were difference that statistical testing using t- test it found to a test of the null hypothesis with mean scores of the reviews is significant ( $p \leq 0.05$ ) show on table 6.3, and had the lowest level positive economic impacts and lowest level positive society and culture impacts, which considered intersection relationship found that positive impact on economic was lowest, indicators latent variable are lowest level of income from tourism activities, income from agriculture, and income distribution or flow of money in the village. According to interviews with Muslim housewives' group, they said that

“.....we have various unique Muslim of products which received support financial from government agencies for made it themselves, but lack of support finding the best place for selling community products can't sale all year, they received income from tourism up on season and festival fairs, have few orders from outside the community and they need to target the foreigners' markets because they can sell it at higher price....”

Although, a community leader said that most of the tourism operators of the community are outside such as travel agencies, tourist guides, transportation. However, the community has support management of homestay service, including developing children and youth local guide servicing only Thai tourist but can't service to foreigners due to the lack of skill and knowledge of foreign languages that become a threat to the community-based ecotourism development. After the tsunami disaster, most residents still believed that lowest positive impact on society and culture. Distinctively, the positive impact management in this community of indicators latent variable are lowest



level in improvement the quality of infrastructure and facilities, transportation service, water supply, pier, electric power supply, renewable energy etc., lowest employment opportunities, and lowest encourage local communities' value certain resource and benefit from natural and cultural resource. According to interviews with community leaders and committees of correspondences as follow;

- During implementation recovery and improving the quality of infrastructure and facilities such as mangrove forest pathways, toilet etc.
- Improving the quality transportation service such as a boat, taxi, local bus
- Improving Bang Rong community of pier service and management to be an international standard
- Improving quality of water supply for clean and fresh water but community lack of fresh water of resource
- Lack of coordinate with expert persons for improving quality of renewable energy.

Indeed, some fishermen and poor people said that, they rarely have the opportunity to participate in community ecotourism management due to there are few jobs related to tourism in community, most small-scale fishermen of products were sold to outside community restaurants, and community weekend markets that have no relationship coordinate between community ecotourism organizations. In addition, interviews with goat farms of owners, before tsunami disaster have over 3 goat farming business in this community, but after tsunami disaster found only 2 goat farms due to the failed management of the goat farming business and controlling the environment impacts such as smelly goats, odour emissions from farms adversely affect the life of people lives in the vicinity, including damage to the soil surface from livestock through lack of knowledge goat farming management as tourism products, as result that they have increased indebtedness.

## 6.5 Comparative meaning of negative impacts and positive assessments of tourism before and after the tsunami disaster in Buddhism community

**Table 6. 4 Comparative assessments of ecotourism before and after the tsunami disaster in BTCC Buddhism community**

Criteria	Negative Impact				Positive Impact			
	Before	After	t	P-value	Before	After	t	P-value
Natural environment and ecology	1.95	2.41	3.6073	0.0113	1.80	2.08	2.8860	0.0139
Economic	2.02	2.23	1.3912	0.1008*	1.85	1.78	0.4744	0.3212*
Society and Culture	1.88	2.15	2.3877	0.0140	1.88	2.19	3.2641	0.0028
<b>Total</b>	<b>1.95</b>	<b>2.26</b>	<b>2.4621</b>	<b>0.1127</b>	<b>1.84</b>	<b>2.02</b>	<b>1.6802</b>	<b>0.0084</b>

Source: Own survey

Notes: The level of impact interpretation that 1.00-1.66 were lowest, 1.67-2.33 were moderate and 2.34-3.00 were highest. The statistically significant difference between groups at  $p \leq 0.05$  (Significant).

### Negative impacts of ecotourism before tsunami disaster

Based on interviews with local people were questioned regarding negative impact of ecotourism before tsunami disaster occurred according to table 6.3, respondents believe that had moderate negative economic impacts (2.02), indicators latent variable are cost of living or increased cost of products and service (2.34), low-income from tourism and imbalance between revenues and costs, increased indebtedness and low-income from tourism (2.09) and imbalance between revenues and costs (2.07), and had moderate negative nature environment and ecology impacts (1.95), indicators latent variable are soil degradation (2.19), coastal ecosystems were destroyed (2.09), flora were destroyed (2.08) and moderate negative society and culture

impacts (1.88), residential environment and habitats were destroyed (2.18), water shortage (2.05), coastal fishing, agriculture were destroyed (1.99) respectively.

### **Positive impacts of ecotourism before tsunami disaster**

In the term of positive occurred before tsunami disaster, result on show moderate positive society and culture impacts (1.88) indicators latent variable are increase tourism facilities such as hotels, homestay, restaurants, etc. (2.12), increase established community organization and cooperation (2.00) and lively hoods: well-being, safety (1.99), and had moderate positive economic impacts (1.85) indicators latent variable are increase income from coastal fishing(2.47), provide employment opportunities and income (2.02), increase sufficient economy promote projects (1.94) and including had moderate positive natural environment and ecology impacts (1.80) indicators latent variable are increate flora restoration such as rare aquatic (2.29), mangrove restoration (2.16), and fauna restoration such as rare aquatic plant (1.94) respectively.

### **Negative impacts of ecotourism after the tsunami disaster**

After tsunami disaster BTCC Buddhism community have highest negative impact of ecotourism on the natural environment and ecology (2.41) which indicators latent variable are fauna were destroyed (2.76), coastal ecosystems were destroyed (2.74), flora were destroyed (2.71), and had moderate economic impacts (2.23) indicators latent variable are, high cost of living or increased cost of products and service (2.59), increased indebtedness (2.33),and low-income from tourism and imbalance between revenues and costs (2.28) and show moderate negative society and culture impacts (2.15) indicators latent variable are social conflict and collision (2.23), coastal fishing, agriculture (2.54) were destroyed, and yachts, fishing boats, and equipment of the villagers were destroyed (2.43) respectively.

### **Positive impacts of ecotourism after the tsunami disaster**

This also shows that after the tsunami disaster BTCC Buddhism community have moderate positive society and culture impacts (2.19) indicators latent variable are

promotion and conservation of local culture, traditions, historical and religious heritages (2.92), restorations tourist attractions such as ancient ruins, temples , culture etc.(2.49), increase tourism facilities such as hotels, homestay, restaurants, etc.(2.41), and moderate positive natural environment and ecology impacts (2.08) indicators latent variable are flora restoration (2.29), mangrove restoration (2.16), wildlife conservation (1.94) and it show it had moderate economic impacts (1.78) increase sufficient economy promotion projects (2.27), increase village fund and well fare (1.93), and increase community co-operatives groups (1.89) respectively.

#### **6.5.1 Negative impacts of ecotourism before and after tsunami disaster in BTCCH Buddhism community**

According to table 6.3, the negative impacts before and after the tsunami disaster were different in natural environment and ecology aspects, which examination from coefficients of mean deviation based on comparisons between differences statistical testing using t- test it found to a test of the null hypothesis that differences between two responses measured on the p-values  $p \leq 0.05$ , as result, after the tsunami disaster negative impacts of ecotourism on environment and ecology had highest level which indicators latent variable are highest level impact on fauna were destroyed, coastal ecosystems were destroyed, and flora were destroyed, where main caused impacts occurred from natural disaster and tourism activities. In the term of economic aspect, it found to a test of the null hypothesis that difference relationships between before and after tsunami disaster with same significant p-value  $p \geq 0.05$  as result impacts on economic had moderate level, respondent of residents perceived that ecotourism have highest negative impacts were high cost of living or increased cost of products and service. While society and culture difference relationships between before and after tsunami disaster with difference significant, as a result, the impact on society and culture respondent of residents perceived that have highest negative impacts of ecotourism before tsunami disaster were residential environment and habitat, but after the tsunami disaster the highest negative impacts were social conflict and collision, according to interviews with community leaders and local people, there is an unavoidable impact of environment conservation and tourism economic development

within the community such as conflicts between management protect areas and organization of land use through local people to use of benefit from natural resources, conflicts in financial capital management, conflicts ownerships, conflicts Buddhist religious beliefs and ethnic of indigenous groups were serious. According to interviews with owners of restaurant and cafe shops and smalls souvenir shops in this community,

“....they have social conflicts in benefits distribution in community-based ecotourism related to land utilization, before tsunami disaster occurred, we are able to use the land of Hat Sai Kaew beach every day at a long beachfront but after tsunami disaster we are unable to use this area due to this area being part of the Sirinath National Park or protected areas which were destroyed by the tsunami disaster that become a risk area or hazard zone. Especially the government is trying to control tourism service and facilities, commerce within the park which concern implementation of environment preservation led to further regulations based on local people involved in Natural Resource Compliance Act, those who are ownership in this community, get affected seriously particularly affected on livelihood, income and employment. Although they said that, get away with justice has not been fully served from the organization, including share ownership of a particular parcel of land at a local scale were broken down, they are not satisfied with this land use management...”

However, according to interviews with local government officers, the authority and organization of administration trying to prevent land use conflict problems seeks to order an efficient and ethical way to using the land use planning to manage and development of land based on regulate land use and jurisdictions while safeguarding natural resources and ecosystems as follow needs of the community.

In a case of conflicts between Moken tribe of traditional beliefs and practices and Buddhist beliefs and practices in BTCCH Buddhism community were interesting for research such as the role of faith, and rituals in some aspects of daily life. For example, surveyed and interviews with Moken people who hold Buddhist identity and Buddhist people said that

Moken people said that, 90 % them practice the beliefs of their ancestor's spirits and not pay attention to participate in Buddhist beliefs and practices such as meditation, joint at temples, etc., but individual beliefs and practices were changed 10%

of children, young people and Moken who married with Buddhist people, they pay attention in Buddhism of some culture and way of life such as participate in sacred the Mather Rivers of festival of Buddhist religious and beliefs (Loy Krathong Festival) that do ceremonies at Buddhist temples.

Buddhist people said, most people of Buddhist do not pay attention in the participation of ceremonies or rituals to honor their ancestors of Moken traditions such as the sacredness of beach ceremonies, a boat floating festival, few Buddhist people pay attention in Moken traditions and beliefs.

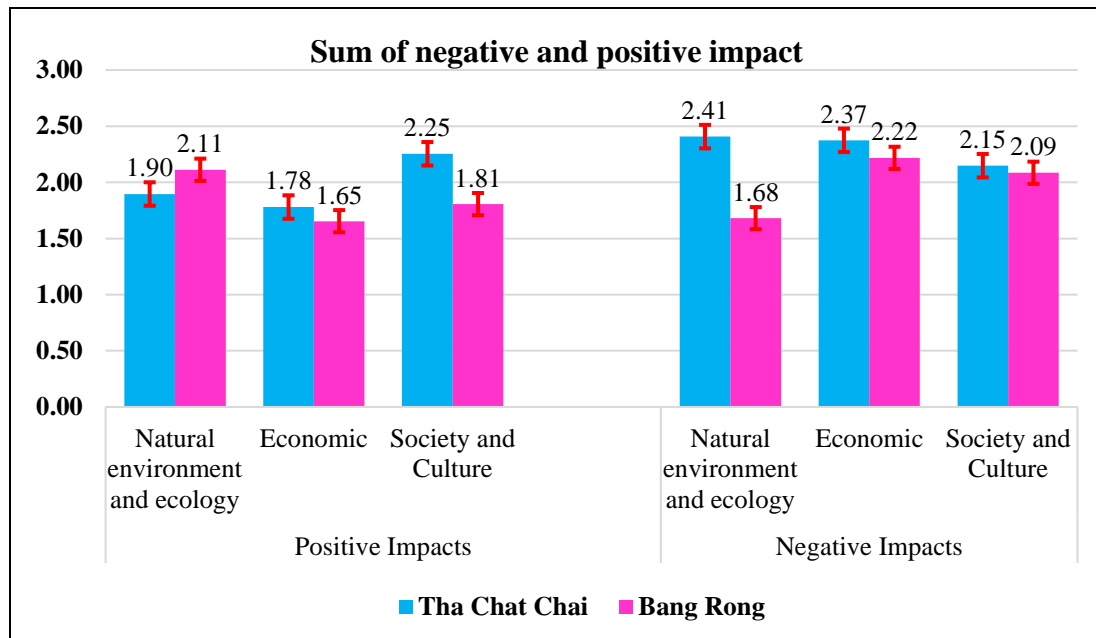
Despite the conflicts between cultural of Moken tribe and Buddhism readily and different beliefs and rules that to maintain their religion and spirituality in community, when a Moken tribe of culture (minority culture) adapts to Buddhist culture (majority culture) by losing its traditions beliefs and practices and it becoming essentially indistinguishable between Buddhist people and the Moken tribe of culture.

#### **6.5.2 Positive impacts of ecotourism before and after the tsunami disaster in BTCCH Buddhism community**

As results are shown in table 6.3, the positive impacts before and after the tsunami disaster were different in natural environment and ecology aspect, and society and culture aspect, which examination from coefficients of mean deviation based on comparisons between differences statistical testing using t-test it found to a test of the null hypothesis that difference between two responses measured on the p-values  $p \leq 0.05$ , as result, natural environment and ecology aspect found that after tsunami disaster was increased positive impacts of ecotourism on environment and ecology, including society and culture aspect. Positive environment and ecology impacts aspects which indicators latent variable are the highest level increased flora restoration (Rare aquatic plants) (RII=0.76), mangrove restoration (RII=0.72) and fauna restoration (Rare aquatic animals) (RII=0.64) respectively, due to Royal Thai Navy, government agencies, local government organizations, institutes seeks to support and are actively involved in marine conservation and is continuously trying to motivate local people to participate in activities to help reduce marine ecosystems which implementation various programs such as rehabilitation mangrove forest, rehabilitation beach forest,

rehabilitation seagrass bed, coral reef nurseries and rehabilitation, recovery sea turtles and sand crabs program, collect the garbage and waste in the sea program etc. In term of positive society and culture impacts which indicators latent variable are the highest level increased promote and conservation of local culture, traditions, historical and religious heritages (RII=0.97), increased restorations tourist attractions such as culture and heritage traditional etc. (RII=0.83), increased tourism facilities development such as hotels, homestay, restaurants, etc. (RII=0.80) respectively. Positive economic impacts aspect, it found to a test of the null hypothesis that difference in relationships between before and after tsunami disaster with same significant p-value  $p \geq 0.05$ , after tsunami disaster, a few decreased positive economic impacts as result local people believe that had lowest-moderate positive impacts which indicators latent variable are development of ecotourism provide employment opportunities and income(M=1.73), increase income from coastal fishing(M=1.67) and increase income from tourism activities(M=1.53) respectively.

## 6.6 Post-tsunami disaster negative and positive impact in BBR Muslim community and BTCC Buddhism community



**Figure 6. 2 Comparison of mean importance rating on negative and positive impact between BBR Muslim and BTCC Buddhism communities**

According to figure 6.2 shows the sum of negative and positive impacts of ecotourism after the tsunami disaster, a general comparison of respondents was asked which considers each of the indicators, knowledge to the difference between BBR Muslim community and BTCC Buddhism community in the implementation of CBE.

### 6.6.1 Natural environment and ecology Impacts

According to residents perceived, two communities were different in the impact on natural environment and ecology, negative natural environment and ecology impacts were higher than positive impact in BTCC Buddhism community, which indicated that the most negative impact on fauna(2.76), coastal ecosystems (2.74) and flora (2.71) were destroyed in BTCC Buddhism community more than BBR Muslim community, in differ that residents of BBR Muslim community perceived natural areas



and mangrove encroachment is highest, while residents of BTCC Buddhism community perceived natural areas and mangrove encroachment is lowest. However, positive impact on natural environment and ecology were higher than negative in BBR Muslim community which indicated that the most positive impact on natural environment and ecology were fauna restoration (2.42) flora restoration (2.28), mangrove restoration (2.22) due to over 10 years BBR Muslim community actively support projects for recovery and restoration environment post-tsunami disaster.

#### **6.6.2 Economic Impacts**

All of the residents perceived, negative economic impacts of ecotourism were higher than positive impact in BTCC Buddhism community, in the similarly negative economic impact were higher than positive in BBR Muslim community, which indicated that high cost of living or increased cost of products and service (2.59, 2.48), increased indebtedness (2.33, 2.36), low-income from tourism and imbalance between revenues and costs (2.28, 2.36) depict that residents of these communities had a little benefit of ecotourism. However, residents of both communities were almost unanimous in their opinion that involvement in decision making in term of the policy, planning for development them of ecotourism.

#### **6.6.3 Society and Culture impacts**

All of the residents perceived, two communities were different in the impact on society and culture, negative impact was less than positive impact in BTCC Buddhism community, which indicated that residents perceived high negative impact on social conflict and collision (2.23), yachts, fishing boats and equipment of the villagers (2.43), coastal fishing (2.54). This society and culture impact item is the main problem within the community particularly directly influences the way of life of indigenous people, fishermen and Sea Gypsies the both Ban Laem La and Baan Hin Look Diew small village in this Buddhism Community. Furthermore, highly fisheries crimes are a problem continuously to fishermen's lives are threatened due to the fact that fishermen of fishing equipment were stolen by groups of business fishing companies, also post-tsunami found that marine animal species were decreased causing

to affect their livelihood. Besides, difference in negative impact were higher than positive impact in BBR Muslim community, which indicated that residents perceived high negative impact on crime, drugs, accidents, infectious diseases (2.26), water shortage due to environment change depict that it is major problem on the dry season in this community (2.25), yachts, fishing boats and equipment of the villagers (2.25).

## **6.7 Chapter Summary**

In summary, in this study not new methodology, but I having been applied in previous research studies into assessing the impacts of ecotourism which occurred before and after tsunami disaster in order to compare the perceptions of residents on natural environment and ecology, economics, and society and culture impact as informed for improving implementation of planning and reduce negative impacts. Overall, this study concludes that residents of BTCC community perceived before tsunami disaster of 2004, before CBE initiative in BTCC community in Phuket island, it more negative natural environment and ecology impacts, especially marine destination and wildlife tourism that are being destroyed by tourists, tourism business and local people, in the case of SRN marine national park, to maximum of 20,000 people per year, 25,000 tourists visited in 2015 (Department of National Park, 2016), mainly caused an increased number of cruises and boats transfer tourist to marine destinations. While cruising tourism and other transportation service growing rapidly since the 2000s has led to increasing concerns over its natural environment and ecology impacts, embodies not only the problems it indicates significant transportation pollution, but also creates a concentrated negative impact on local economics and societies, and threatening natural and cultural heritage from the large number of tourists, for example, emissions from cruises and boats cover in gaseous, liquid and solid forms as one of pollution sources of marine ecosystems through effects to the local marine environment (Caric & Mackelworth, 2014). Besides, rapidly tourism development in Phuket seems to be major cause to the deterioration of coral reefs that the dominant cause of coral reef degradation is the impact related to tourism activities and fisheries activities, storms and monsoons which uproot and break coral branches through the tsunami waves caused damaged to most coral reefs around Phuket island, where proportions of

broken corals at 10-30% of coral reefs were damaged showed that coral damage in those areas had low impacts (Zahir, Solandt, Rajasuriya, & Tamelander, 2006). Currently, post-tsunami disaster, find that there is still increasing pollution aspects; wastes, wastewater, oil-related hazardous emissions, light and noise pollution in the environment. Ocean ambient noise effects on many marine organisms and marine animals live which use hearing as primary foraging and communication ranges (D.H., 2006) particularly marine mammals such as whales, dolphins, dugongs also fish, birds in the vicinity of ecotourist destination. Despite, respondent's residents believed that ecotourism has negative economic impacts were higher than positive impact tend to support ecotourism in both communities, Phuket government also residents still pay attention in the management of ecotourism.

## **CHAPTER 7**

### **ASSESSMENT OF ECOTOURISM POTENTIALS FOR SUSTAINABLE DEVELOPMENT**

#### **Introduction**

This chapter proposes to the assessment of ecotourism attractions potentials in order to reduce the damage and negative impacts on the ecotourism destinations that lead to an improvement in ecotourism attractions competitiveness. Boley and Green (2016) argued that enhanced the competitiveness of ecotourism destinations under continuous quality control of natural resources and cultural heritage conservation because the significantly increase of the potential of ecotourism to serving as a long-term in operation of CBE, and the post-tsunami disaster lead to spiritual raises in ecotourism destinations and ecological restoration. Moreover, the assessment is important for establishment and implementation of disaster risk reduction program and preparedness (Meilianda, et al., 2017), has lead enhancement of spirituality and religious beliefs and practice toward environmental conservation and stewardship. In the case study based on the quantitative research, a total 361 respondents participated in this study which consists of 155 local people, 150 domestic tourists including 56 international tourists in BBR Muslim community and 365 respondents, with 160 local people, 150 domestic tourists including 55 international tourists in BTCC Buddhism community. The questionnaire uses the five point of Likert scale. The questionnaire that was used to ask domestic tourists and international tourists in both communities was conducted on December-March 2016. Which cover the content of questionnaire, tourists' demographic characteristic and behaviors and explore tourists' attitude toward spirituality and religious traditional beliefs and practices in natural environment conservation and preserving ecotourism destination, including the questionnaire to residents and tourists' perception in assessment of ecotourism potential base on 6 criteria; physical and ecology characteristics, ecosystem management in tourism attractions, value and important of tourism attractions, education, management and participation in conservation. The conducted comparison of 3 sample groups using F-

statistics and F-test to test the overall significance level, to compare the fits of different models and to test the equality of means (Stone, Scibilia, Pammer, Cody, & Keller, 2016). I also, assess the management of ecotourism activities with thin two communities by expert person as the important formed for attractions of ecotourism management.

### 7.1 Sampling Groups

**Table 7. 1 Sampling Groups**

<b>Sampling Groups</b>	<b>BBR (Person)</b>	<b>BTCC (Person)</b>	<b>Conducted time</b>
Local people	155	160	November 2013 to February 2014 in BBR Muslim community and November to December 2016 in BTCC Buddhism community
Domestic tourist	150	150	December- March, 2016
International tourist	56	55	December- March, 2016
<b>Total</b>	<b>361</b>	<b>365</b>	

### 7.2 Personnel demographic characteristics and behavior

**Table 7. 2 Personnel demographic characteristics and behaviors**

Factors		BBR Muslim Community		BTCC Buddhism Community	
		Percentage%			
		Domestic	International	Domestic	International
Gender	Male	40.7	62.5	48.7	52.7
	Female	59.3	37.5	51.3	47.3
Age	Under 20	5.3	0.0	7.3	0.0
	20-30	41.3	19.6	26.7	20.0
	31-40	18.7	25.0	20.0	23.6

	41-50	16.0	26.8	9.3	5.5
	51-60	11.3	17.9	20.7	23.6
	Over 61	7.3	10.7	16.0	27.3
Religion	Hinduism	4.0	0.00	2.0	0.0
	Buddhism	61.3	17.86	74.7	27.3
	Muslim	21.3	33.93	15.3	30.9
	Christian	10.7	41.07	5.3	41.8
	Other (Please specify).. .....	2.7	7.14	2.7	0.0
Education level	High School	22.7	0.0	42.7	9.1
	Diploma	7.3	10.7	17.3	25.5
	Bachelor's degree	60.0	89.3	36.7	65.5
	Master's degree or above	10.0	0.0	3.3	0.0
Occupation	Student	39.3	0.0	22.0	16.4
	Employees of privately companies	18.7	42.9	26.0	32.7
	Employee of state enterprises	6.0	26.8	9.33	21.8
	Public servant	10.7	5.4	22.67	12.7
	Farmers	2.7	0.0	4.0	0.0
	Commercial	4.7	17.9	0.0	0.0
	Home duties	18.0	7.1	16.0	16.4
Income (Domestic)	Less than 5,000 baht	34.7	-	22.0	-
	5,000-10,000 baht	26.0	-	20.67	-
	10,001-15,000 baht	20.7	-	16.0	-

	15,001-20,000 baht	6.0	-	10.0	-
	20,001-25,000 baht	10.7	-	17.3	-
	Over	2.0	-	14.0	-
Income (International)	30,001-35,000 baht	-	10.7	-	3.6
	35,001-40,000 baht	-	16.1	-	9.1
	410,001-45,000 baht	-	12.5	-	9.1
	Over 45,000 baht	-	60.7	-	78.2
Lengths of stay	1 day	92.0	100.0	68.67	49.1
Tourism information	Newspaper/Magazine	13.3	5.4	8.67	30.9
	Internet/www.	37.3	33.9	50.00	52.7
	Brochures	2.0	25.0	6.67	16.4
	Travel agencies	18.0	35.7	6.67	0.0
	Families/Friends	30.7	0.0	28.00	0.0
The cost of a trip per day	Under 1,000 baht	58.7	0.0	31.33	7.3
	1,001-2,000 baht	22.0	7.1	47.33	14.5
	2,001-3,000 baht	11.3	41.1	16.00	34.5
	3,001-4,000 baht	2.7	44.6	5.33	32.7
	Over 4,000 baht	4.7	7.1	0.00	10.9
	Nature	56.7	57.1	38.0	70.9

The kind of activities do tourist like the most	History	8.7	19.6	23.3	7.3
	Culture	2.7	12.5	26.0	9.1
	Arts and antiquities	4.0	0.0	2.0	0.0
	Livelihoods of local communities	14.7	10.7	10.7	12.7
	Agro-Tourism	13.3	0.0	0.0	0.0

According to the table 7.2, the approved results of tourist's demographic characteristics and behavior among domestic and international tourists is as follows:

#### **7.2.1 Domestic tourists (150 personal)**

Of the 150 responses received in BBR Muslim community, demographic characteristics of domestic tourist is that most tourists were female representing 59.3% and was a higher percentage than male respondents representing 40.7%, and 41.3% were aged between 20-30 years, 61.3 % respondents are Buddhist, 21.3 % Muslim, 10.7% Christian, 4.0 % Hindu and 2.7% others respectively. Indicating that most of the participants has a highest level of education and attained a bachelor's degree at 60.0%, most of the respondents' occupation 39.3% had student status, indicating that most of the respondents have a lower income, they had less than 5,000 baht (150\$) / month at 34.7%. In 2016, the average domestic's length of stay within community was 1- day itinerary at 92.0%, and 37.3% had a source of tourism information from the internet/www., 58.7% had the cost of a trip per day under 1,000 baht (30\$).

Of the 150 responses received in the BTCC Buddhism community, the demographic characteristics of domestic tourists was that most tourists were female representing 51.3 % and was a higher percentage than male respondents representing 48.7 %, 26.7 5% were aged between 20-30 years, 74.7 % respondents are Buddhist, 15.3 % were Muslim, 5.3% were Christian, 2.7 % others and 2.0 % were Hindu respectively. Indicating that most of the participants has a higher level of education attaining a high school diploma at 42.7%, most of the respondents' occupation were 26.0 % employees of private companies, indicating that most of the respondents have



an income between 5,000-10,000 baht (150\$-300\$)/month at 20.67 %. In 2016, the average domestic's length of stay within the community was 1-day itinerary at 68.67 %, and 50.0 % had a source of tourism information from the internet/www., and 34.5 % had the cost of a trip per day at 2,001-3,000 baht (60\$-90\$).

### **7.2.2 International tourists (56 personal)**

Of the 56 responses received in BBR Muslim community, demographic characteristics of international tourists that most tourists were male representing 62.5% of participants and was a higher percentage than female respondents representing 37.5%, and 26.8% were aged between 41-50 years, 41.07% respondents are Christian, 33.93% Muslim, 17.86% Buddhist, and 7.14% others respectively. Indicating that most of the participants has a higher level of education completed 89.3% of bachelor's degree, 10.7% of a high school diploma respectively, most of the respondents' occupation were 42.9% employees of private companies, 26.8% employee of state enterprise respectively, indicating that most of the respondents have income over 45,000 baht (1,350\$) / month at 60.7%. In 2016, the average length of stay within the community of international tourists was 1-day itinerary at 100.0% and, 35.7% had source of tourism information from travel agencies and 33.9% from the internet/www., 44.6% had the cost of a trip per day 3,001-4,000 baht (90\$-120\$) and 2,001-3,000 baht (60\$-90\$) per day representing 41.1%.

Of the 55 responses received in BTCC Buddhism community, demographic characteristics of international tourist that most tourists were male representing 52.7 % of participants and was a higher percentage than female representing 47.3 %, and 27.3 % were aged over 61 years, 41.8% respondents are Christian, 30.9% Muslim, and 27.3% Buddhist respectively. Indicating that the most of participants has a higher level of education completed 65.5 % of a bachelor's degree, 25.5 % of a high school diploma respectively, 32.7 % employees of private companies, 21.8% employee of state enterprise, indicating that most of the respondents have an income over 45,000 baht (1,350\$) /month at 78.2 %. In 2016, the average length of stay within the community of international tourists was 1-day itinerary at 49.1 % and 2-3 days itinerary at 20.0 % respectively, and 52.7% had source of tourism information from the internet/www.,

#### **7.4 Local people and tourists' attitude toward ecotourism attractions potential for sustainable development in BBR Muslim and BTCC Buddhism communities**

Regarding the assessment of ecotourism potential, based on survey respondents which controls completed a comprehensive questionnaire, composed of six- criteria that covers 40 indicators. A total of 726 respondents consisting of three groups; in the case of BBR Muslim community, 361 respondents: 155 local people, 150 domestic tourists, and 56 international tourists. For BTCC Buddhism community, 365 respondents: 160 local people, 150 domestic tourists, and 55 international tourists. I was interested comparing the mean value using F- statistics to test the overall significance level and use percentage to compare different between two value show in Table 7.3.

**Table 7. 3 Analyses summary of mean important rating on assessment of ecotourism attractions between BBR Muslim and BTCC Buddhism community amongst 3 groups**

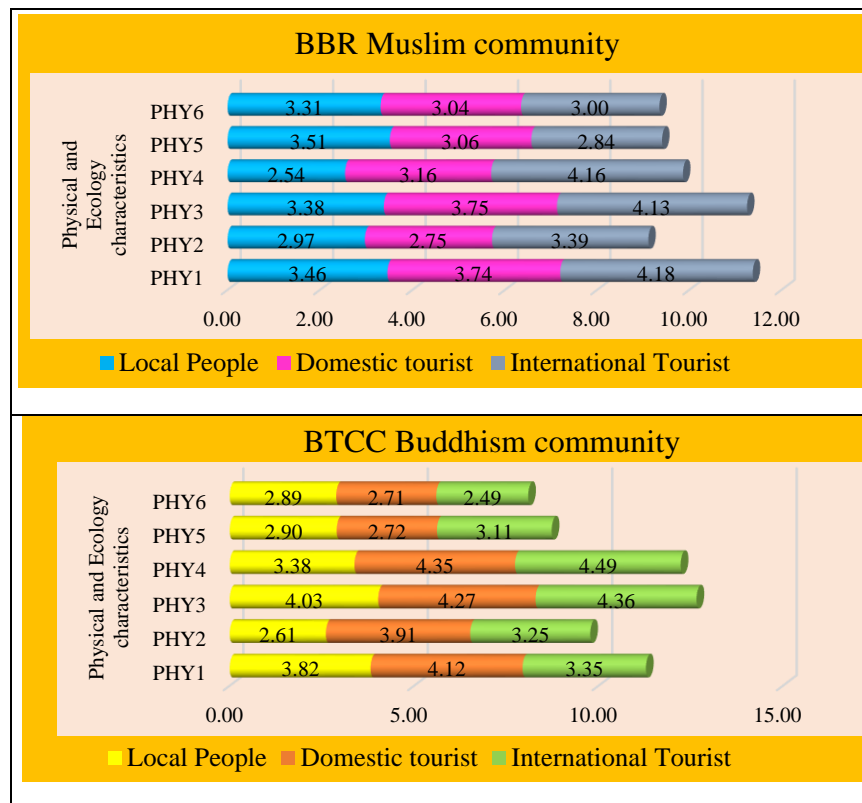
Criteria	BBR Muslim community				Interpretation	BTCC Buddhism community				Interpretation
	Local people (N=155)	Domestic tourist (N=150)	International tourist (N=56)	Sum-mean		Local people (N=160)	Domestic tourist (N=150)	International tourist (N=55)	Sum-mean	
	Mean	Mean	Mean	N=361		Mean	Mean	Mean	N=365	
Physical and Ecology characteristics	3.20	3.25	3.62	<b>3.36</b>	Moderate	3.27	3.68	3.51	<b>3.49</b>	High
Ecosystem management in tourism attraction	3.54	3.76	3.51	<b>3.60</b>	High	2.77	3.51	3.68	<b>3.32</b>	Moderate
Value and important of tourism attraction	3.35	3.75	4.10	<b>3.73</b>	High	3.34	4.01	3.94	<b>3.76</b>	High
Education	2.92	3.82	3.77	<b>3.51</b>	High	2.65	3.45	3.33	<b>3.14</b>	Moderate
Management	4.00	3.53	3.67	<b>3.73</b>	High	3.07	3.57	3.56	<b>3.40</b>	Moderate
Participation in conservation	3.84	3.55	3.36	<b>3.58</b>	High	3.37	2.58	3.95	<b>3.30</b>	Moderate
<b>Overall assessment</b>	<b>3.48</b>	<b>3.61</b>	<b>3.67</b>	<b>3.59</b>	<b>High</b>	<b>3.08</b>	<b>3.47</b>	<b>3.66</b>	<b>3.40</b>	<b>Moderate</b>

Source: Own survey (interviews were conducted with local people on November 2013 to February 2014 in the BBR Muslim community and November to December 2016 in the BTCC Buddhism community and interviews with tourists on December- March, 2016)

Note: The level of potential interpretation that 1.00-1.180 were “Lowest”, 1.81-2.60 were “Low”, 2.61-3.40 were “Moderate”, 3.41-4.20 were “High”, and 4.21-5.00 were “Highest” adapted from Munglun (Munglun, 2011) that criteria of evaluation are determined “Lowest-Moderate” should be improvement planned and “High-Highest” should support planned.

According to the table 7.3 shows the results summarized, the approved results of local people and tourists' attitude toward ecotourism attractions potential for sustainable development in BBR Muslim and BTCC Buddhism communities are as follow:

#### 7.4.1 Physical and Ecology characteristics



**Figure 7. 11 Physical and Ecology characteristics**

According to Figure 7.11, in the case of the BBR Muslim community, the finding was that local people's perceptions show a moderate level of physical and ecology characteristics factors ( $M=3.20$ ), indicate that the score mean value of indicators PHY2( $M=2.97$ ), PHY3 ( $M=3.38$ ), PHY4 ( $M=2.54$ ) and PHY6 ( $M=3.31$ ) were a low-moderate level, likewise domestic tourist's perceptions shows a moderate level ( $M=3.25$ ), indicate that the score mean value of indicators PHY2( $M=2.75$ ), PHY4 ( $M=3.16$ ), PHY5( $M=3.06$ ) and PHY6 ( $M=3.04$ ) were a low-moderate level, in contrast

between international tourist's perception show high level (M=3.62), indicate that the score mean value of indicators PHY1 (M=4.18), PHY2 (M=3.39), PHY3 (M=4.13), and PHY4 (M=16) were a high level.

In the BTCC Buddhism community, the finding was that domestic tourist's perceptions show a high level of physical and ecology characteristics factors (M=3.68), indicate that the score mean value of indicators PHY1(M=4.12), PHY2(M=3.91), PHY3(M=4.27), and PHY4(M= 4.35) were a high-highest level, likewise international tourist's perception in this factor (M=3.51) show a high level, indicate that the score mean value of indicators PHY3 (M=4.36), and PHY4 (M=4.49)were a high-highest level, in contrast local people's perception in this factor (M=3.27) show a moderate level, indicate that the score mean value of indicators PHY2(M=2.61), PHY4 (M=3.38), PHY5(M=2.90) and PHY6 (M=2.89) were a moderate level.

**Table 7. 3 Summary comparison of BBR Muslim and BTCC Buddhism communities in physical and ecology characteristics using F-test**

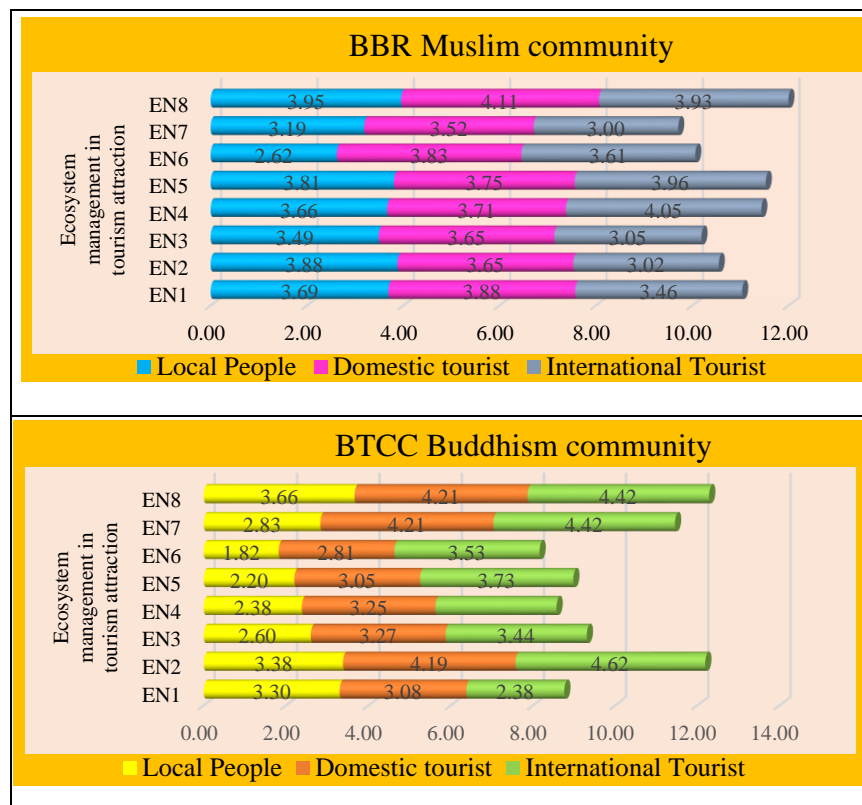
Communities	Physical and Ecology characteristics						
	Local People (Mean)	Domestic tourist (Mean)	International Tourist (Mean)	df	F	P-Value (Single Factors)	F- Critical
BBR Muslim	3.20	3.25	3.62	17	1.3752	0.2829	3.6823
BTCC Buddhism	3.27	3.68	3.51	17	0.5127	0.609	3.6823

Note: If F value is larger than F critical ( $F_{critical} < F_{value}$ ), show that reject the null hypothesis, where, hypothesis is  $H_0 = \mu_a = \mu_b = \mu_c$ , also consider the P-value is less than alpha ( $p < 0.05$ )

Overall result of the BBR Muslim community, found that respondents among local people, domestic and international tourists' perceptions in physical and ecology characteristics that there's no significant difference indicate that accept hypothesis ( $F_{critical} (3.6823) > F_{value} (1.3752)$ ,  $p > 0.05$ ). Similarly, BTCC Buddhism community, found that there's no significant difference indicate that accept hypothesis ( $F_{critical} (3.6823) > F_{value} (0.5127)$ ,  $p > 0.05$ ). Interpretation of the results between local people, domestic and international tourists' perceptions in physical and

ecology characteristics are not different in both communities. Additionally, overall assessment of both communities shows that moderate potential on physical and ecology characteristics show in Table 7.3.

#### 7.4.2 Ecosystems management in tourism attraction



**Figure 7.12 Ecosystems management in tourism attractions**

According to Figure 7.12, in the case of the BBR Muslim community, the finding was that local people's perceptions show a high level of ecosystems management in tourism attractions factors ( $M=3.54$ ), indicate that the score mean value of indicators EN1 ( $M=3.69$ ), EN2( $M=3.88$ ), EN3 ( $M=3.49$ ), EN4 ( $M=3.66$ ), EN5( $M=3.81$ ), and EN8 ( $M=3.95$ ) were a high level, for instance approximately 36.13 % of their perceptions toward forest and mangrove management (indicators EN8) that are highest mean value, likewise domestic tourist's perceptions show a high level ( $M=3.76$ ), indicate that the score mean value all of indicators show a high level, approximately 41.33% of their perceptions toward forest and mangrove management

(indicators EN8) have the highest level(M= 4.11). Similarly, international tourist's perception shows a high level (M=3.51), indicates that the score means value of indicators EN1 (M=3.46), EN4 (M=4.05), EN5 (M=3.96), EN6 (M=3.61) and EN8 (M=3.93) were a high level.

In the BTCC Buddhism community, the finding was that international tourist's perceptions show a high level of ecosystems management in tourism attractions factors (M=3.68), indicate that the score mean value of indicators EN2(M=4.62), EN3 (M=3.44), EN5 (M=3.73), EN6 (M=3.53), EN7 (M=4.42) and EN8(M= 4.42) were at a high-highest level, for instance, approximately 54.55% of theirs perceptions toward forest and mangrove management (indicators EN8) that are highest mean value and 50.91% theirs perceptions that high potential of local energy management relate to consumption of energy from all of sources, applying energy saving policy and renewable resources (indicators EN7), likewise domestic tourist's perception in this factor (M=3.51) show a high level, indicate that the score mean value of indicators EN2 (M=4.19), EN7 (M=4.21) and EN8 (M=4.21) were at a high-highest level, in contrast local people's perception in this factor (M=2.77) show a moderate level, indicate that the score mean value of indicators EN1 (M=3.30), EN2 (M= 3.38), EN3 (M=2.60), EN4 (M=2.38), EN5(M=2.20), EN6 (M=1.82) and EN7 (M=2.83) were at a low-moderate level, for instance, lowest mean value was indicator EN6, approximately 46.25% of theirs perceptions toward water availability and conservation that are the lowest level, including 33.75% of theirs perceptions toward wastewater management that are low level.

**Table 7. 4 Summary comparison of BBR Muslim and BTCC Buddhism communities in ecosystems management in tourism attractions using F-test**

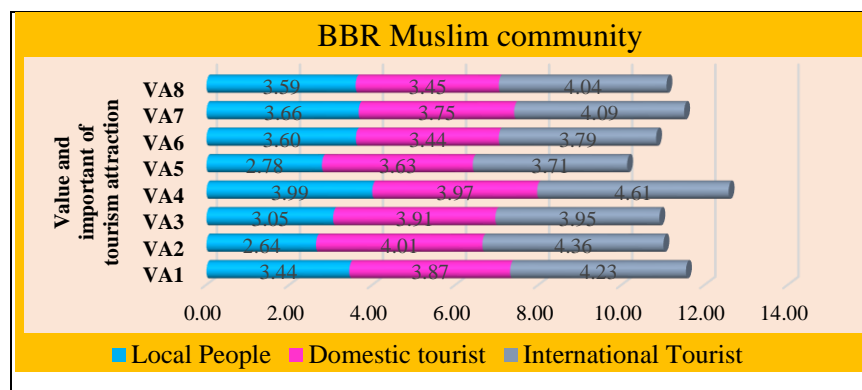
Communities	Ecosystems management in tourism attractions						
	Local People (Mean)	Domestic tourist (Mean)	International Tourist (Mean)	df	F	P-Value (Single Factors)	F- Critical
BBR Muslim	3.54	3.76	3.51	23	1.0862	0.3557	3.4668
BTCC Buddhism	2.77	3.51	3.68	23	4.1078	0.0312	3.4668

Note: If F value is larger than F critical ( $F_{\text{critical}} < F_{\text{value}}$ ), show that reject the null hypothesis where, hypothesis is  $H_0 = \mu_a = \mu_b = \mu_c$ , also consider the P-value is less than alpha ( $p < 0.05$ )

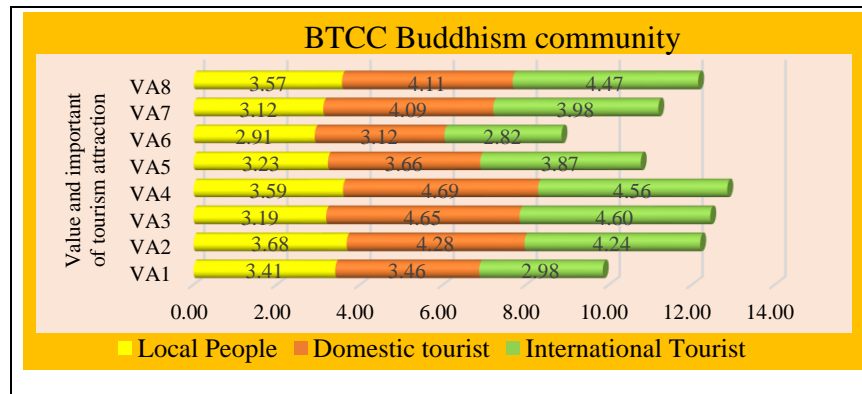
Overall results of the BBR Muslim community, found that respondents among local people, domestic and international tourists' perceptions in ecosystems management in tourism attractions that there's no significant difference indicate that accept hypothesis ( $F_{\text{critical}} (3.4668) > F_{\text{value}} (1.0862)$ ,  $p > 0.05$ ). Interpretation of the results between local people, domestic and international tourists' perceptions in ecosystems management in tourism attractions that are not different in BBR Muslim community. In contrast, between BTCC Buddhism community, found that respondents among local people, domestic and international tourists' perceptions in ecosystems management in tourism attractions that there's significant difference indicates that reject the null hypothesis ( $F_{\text{critical}} (3.4668) < F_{\text{value}} (4.1078)$ ,  $p < 0.05$ ), interpretation of the results between local people, domestic and international tourists were different.

Overall assessment of ecosystems management in tourism attractions found that high potential in BBR Muslim community, and found that differences between BTCC Buddhism communities that show moderate potential on ecosystems management in tourism attractions show in Table 7.4.

### 7.4.3 Value and important of tourism attraction







**Figure 7. 13 Value and importance of tourism attraction**

According to Figure 7.13, in the case of the BBR Muslim community, the finding was that local people's perceptions show a moderate level on value and importance of tourism attractions indicate that the score mean value of indicators variables associated were moderate, there are VA2(M=2.64),VA3(M=3.05) and VA5(M=2.78), especially, local people's perception that the landscape of ecotourism attractions have low potential, contrast between domestic and international tourist, finding that the both domestic and international tourist's perceptions show high level on value and important of tourism attractions indicate that the score mean value of indicators were high-highest, approximately 36.67% of domestic tourist's perception toward the landscape of ecotourism attractions have high-highest potential (M= 4.1), while approximately 44.64 % of international tourist's perception toward the fishery way of life have highest potential that show mean value at 4.60.

In BTCC Buddhism community, the finding was that domestic tourist's perceptions show high level on the value and important of tourism attractions indicate that the score mean value of indicators variables associated were high-highest, there are VA1(M= 3.46),VA2 (M=4.28),VA3 (M=4.65),VA4 (M=4.69), VA5 (M=4.66), VA7 (M= 4.09) andVA8 (M=4.11), especially, measurement show that Buddhist of uniqueness and distinctive culture (indicators VA4) have highest mean value, approximately 40.0% of domestic tourist's perceptions toward Buddhist of uniqueness and distinctive culture have high potential level, likewise, international tourist's perceptions on the value and important of tourism attractions show high level, measurement show that highest mean value is indicators VA3 (M=4.60), approximately

63.64% of international tourist's perceptions toward fishery way of life (indicators VA3) have highest potential. In contrast, between local people's perceptions show moderate level on the value and important of tourism attraction, measurement show that highest mean value was indicators VA2 (M=3.68%), approximately 38.13% of local people's perceptions toward the landscape of ecotourism attractions (indicators VA2) have high potential.

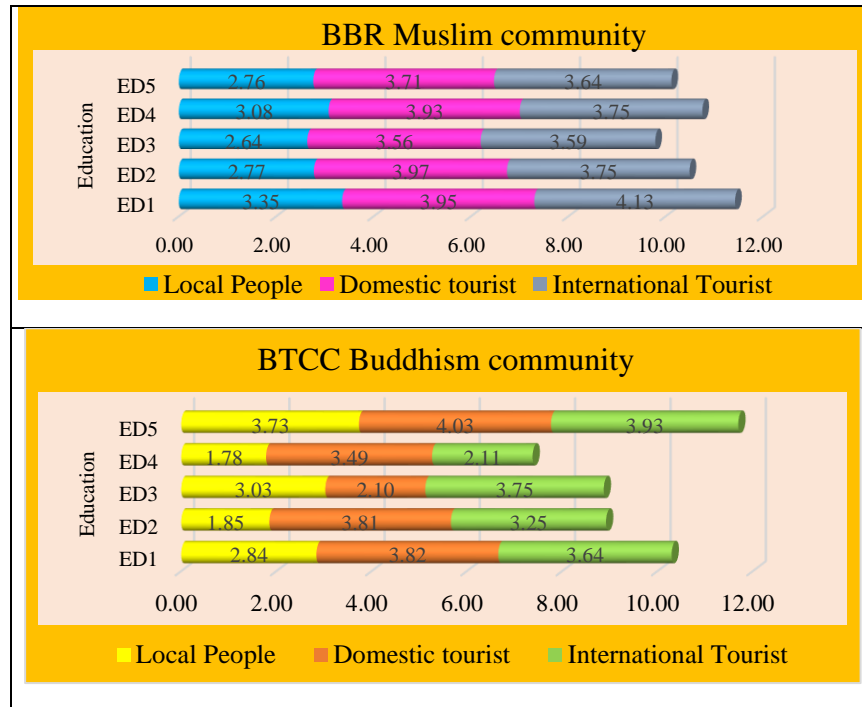
**Table 7. 5 Summary comparison of BBR Muslim and BTCC Buddhism communities in value and important of tourism attractions using F-test**

Communities	Value and important of tourism attraction						
	Local People (Mean)	Domestic tourist (Mean)	International Tourist (Mean)	df	F	P-Value (Single Factors)	F-Critical
BBR Muslim	3.35	3.75	4.10	23	9.3638	0.0012	3.4668
BTCC Buddhism	3.34	4.01	3.94	23	3.7711	0.0399	3.4668

Note: If F value is larger than F critical ( $F_{critical} < F_{value}$ ), show that reject the null hypothesis where, hypothesis is  $H_0 = \mu_a = \mu_b = \mu_c$ , also consider the P-value is less than alpha ( $p < 0.05$ )

Overall results of BBR Muslim community, found that respondents among local people, domestic and international tourists' perceptions in value and the importance of tourism attractions that there's significant difference indicates that reject the null hypothesis ( $F_{critical} (3.4668) < F_{value} (9.3638)$ ,  $p < 0.05$ ). Similarly, between BTCC Buddhism community, found that respondents among local people, domestic and international tourists' perceptions in value and important of tourism attraction that there's significant differences indicate that reject the null hypothesis ( $F_{critical} (3.4668) < F_{value} (3.7711)$ ,  $p < 0.05$ ). Interpretation of the results between local people, domestic and international tourists' perceptions in value and important of tourism attractions that are different in the both communities. Additionally, overall assessment of the both communities found that high potential of value and important of tourism attractions show in Table 7.5.

#### 7.4.4 Education



**Figure 7. 14 Education**

According to Figure 7.14, in the case of the BBR Muslim community, the finding was that local people's perceptions toward local people of tourism education have moderate potential indicate that the score mean value of indicators variables associated were moderate, there are ED1(M=3.35), ED2 (M=2.77), ED3 (M=2.64), ED4 (M=3.08) and ED5(M=2.76), measurement show that lowest mean value is indicator ED3, approximately 32.90 % of local people's perception toward environmental compliance such as environment laws, regulations, and standards (indicator ED3) have moderate level, contrast between domestic and international tourist found that their perception toward local people of tourism education have high potential, measurement show that highest mean value of indicators are ED2 (M=3.97) and ED1(M=4.13), approximately 54.0% of domestic tourist's perception toward knowledge of local people in ecotourism management have a high level, and approximately 55.36 % of international tourist's perception toward knowledge of local people in environment conservation have a high level.

In BTCC Buddhism community, finding that local people, and international tourist's perception toward local people of tourism education have moderate potential, measurement show that lowest mean value is indicator ED4 (M=1.78), approximately 47.50% of local people's perceptions toward knowledge of local people in tourism hospitality operations management such as skills, and communication have the lowest level, approximately 32.73% of international tourist's perceptions toward knowledge of local people in tourism hospitality operations management have the lowest level (M=2.11), contrast between domestic found that that their perception toward local people of tourism education have high potential, measurement show that highest mean value of indicators is ED5 (M=4.03), approximately 42.0% of domestic tourist's perception toward local people of environmental conscious have a high level.

**Table 7. 6 Summary comparison of BBR Muslim and BTCC Buddhism communities in education using F-test**

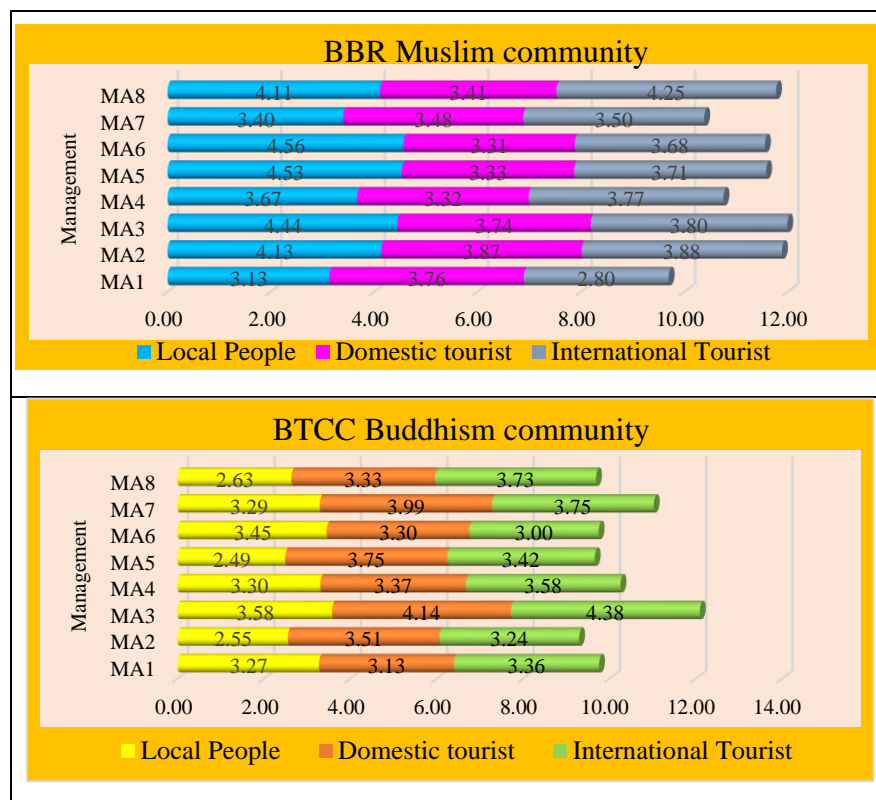
			Education				
Communities	Local People (Mean)	Domestic tourist (Mean)	International (Mean)	df	F	P-Value (Single Factors)	F-Critical
BBR Muslim	2.92	3.82	3.77	14	23.9188	0.0001	3.8853
BTCC Buddhism	2.65	3.07	3.33	14	1.5607	0.2498	3.8853

Note: If F value is larger than F critical (F critical < F value), show that reject the null hypothesis where, hypothesis is  $H_0 = \mu_a = \mu_b = \mu_c$ , also consider the P-value is less than alpha ( $p < 0.05$ )

Overall results of BBR Muslim community, found that respondents among local people, domestic and international tourists' perceptions in education factor that there's significant difference indicates that reject the null hypothesis (F critical (3.8853) < F value (23.9188),  $p < 0.05$ ), interpretation of the results between local people, domestic and international tourists are different. In contrast, between BTCC Buddhism community, found that respondents among local people, domestic and international tourists' perceptions in education that there's no significant difference indicates that accept hypothesis (F critical (3.8853) > F value (1.5607),  $p > 0.05$ ), interpretation of

the results between local people, domestic and international tourists were not different. Overall assessment of education between two communities are different, found that high potential of education in BBR Muslim community, but show moderate potential of education in BTCC Buddhism community show in Table 7.6.

#### 7.4.5 Management



**Figure 7. 15 Management**

According to Figure 7.15, in the case of the BBR Muslim community, the finding was that local people, domestic and international tourist's perception toward management of ecotourism have a high level, measurement show that highest mean value of indicators is MA6 (M=4.56), approximately 56.13%% of local people's perceptions toward community have strictly Islamic spirituality and religious tradition of regulations have the highest level, likewise between international tourist' s perception, measurement show that highest mean value of indicators is MA 8 (M=4.25), approximately 53.57%of international tourist's perceptions toward community of

networking ecotourism in other village have a high level, including domestic tourist's perceptions toward management of ecotourism show highest mean value of indicators MA2 (M=3.87), approximately 39.33% of domestic tourist's perceptions toward spirituality and religious tradition tourism management show a moderate level.

In the BTCC Buddhism community, the finding was that domestic and international tourist's perception toward management of ecotourism have a high level, measurement show that highest mean value of indicators is MA3 (M= 4.38), approximately 56.36% of international tourist people's perceptions toward protecting cultural heritage values such as interpretation, renovation or restorations of Buddhist culture and Moken tribe of culture show the highest level, likewise between domestic tourist's perception, measurement show that highest mean value of indicators is MA3 (M=4.14), approximately 40.0% of domestic tourist's perceptions toward protecting cultural heritage values such as interpretation, renovation or restorations of Buddhist culture and Moken tribe of culture show a high level. In contrast, approximately 40.63% of local people (M=3.85) perceptions toward protecting cultural heritage values such as interpretation, renovation or restorations of Buddhist culture and Moken tribe of culture show a moderate level.

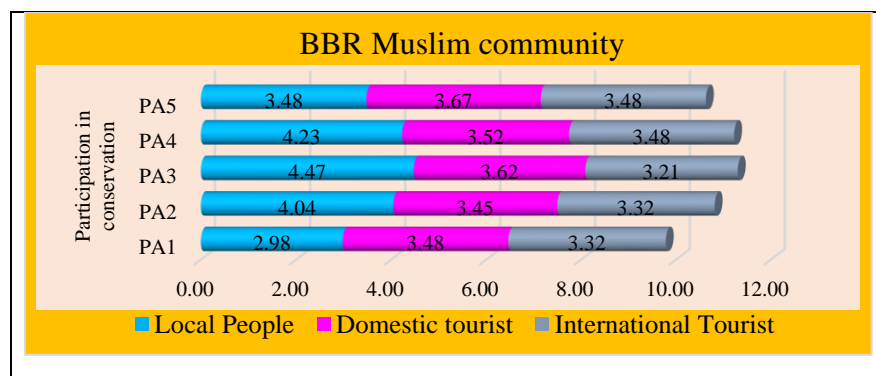
**Table 7. 7 Summary comparison of BBR Muslim and BTCC Buddhism communities in management using F-test**

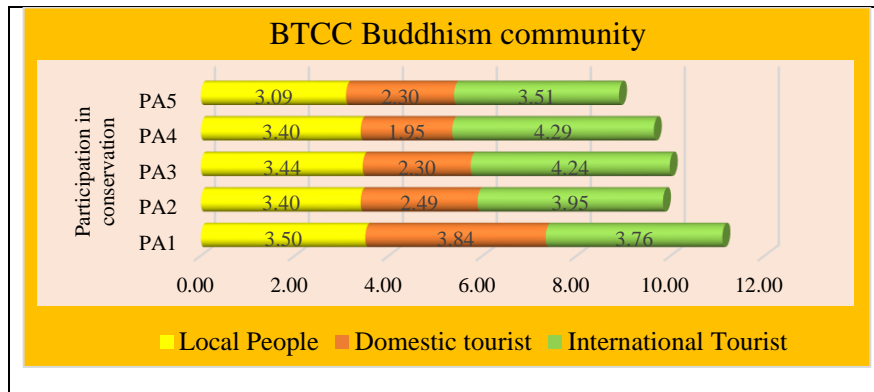
	Management						
Communities	Local People (Mean)	Domestic tourist (Mean)	International (Mean)	df	F	P-Value (Single Factors)	F-Critical
BBR Muslim	4.00	3.53	3.67	23	2.6650	0.0930	3.4668
BTCC Buddhism	3.07	3.57	3.56	23	3.9226	0.0356	3.4668

Note: If F value is larger than F critical (F critical < F value), show that reject the null hypothesis where, hypothesis is  $H_0 = \mu_a = \mu_b = \mu_c$ , also consider the P-value is less than alpha ( $p < 0.05$ )

Overall results of BBR Muslim community, found that respondents among local people, domestic and international tourists' perceptions in management that there's no significant difference indicates that accept hypothesis (F critical (3.4668) > F value (2.6650),  $p > 0.05$ ), interpretation of the results between local people, domestic and international tourists' perceptions in management that are not different. In contrast, between BTCC Buddhism community, found that respondents among local people, domestic and international tourists' perceptions in management that there's significant difference indicates that accept hypothesis (F critical (3.4668) < F value (3.9226),  $p < 0.05$ ), interpretation of the results between local people, domestic and international tourists' perceptions in management that are different. Additionally, overall assessment of management in the both communities that are different, found that high potential of education in BBR Muslim community, but show moderate potential of education in BTCC Buddhism community show in Table 7.7.

#### 7.4.6 Participation in conservation





**Figure 7. 16 Participation in conservation**

According to Figure 7.16, in the case of the BBR Muslim community, the finding was that local peoples' perception toward participation in conservation have a high level, measurement show that highest mean value of indicators PA3(M=3.67), approximately 56.13% of local peoples' perception toward participation in culture conservation have the highest level. In contrast, between local peoples' perception toward participation in conservation have moderate level, measurement show that highest mean value of indicators PA3 (M=4.12), approximately 39.35% of local people's perception toward participation in culture conservation show a high level. Similarity, international tourists' perception toward tourist participation in ecotourism attractions protection have a moderate level, measurement show that highest mean value of indicators PA4 (M=3.48) and PA5(M=3.48), approximately 53.57 % of international tourists' perception toward tourist participation in ecotourism attractions show a high level.

In the BTCC Buddhism community, finding that domestic and international tourist's perception toward participation in conservation have a high level, measurement show that highest mean value of indicators is PA4 (M=4.29), approximately 52.73% of international tourist's perception toward participation in environment protection show a high level, likewise, domestic tourists' perception toward participation in conservation have a high level, measurement show that highest mean value of indicators is PA1 (M=3.84), approximately 36.0% of domestic tourists' perception toward local people participation in land conservation show high level. In



contrast, between local people's perception toward participation in conservation have moderate level, approximately 34.38% of local people's perception toward local people participation in land conservation show a high level.

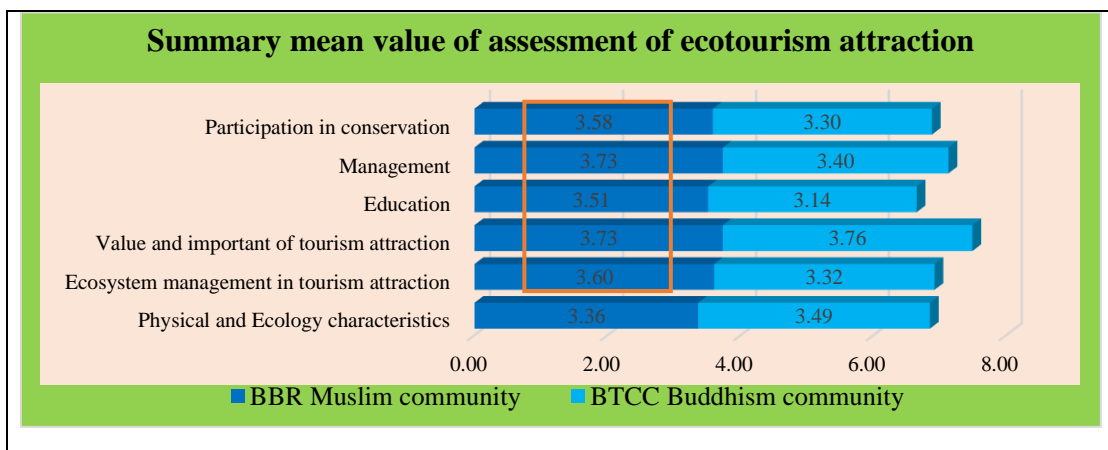
**Table 7. 8 Summary comparison of BBR Muslim and BTCC Buddhism communities in participation in conservation using F-test**

Communities	Participation in conservation						
	Local People (Mean)	Domestic tourist (Mean)	International Tourist (Mean)	df	F	P-Value (Single Factors)	F-Critical
BBR Muslim	3.84	3.55	3.36	14	2.2533	0.1476	3.8853
BTCC Buddhism	3.43	4.07	4.19	14	10.6266	0.0022	3.8853

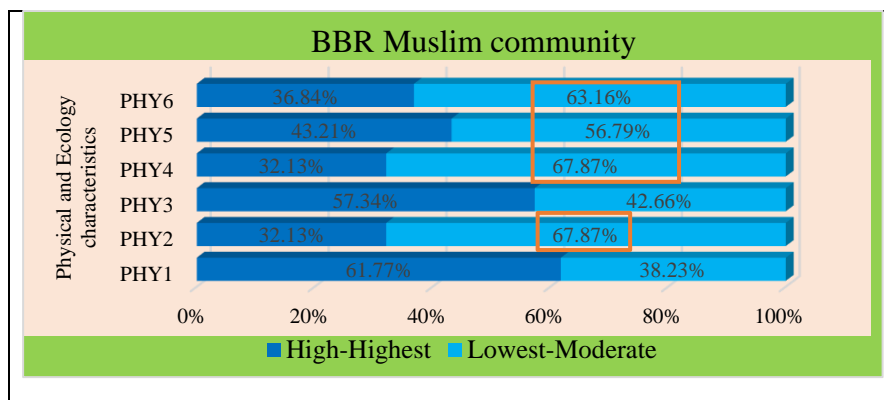
Note: If F value is larger than F critical (F critical < F value), show that reject the null hypothesis where, hypothesis is  $H_0 = \mu_a = \mu_b = \mu_c$ , also consider the P-value is less than alpha ( $p < 0.05$ )

Overall results of BBR Muslim community, found that respondents among local people, domestic and international tourists' perceptions in participation in conservation that there's no significant difference indicates that accept hypothesis (F critical (3.8853) > F value (2.2533),  $p > 0.05$ ), interpretation of the results between local people, domestic and international tourists' perceptions in participation in conservation that are not different. In contrast, between BTCC Buddhism community, found that respondents among local people, domestic and international tourists' perceptions in participation in conservation that there's significant difference indicates that reject null hypothesis (F critical (3.8853) < F value (10.6266),  $p < 0.05$ ), interpretation of the results between local people, domestic and international tourists' perceptions in participation in conservation that are different. However, overall assessment of management between two communities are different, found that BBR Muslim has a high potential on participation in conservation that different between BTCC Buddhism community was moderate potential on participation in conservation show in Table 7.8.

Overall assessment of ecotourism attractions, among local people, domestic and international tourists that considered from the mean value all of 6 criteria which 40 comprehensive indicators for assessing ecotourism potential, show that BBR Muslim community of ecotourism attractions have a high potential in accordance with Figure 7.17. However, the condition of potential in criteria of physical and ecology characteristics ( $M=3.36$ ) was a moderate level, indicate that the potential indicators of criteria of evaluation are determined, show that the large percentage of lowest - moderate level show in Figure 7.18, quality of roads which determined from slope, dangerous curve, road surface (indicator PHY2=67.87%), geomorphological formations and soils (indicator PHY 4 = 67.87%), faunal biodiversity (indicator PHY 6=63.16%), and flora biodiversity (indicator PHY 5=56.79%) respectively.

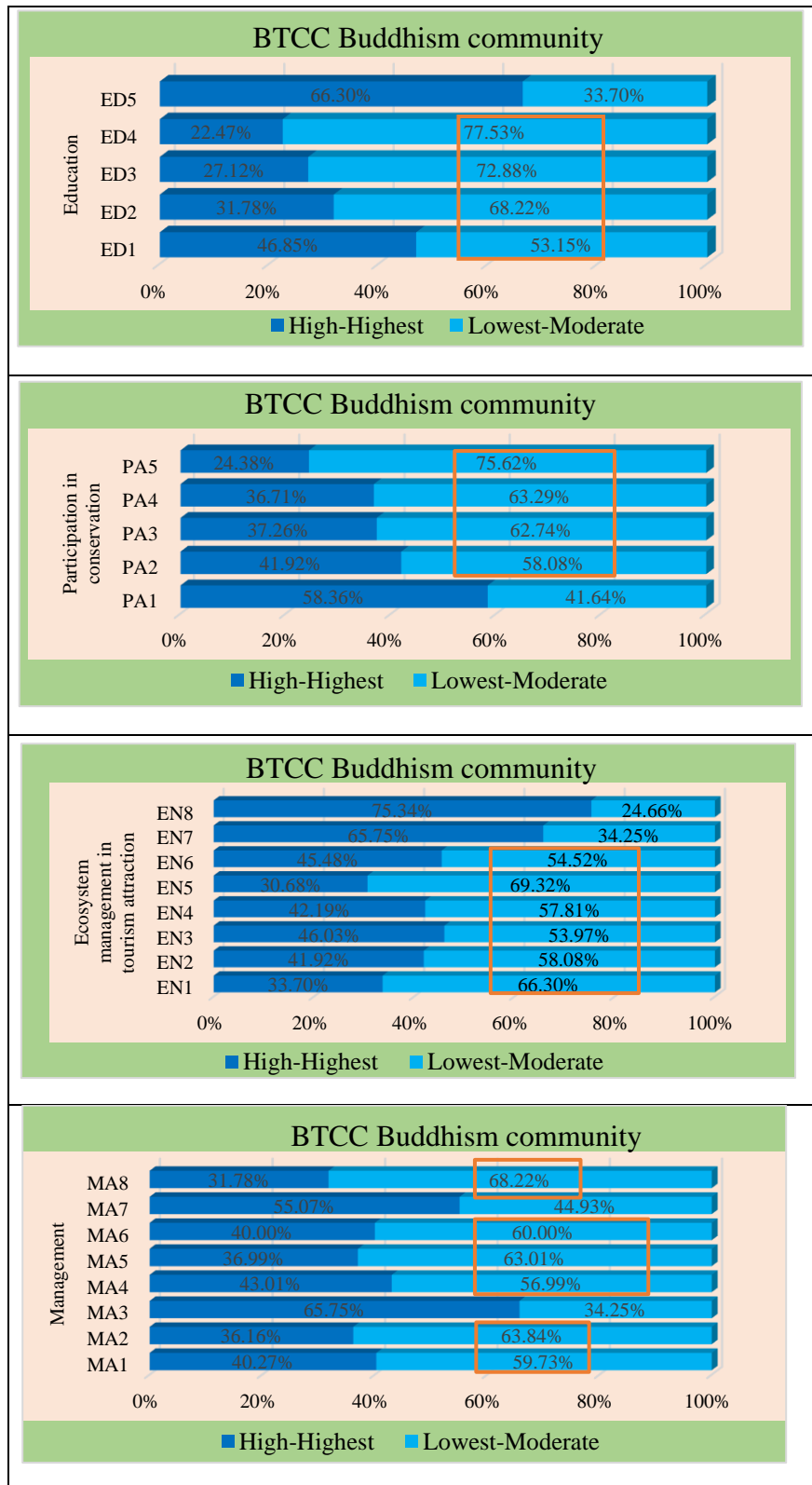


**Figure 7. 17 Summary mean value of assessment of ecotourism attraction**



**Figure 7. 18 The large percentage of condition of potentials in BBR Muslim community**

In contrast between BTCC Buddhism community, finding that ecotourism attractions were a moderate potential indicate some of criteria that was moderate level, there are the condition of potential of education (M=3.14), participation in conservation (M=3.30), and ecosystem management in tourism attractions (M=3.32), and management (M=3.40) respectively that are a moderate level, show that the large percentage of lowest -moderate level show in Figure 7.19. For education of potential, due to indicators variables associated were lowest-moderate, found that the large percentage of lowest-moderate level are knowledge of local people in tourism hospitality operations management such as skills, communication, kindness (indicator ED4= 77.53%), environmental compliance such as environment laws, regulations, standards (indicator ED3=72.88%), knowledge of local people in ecotourism management (indicator ED2=68.22%), and knowledge of local people in environment conservation (indicator ED1=53.15%) respectively. Participation in conservation, due to indicators variables associated were lowest-moderate, found that the large percentage of lowest-moderate level are tourist participation in ecotourism attractions protection (indicator PA5=75.62%), participation in environment protection (indicator PA4=63.29%), participation in culture conservation (indicator PA3=62.74%) and participation in environment rehabilitation (indicator PA2=58.08%) respectively. Ecosystem management in tourism attraction, found that the large percentage of lowest-moderate level are wastewater management (indicator EN5=69.32%), quality of maintaining environment such as protection, maintenance, restoration (indicator EN1=66.30%), air pollution management (indicator EN2=58.08%), solid waste management (indicator EN4=57.81%), water availability and conservation (indicator EN6=54.52%), voice quality management (indicator EN3=53.97%) respectively. Management, found that the large percentage of lowest-moderate level are networking ecotourism with other villages (indicator MA8=68.22%), spirituality and religious tradition tourism management (indicator MA2=63.84%), support spirituality and religious tradition beliefs and practice for human source management (indicator MA5=63.01%), strictly Buddhism spirituality and religious tradition of regulations (indicator MA6= 60.00%), ecotourism marketing management (indicator MA1= 59.73%), and (indicator MA4=56.99%) respectively.



**Figure 7. 19 The large percentage of condition of potentials in BTCC Buddhism community**

## 7.5 Community assessment of potential ecotourism attractions of each activities

**Table 7. 9 Community assessment of potential ecotourism attractions of each activities**

Ecotourism Attraction	Land used		Management		Potentials (Rating scale)		Interpretation Level	
	BBR	BTCC	BBR	BTCC	BBR	BTCC	BBR	BTCC
Cultures and traditions tourism	Legitimate	Legitimate	Yes	Yes	58.33	89.55	Medium	Excellent
Agro-tourism	Legitimate, Illegitimate	Legitimate	Yes	No	67.66	No	Good	No
Mangrove forest tourism	Legitimate, Illegitimate	Legitimate, Illegitimate	Yes	Yes	72.33	75.59	Very good	Very good
Rainforest tourism	Legitimate, Illegitimate	No	Yes	No	85.46	No	Excellent	No
Marine tourism	Legitimate, Illegitimate	Legitimate, Illegitimate	Yes	Yes	48.00	55.99	Low	Medium
Wildlife tourism	Legitimate, Illegitimate	Legitimate, Illegitimate	Yes	Yes	87.00	75.46	Excellent	Very good
Spirituality and religious traditional tourism	Legitimate	Legitimate	Yes	Yes	55.00	65.00	Medium	Good

Source: Own survey

Notes: The level of potential interpretation that less than 50 were low, 51-60 were Medium, 61- 70 were Good, 71-80 were Very good and over 81 were Excellent, adapt from Department of Tourism (Department of Tourism Government of Thailand, 2014)

Analysis result overviews of ecotourism attractions potentials assessment by professionals 5 people, as BBR Muslim community, finding the rainforest tourism (85.46%) and wildlife tourism (87.00%) has excellent potential, mangrove forest trail has very good potential (72.33%), and agro-tourism has a good potential (67.66%). Additionally, the management of spirituality and religious traditional tourism activities has a medium potential (55.00%), and cultures and traditions tourism has a medium potential (58.33%). Unfortunately, marine tourism has a low potential (48.00%) due to the tsunami disaster events, marine tourism attractions has been highly destroyed by mass tourism and large numbers of tourists such as harmful and destruction on the marine life, decimated numerous fish species. Particularly coral reef degradation and fish species, they are affected by tourism activities and fishing practices. The important of coral reefs; coral reefs deliver ecosystem service to tourism, provide habitats and shelter for many marine organisms, through fisheries and shoreline protection, but they are fragile ecosystems and very sensitive to water temperature change (Wikipedia, 2013). In the BTCC Buddhism community, findings were that cultures and traditions tourism (89.55%) has excellent potential, mangrove forest trail (75.59%) and wildlife tourism (75.46%) has very good potential, the management of spirituality and religious traditional tourism activities has good potential (65.00%) and marine tourism (55.99%) has medium potentials. However, the findings were different between the two communities in potential ecotourism attractions of each activities, but lack of agro-tourism and rainforest tourism activities in the BTCC Buddhism community due to limited management and without agricultural land and rainforest areas through lack of networking ecotourism with other villages as mentioned previously. In the BBR Muslim community, concluding that the implementation of land used for tourism activities among stakeholders, appears they were still illegitimate, especially in agro-tourism, mangrove forest tourism, rainforest tourism, marine tourism and wildlife tourism which will have an influence on the ecotourism policy. In the BTCC Buddhism community, the implementation of land used for tourism activities among stakeholders, appears less than that of the BBR Muslim community due to the community being located on the national park and Ratchaphatsadu Land (immovable property and State property) which the ownership shall have duties to lay down policies, land laws,

## **CHAPTER 8**

### **COMPARING MUSLIM COMMUNITY AND BUDDHISM COMMUNITY**

#### **Introduction**

The aim of this chapter is to compare the sustainability of ecotourism indicators based on seven dimensions. Based on the comparative analysis we can allow the knowledge sharing for implementing the sustainability ecotourism management. In the case study based on quantitative research, a total of 315 respondent participated in this study consisting of 155 local people in the BBR Muslim community and 160 in the BTCC Buddhism community. The questionnaire uses a five point of Likert scale. For great responsibility on this study, researchers to engage collaboration with stakeholders and expert information to decision and considered in the selection of indicators for use 74 indicators to measure progress toward building a sustainability of CBED based on residents' perceptions on implementation of sustainable ecotourism management: environment (18 indicators), social (10 indicators), culture heritage (8 indicators), economic (8 indicators), marketing (10 indicators), spirituality and religious traditions (10 indicators) and political (10 indicators), used the Barometer of Sustainability to determine gradations of sustainability (Ko, 2003 ) give a four-point scale which use an interval scale of 1-100, where 1-25% was classified as “unsustainable (bad)”, 26-50% was classified as “potentially unsustainable (poor)”, 51-75% was classified as “potentially sustainable (good)” and 76-100% was classified as “sustainable (excellent)”

Interval scales denoted the indicator mean score between 1 and 5, where 1.0-2.0 denoted unsustainability, 2.1-3.0 denoted potential unsustainability, 3.1-4.0 denoted potential sustainability and 4.1-5.0 denoted sustainability

## 8.1 Sustainability of Community Based Ecotourism post the Impact of Tsunami Disaster

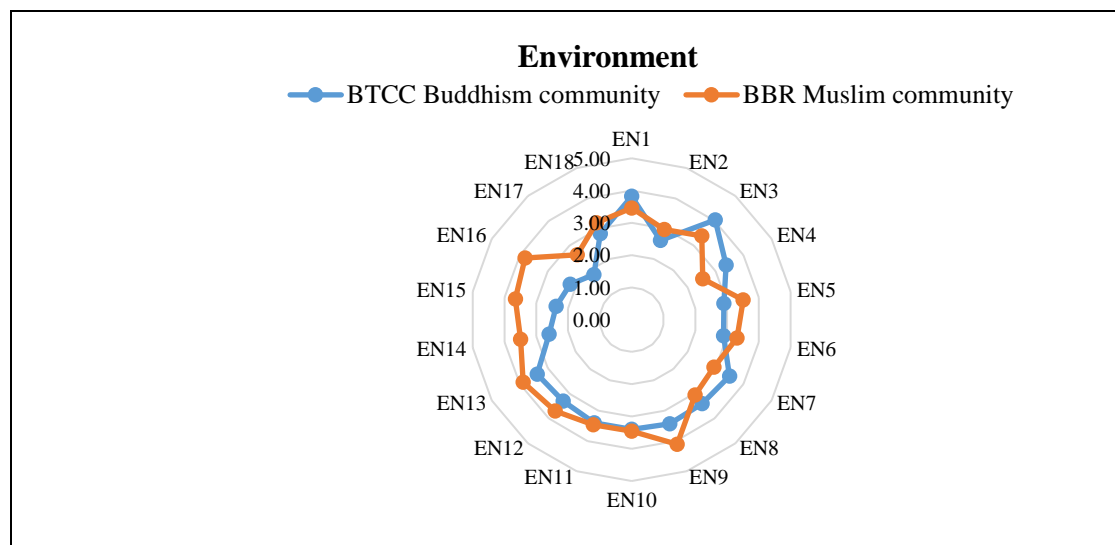
### 8.1.1 Comparative indicators for sustainability of the community-based ecotourism in the implementation of each dimension accordingly

**Table 8. 1 Environment Dimension**

	Indicator	Environment								
		BTCC Buddhism community				BBR Muslim community				
		Mean	Weight	Weighted	Rank	Mean	Weight	Weighted	Rank	p-value
EN1	Existence of management plans for Convenience of access to tourist attractions and basic tourist facilities	3.82	1.72	1.21	17	3.46	1.36	0.84	9	0.000
EN2	Quality improvement plan of the roads transportation	2.61	1.18	0.47	5	2.97	1.17	0.58	4	0.001
EN3	Existence of landscape management plan	4.03	1.82	1.37	18	3.38	1.33	0.79	8	0.000
EN4	Existence of management plans for geomorphological formations and soils	3.38	1.52	0.91	10	2.54	1.00	0.39	1	0.000
EN5	Existence of flora biodiversity management plan	2.90	1.31	0.62	8	3.51	1.38	0.87	13	0.000
EN6	Existence of faunal biodiversity management plan	2.89	1.30	0.61	7	3.31	1.30	0.75	7	0.038
EN7	Local people participation in land conservation	3.50	1.58	0.99	16	2.94	1.15	0.56	3	0.038
EN8	Participation in environment rehabilitation	3.40	1.53	0.92	12	3.05	1.20	0.61	5	0.000
EN9	Participation in culture conservation	3.44	1.55	0.95	15	4.11	1.61	1.26	18	0.004
EN10	Participation in environment protection	3.40	1.53	0.92	12	3.46	1.36	0.84	9	0.000



EN11	Tourist participation in ecotourism attractions protection	3.40	1.53	0.92	12	3.47	1.36	0.84	11	0.039
EN12	Quality of maintaining environment	3.30	1.49	0.86	9	3.69	1.45	0.98	15	0.000
EN13	Voice quality management	3.38	1.52	0.91	10	3.88	1.52	1.10	17	0.000
EN14	Solid waste management	2.60	1.17	0.47	4	3.49	1.37	0.85	12	0.000
EN15	Wastewater management	2.38	1.07	0.37	3	3.66	1.44	0.96	14	0.172
EN16	Water availability and conservation	2.20	0.99	0.30	2	3.81	1.50	1.05	16	0.320
EN17	Energy management	1.82	0.82	0.17	1	2.62	1.03	0.42	2	0.039
EN18	Air pollution management	2.83	1.28	0.58	6	3.19	1.25	0.68	6	0.130



**Figure 8. 1 Environmental dimension**

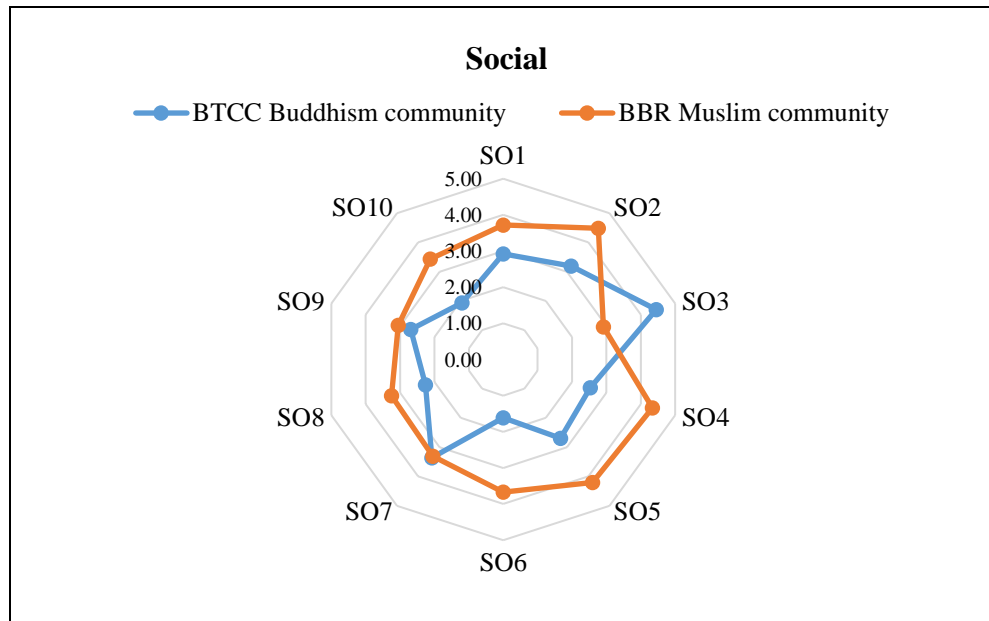
### **Environmental dimension**

In the implementation of CBED in the environmental dimensions, appreciated that BTCC Buddhism community and BBR Muslim community are implementation with moderate level compliance. According to Figure 8.1, the residents of BTCC Buddhism community perceived highest mean score on existence of landscape management plan (4.03). Since most of this area is state property land which the government controls and held a monopoly on the land and natural resources, and enterprises and residents operated under the legal framework of nominally such as minimal number of buildings around nature public areas, height of buildings, golf courses, etc. The residents of BBR Muslim community have met the highest mean score on local people of participation in cultural heritage conservation (4.11) among the majority Muslim people had preserved a strong identity in the village due to strong adherence to the traditional way of life with significantly Islamic regulations and law (Sharia law).

Conversely, the residents of BTCC Buddhism community also perceived lowest mean score on implementation of energy management (1.82). Especially, risks to public water-supply systems related to the deterioration of the drinking water quality in distribution systems and the physical degradation of the energy source in the BTCC Buddhism community that are of greatest concern with substantial differences compared to the residents of BBR Muslim community. The BBR Muslim community perceived lowest mean score on existence of management plans for geomorphological formations and soils (2.54). In the decade before the 2014 the Indian Ocean Earthquake and Tsunami disaster, mangrove swamp has been destroyed due to shrimp farms, reclamation and infrastructural development, also the impact of the tsunami disaster that affected the soil fertility of agricultural lands, and washing away people and livelihoods. Besides, post tsunami recovery is much more difficult to implement the plans, thus require appropriate implementations of management plan for improve and protect soil quality, and mangrove forests restoration and rehabilitation program.

**Table 8. 2 Social Dimension**

	Indicator	Social								
		BTCC Buddhism community				BBR Muslim community				
		Mean	Weight	Weighted	Rank	Mean	Weight	Weighted	Rank	p-value
SO1	Safety management for creating community images	2.92	1.32	0.63	7	3.72	1.46	0.99	7	0.000
SO2	Strictly Islamic spirituality and religious tradition of regulations/ Strictly Buddhism spirituality and religious tradition of regulations management	3.19	1.44	0.79	8	4.48	1.76	1.53	10	0.000
SO3	Control land use in tourist attraction, Adequate housing	4.45	2.01	1.73	10	2.91	1.14	0.55	1	0.000
SO4	Existence of program of spiritual and religious activities with youth	2.53	1.14	0.44	4	4.34	1.71	1.43	9	0.001
SO5	Providing and development knowledge of local people in environment conservation	2.69	1.21	0.51	5	4.21	1.66	1.33	8	0.002
SO6	Trained and development knowledge of local people in ecotourism management	1.61	0.73	0.11	1	3.67	1.44	0.96	6	0.000
SO7	Environmental compliance	3.36	1.51	0.89	9	3.31	1.30	0.75	4	0.326
SO8	Conflict management in tourism	2.26	1.02	0.32	3	3.25	1.28	0.72	3	0.279
SO9	To capture (keep) levels of environmental consciousness existent	2.69	1.21	0.51	6	3.05	1.20	0.62	2	0.000
SO10	Implementation of quality infrastructure development	1.94	0.87	0.20	2	3.43	1.35	0.82	5	0.489



**Figure 8. 2 Social dimension**

### **Social dimension**

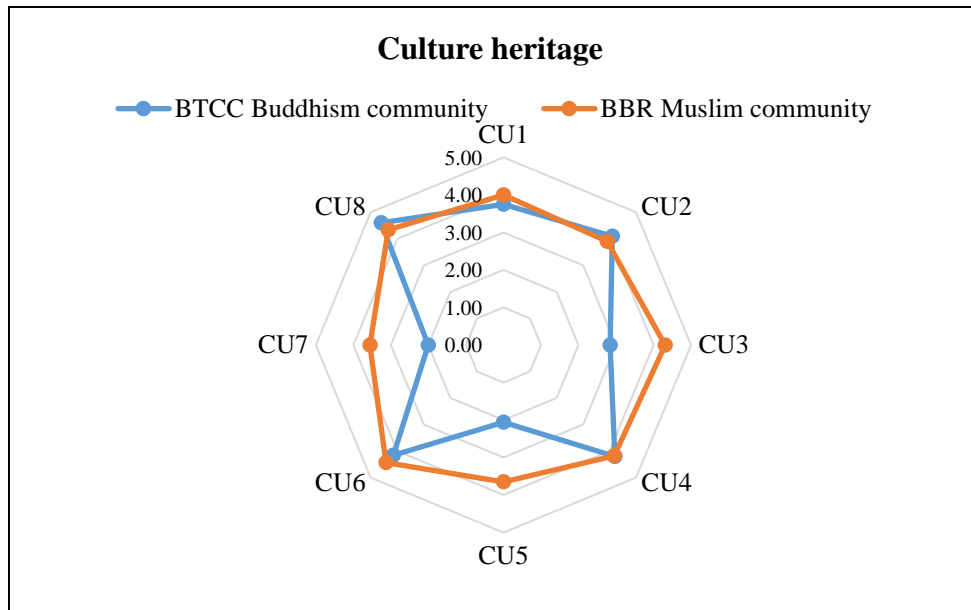
Overall, on comparison of basic descriptive analysis, BBR Muslim community have a higher level of compliance. Different to case in the implementation of social dimension, it is seen that the BTCC Buddhism community have moderate level compliance in this dimension as show Figure 8.2. In the residents of BBR Muslim community perceived highest mean score on strictly Islamic spirituality and religious tradition of regulations and management (4.48) regarding to Muslim hold in Islamic spiritual practice and belief. According, the residents of BTCC Buddhism community perceived highest mean score on implementation of control land use in tourist attractions and adequate housing (4.45).

Conversely, the residents of BBR Muslim community also perceived lowest compliance with land use regulations in tourist attractions due to the development of tourism with substantial differences compared to the residents of the BTCC Buddhism community, although inadequate housing for low-income families as a result of public areas and mangroves encroachment has increased, in case of residents of BTCC Buddhism community perceived lowest compliance with trained and development knowledge of local people in ecotourism management (1.61). Moreover, lack of indigenous people knowledge for biodiversity conservation and tourism management,

which indicated that the community does not always operate for education of indigenous groups.

**Table 8. 3 Culture heritage Dimension**

	Indicator	Culture heritage								
		BTCC Buddhism community				BBR Muslim community				p-value
		Mean	Weight	Weighted	Rank	Mean	Weight	Weighted	Rank	
CU1	Existence of protecting cultural heritage values	3.75	1.69	1.16	4	4.00	1.57	1.18	4	0.000
CU2	Participation in culture conservation	4.10	1.85	1.43	5	3.91	1.54	1.12	3	0.000
CU3	Program of recovery fishery way of life /Traditional agriculture	2.84	1.28	0.59	3	4.31	1.69	1.40	6	0.000
CU4	Existence and Revival program of traditional clothing, music and dance	4.20	1.89	1.52	7	4.18	1.64	1.31	5	0.009
CU5	Conservation of value and management of artistic archaeological, and heritage buildings	2.06	0.93	0.24	2	3.65	1.43	0.95	2	0.000
CU6	Awareness of the existence of inherited Buddhist tradition/ Muslim tradition	4.15	1.87	1.47	6	4.43	1.74	1.49	8	0.000
CU7	Providing and development of local foods and restaurants	2.00	0.90	0.23	1	3.56	1.40	0.90	1	0.023
CU8	Recovery & Implementation of local traditional rituals and festivals	4.61	2.08	1.87	8	4.34	1.71	1.43	7	0.002



**Figure 8. 3 Cultural heritage dimension**

### **Cultural heritage dimension**

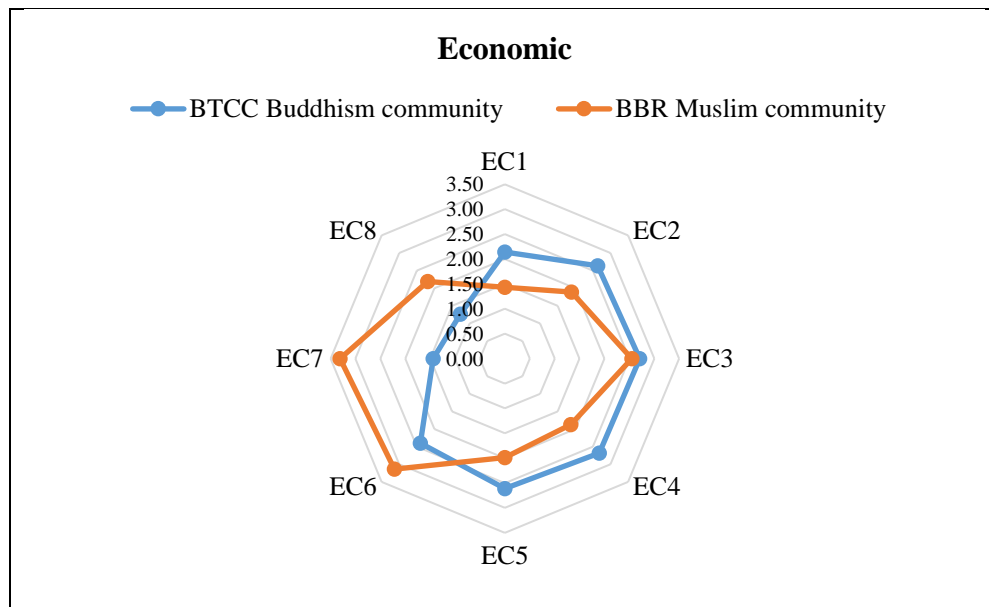
Based on comparative sequence analysis, BTCC Buddhism community and BBR Muslim community has a higher-level compliance in cultural and traditions dimension. In Figure 8.3, the residents of BTCC Buddhism community perceived highest mean score on recovery and implementation of local traditional rituals and festivals (4.61) due to empowering traditional leadership, local citizens and groups such as youth and woman's groups. As for BBR Muslim community, a perceived high mean score on awareness of the existence of inherited Muslim traditions (4.43) such as rituals and the traditional Islamic law of inheritance is passed down from generation to generation. The same community, main institutions, together families, parents and older siblings are strongly encouraged and responsible for transmitting culture.

On the contrary, residents of BTCC Buddhism community perceived lowest mean score of implementations on promote or providing and development of local foods and restaurants (2.00), which this level indicated that much less attention has been given as to who those stakeholders in local foods development.

**Table 8. 4 Economic Dimension**

	Indicator	Economic								
		BTCC Buddhism community				BBR Muslim community				p-value
		Mean	Weight	Weighted	Rank	Mean	Weight	Weighted	Rank	
EC1	Tour operator and tourism activities management	2.14	1.27	0.58	3	1.43	0.56	0.06	1	0.000
EC2	Accommodations service	2.64	1.19	0.49	6	1.89	0.74	0.17	3	0.030
EC3	Restaurant and local product	2.71	1.22	0.52	8	2.55	1.00	0.39	6	0.485
EC4	Transportation and other service	2.68	1.21	0.51	7	1.87	0.74	0.16	2	0.028
EC5	Local culture and heritage	2.61	1.18	0.47	5	1.99	0.78	0.19	4	0.000
EC6	Commercial fishery activity	2.40	1.08	0.38	4	3.14	1.09	0.48	7	0.000
EC7	Commercial agriculture activity	1.44	0.65	0.07	2	3.31	1.01	0.40	8	0.000
EC8	Commercial livestock activity	1.26	0.57	0.04	1	2.19	0.86	0.26	5	0.041





**Figure 8. 4 Economic dimension**

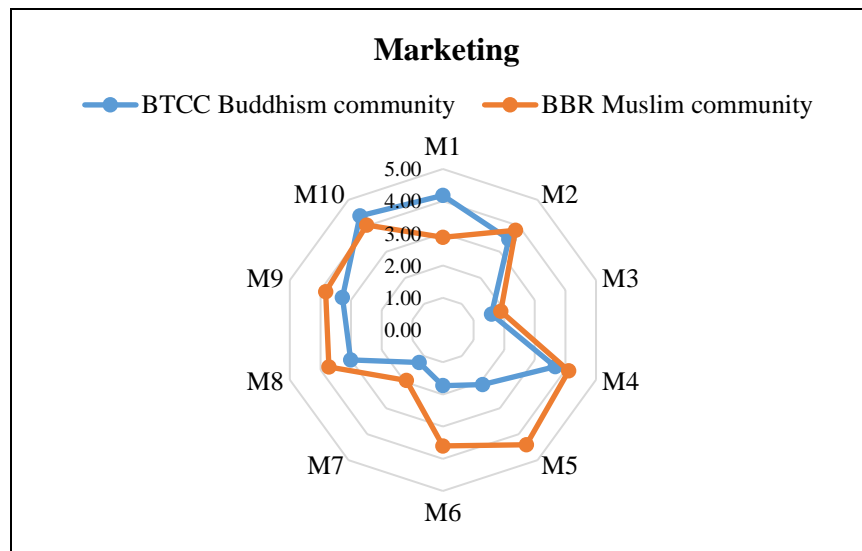
#### **Economic dimension**

Overall, BTCC Buddhism community and BBR Muslim community has a lower level compliance in economic dimension. According to Figure 8.4, the residents of BTCC Buddhism community perceived lowest mean score of implementations on commercial livestock activity (1.26) and implementation on commercial agriculture activity (1.44) due to limited land space to develop expansive farming and all livestock management activities. Moreover, most BTCC Buddhism residents of income from fisheries with substantial differences with BBR Muslim residents. Some of indicators difference, mean score of BBR Muslim community ecotourism management was 1.43, indicated from the minimum number for participant as travel agencies and local tourist guide, including accommodations service management was 1.86, local culture and heritage management was 1.99, indicated that residents do not pay more attention to operator and ecotourism activities management.

Similarly, with economic benefits from ecotourism low income distribution from ecotourism activities in both communities such as implementation on restaurants and local product management that to measure less of number of handicraft workshops, souvenir shops, stores, local food, and price management in tourist destination.

**Table 8. 5 Marketing Dimension**

	Indicator	Marketing								
		BTCC Buddhism community				BBR Muslim community				p-value
		Mean	Weight	Weighted	Rank	Mean	Weight	Weighted	Rank	
M1	Implementation of plan for Ecotourism marketing management	4.18	1.88	1.49	9	2.88	1.13	0.53	3	0.000
M2	Promote CBE management and marketing destinations	3.48	1.57	0.97	7	3.83	1.50	1.06	6	0.274
M3	Community base spirituality and religious tradition tourism management	1.59	0.72	0.11	2	1.89	0.74	0.17	1	0.007
M4	Development of Tourist activities and tourism products to impress tourist	3.67	1.65	1.10	8	4.11	1.61	1.26	9	0.133
M5	Development of local products for sale to tourist	2.09	0.94	0.26	4	4.41	1.73	1.47	10	0.000
M6	Providing and development knowledge, experience and skills of local people in tourism hospitality operations management	1.73	0.78	0.14	3	3.60	1.41	0.92	4	0.191
M7	No. of tourist visitation	1.25	0.56	0.04	1	1.94	0.76	0.18	2	0.000
M8	Preserve the existing value of tourism resources	3.01	1.36	0.68	5	3.72	1.46	1.00	5	0.000
M9	Stakeholders Coordination Management on tourism	3.28	1.48	0.84	6	3.83	1.51	1.07	7	0.000
M10	Existence of Tourism- Services management at fair price	4.38	1.98	1.67	10	4.03	1.58	1.20	8	0.077



**Figure 8. 5 Marketing dimension**

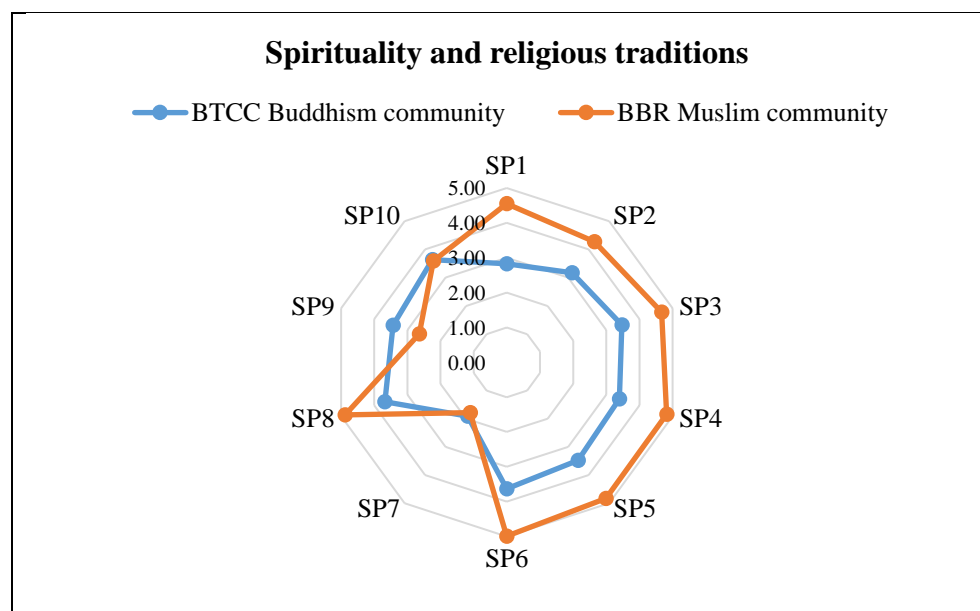
### **Marketing dimension**

According to Figure 8.5, the implementation of marketing dimension, the BBR Muslim community has the higher level of compliance, residents of the BBR Muslim community perceived the highest mean score of the implementation in the development of local products for sales to visitors (4.41). Which is greatly different from the BTCC Buddhism community, while residents of BTCC Buddhism community perceived highest mean score of existence of Tourism- Services management at fair price, paying a fair price for services, hospitality, travel, etc. (4.38). Conversely, BBR Muslim community has the lowest implementation on community base spirituality and religious tradition tourism management, lack of spirituality and religious tradition tourism activities for attractive to the diversity of tourist (1.89). Similarly, residents of the BBR Muslim community perceived lowest number of tourists to visit around the community ecotourism destinations, also most of tourists are specific domestic tourist groups. Moreover, the implementation of plan for ecotourism marketing management was moderate level (2.88).

**Table 8. 6 Spirituality and religious traditions Dimension**

	Spirituality and religious traditions									
	Indicator	BTCC Buddhism community				BBR Muslim community				p-value
		Mean	Weight	Weighted	Rank	Mean	Weight	Weighted	Rank	
SP1	Often adopt your own religious teachings to daily life	2.83	1.28	0.58	2	4.55	1.79	1.59	5	0.000
SP2	Have opportunities to participate in practices of your own religious	3.18	1.43	0.78	3	4.28	1.68	1.38	4	0.000
SP3	Participation in your own evangelism and their faith to children	3.47	1.56	0.97	6	4.67	1.84	1.68	6	0.000
SP4	Supporting spirituality and religious traditional activities to children	3.39	1.53	0.92	4	4.82	1.89	1.81	7	0.000
SP5	Often to foster care, and conscience protection on your own religious and other	3.48	1.57	0.97	7	4.83	1.90	1.81	8	0.000
SP6	Respect the religion and traditional culture of the Buddhism community/ Muslim community	3.63	1.63	1.07	8	4.99	1.96	1.96	10	0.000
SP7	Obtaining equality and justice and encourage local communities to value and benefit from natural and cultural resource	1.91	0.86	0.20	1	1.79	0.70	0.14	1	0.442
SP8	Participate in the preservation and promotion of local traditional culture, historical and religious heritages	3.68	1.66	1.11	10	4.88	1.92	1.86	9	0.000

SP9	Compliance with all of law and land use regulations and zone management	3.43	1.54	0.94	5	2.64	1.04	0.42	2	0.000
SP10	Involved in the care, attention to protecting and rehabilitation the nature resource	3.64	1.64	1.08	9	3.59	1.41	0.91	3	0.229



**Figure 8. 6 Spirituality and religious traditions dimension**

### **Spirituality and religious traditions dimension**

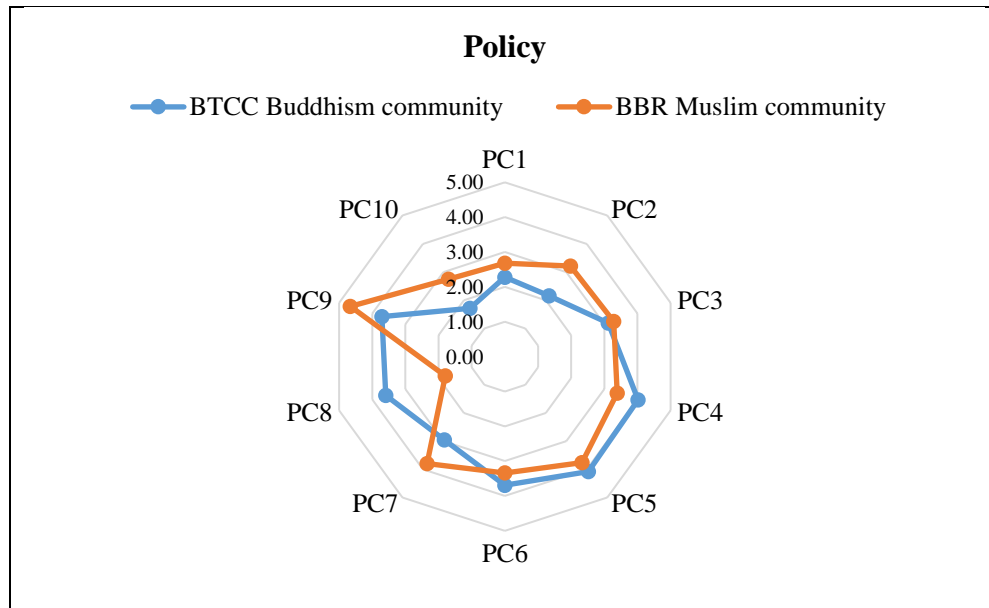
In the practice of spirituality and religious traditions dimensions show as Figure 8.6, BBR Muslim community has the high compliance, residents of BBR Muslim community perceived highest mean score of BBR Muslim community with respect to the religion beliefs and traditional culture (4.99), local community involvement in the preservation and promotion of local traditional culture, historical and religious heritages (4.88), often to foster care, and conscience protection on their own religious and other such as donations, making merits and volunteer, etc. (4.83), supporting spirituality and religious traditional activities for children (4.82), participation in their own evangelism and their faith to children (4.67), often adopt the religious teachings to daily life (4.55), and local people had given away opportunities to participate in practices of religious (4.28) respectively indicates that most Muslim people participation in the practice of local Islamic rule and religious conservatism due to the empowerment of poor and pious and due to strong support among religious conservative groups seeking to develop a greater engagement in sustainable ecotourism of community.

Similarly, residents of BTCC Buddhism community perceived mean score of participate in the preservation and promotion of local traditional culture, historical and religious heritages have highest (3.68) in these dimensions.

However, there were significant difference between the two communities in spirituality and religious traditions dimensions, BTCC Buddhism community has moderate compliance in the practice of spirituality and religious traditions dimensions, it shown the mean value at 3.26 indicates that potential implementation of CBEM is an unsustainable level.

**Table 8. 7 Policy Dimension**

	Indicator	Policy								
		BTCC Buddhism community				BBR Muslim community				p-value
		Mean	Weight	Weighted	Rank	Mean	Weight	Weighted	Rank	
PC1	Restoration flora and fauna project	2.28	1.03	0.33	3	2.68	1.05	0.44	2	0.065
PC2	Management of ecosystem, ecological health and process	2.15	0.97	0.28	2	3.21	1.26	0.70	4	0.023
PC3	Promote education and public awareness	3.12	1.41	0.75	5	3.28	1.29	0.73	5	0.003
PC4	Rehabilitation and conservation of local cultural and historical values	4.02	1.81	1.37	9	3.39	1.33	0.80	7	0.000
PC5	Land use management	4.08	1.84	1.41	10	3.76	1.48	1.02	8	0.378
PC6	Regularly landscape improvements	3.69	1.66	1.12	7	3.34	1.31	0.77	6	0.361
PC7	Conservation of biological diversity and ecosystem	2.95	1.33	0.65	4	3.79	1.49	1.04	9	0.453
PC8	Safety management for local people and tourist	3.59	1.62	1.05	6	1.80	0.71	0.14	1	0.000
PC9	Existence of policy and planning in religious or spirituality sector for enhancing sustainable ecotourism development	3.71	1.67	1.14	8	4.66	1.83	1.67	10	0.000
PC10	Promote investment that support local development	1.71	0.77	0.14	1	2.75	1.08	0.47	3	0.139



**Figure 8. 7 Policy dimension**

### **Policy dimension**

In the practice of the policy dimensions as follow Figure 8.7, showed that both communities are implementing with a moderate level of compliance, residents of the BRM community perceived highest mean score of existence of policy and planning in religious or spirituality sector for enhancing sustainable ecotourism development (4.66). With difference compared to the residents of BTCC Buddhism community perceived highest mean score of implementations on land use management (4.08). Due to community leaders and local authorities to promote rehabilitation and conservation of the environment including controlling space usage for public safety and ecosystem management through the implementation of the housing management plan for poor people in the tsunami affected areas in 2004.

Conversely, residents of the BBR Muslim community perceived lowest mean score for safety management for local people and tourist in ecotourism destination (1.80), residents of BTCC Buddhism community perceived lowest mean score of promoting investment that support local development (1.71). Due to many issues arising in this community such as conflict problem, lack of educations programs for sustainable development investment partnership (SDIP) and is not given appropriate



attention by the authority to support investment in local souvenir shops, local food restaurants, homestays and others services for attractive tourist.

### 8.1.2 Description of each dimension weights for successful sustainability implementation aspects

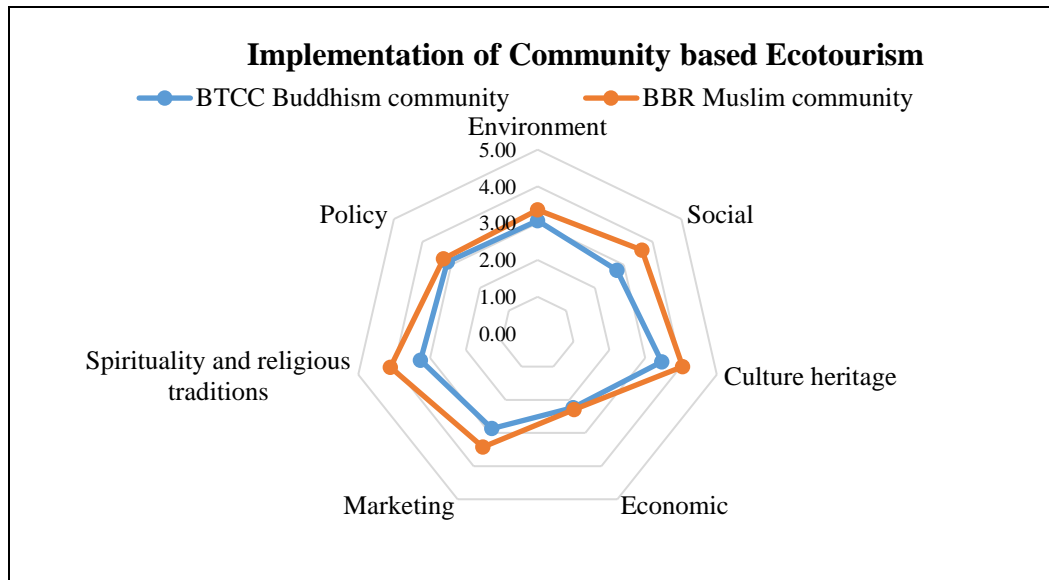
**Table 8. 8 Sustainability achievement of BTCC Buddhism Community in inter-relationship aspects.**

<b>Dimension</b>	<b>Weight (Wi)</b>	<b>Weighted Scores (Yi)</b>	<b>Achievement (%)</b>	<b>Interpretation</b>
Environment	24.93	13.55	54.36	Sustainable
Social	12.46	6.14	49.28	Unsustainable
Cultural Heritage	12.49	8.52	68.17	Sustainable
Economic	8.37	3.06	36.52	Unsustainable
Marketing	12.92	7.31	56.55	Sustainable
Spirituality and religious traditions	14.71	8.61	58.55	Sustainable
Policy	14.11	8.22	58.25	Sustainable
<b>Total</b>	<b>100.00</b>	<b>55.41</b>		

**Table 8. 9 Sustainability achievement of BBR Muslim Community in inter-relationship aspects**

<b>Dimension</b>	<b>Weight (Wi)</b>	<b>Weighted Scores (Yi)</b>	<b>Achievement (%)</b>	<b>Interpretation</b>
Environment	23.78	14.34	60.30	Sustainable
Social	14.29	9.69	67.79	Sustainable
Cultural Heritage	12.73	9.77	76.78	Sustainable
Economic	6.78	2.10	30.99	Unsustainable
Marketing	13.46	8.85	65.79	Sustainable
Spirituality and religious traditions	16.12	13.57	84.14	Sustainable
Policy	12.84	7.79	60.67	Sustainable
<b>Total</b>	<b>100.00</b>	<b>66.11</b>		

### 8.1.3 Implementation of CBE



**Figure 8. 8 Implementation of CBE**

Overall, on comparison of basic descriptive analysis, found that implementation of CBE varied greatly between two communities with respect to their sustainability. In BBR Muslim community, to determine the sustainability of CBED base on seven dimensions showed spirituality and religious dimension, culture and traditions dimension, social dimension, and marketing dimension had sustainable levels. Moreover, Muslim residents perceived highest compliance level in the spirituality and religious dimension indicate that sustainability of Muslim CBEM in this dimension, showed the highest-ranking indicators weight were 16.12% (Table 8.9). For example, Muslim people respect the religion and culture beliefs and traditions including the more local people are paying attention to God or their core religious teaching, beliefs and practices also adapted approaches and tradition that are geared towards environment conservation and often adopt it teachings to daily life. More broadly, sustainability of CBED base on implementation of spirituality and religious aspects was strongly influenced by the involvement of local communities in ecotourism development and support of the community in environment conservation. IUCN: “religious leaders can play a vital role in environment conservation and they should be equipped with more

the knowledge and experience to be forefront of community problem solving and responsible for the implementation of safeguarding the natural environment: improving air and water quality, and land protection, improving ecosystems functions; aquaculture, agriculture and more (IUCN, n.d.). Similarly, in BTCC Buddhism community showed culture and traditions dimension, spirituality and religious traditions dimension, policy dimension, marketing dimension, and environment dimension had sustainable level. Aspects of culture and heritage can play an important role in sustainable economic development, main generators of employment and fundamental factor for helpful to the community's image building and the traditional cultural attractions as source of ecotourism and so governments should be made cultural and traditions development one of their policies priorities (AP & J. Van , 2005). Conversely, social aspects showed unsustainable level, and economic aspects showed poorest sustainability.

## **8.2 Chapter Summary**

In this study, despite similar in BTCC Buddhism and BBR Muslim communities exist at the examples of CBEM in Phuket province, the common attributes of implementing CBE in these two communities were different contexts, there are significant issue of social, marketing and spirituality and religious traditions. Interestingly, the conclusions to ensure sustainability of CBED in BTCC Buddhism community, local community must be to develop and implemented by the community itself. Strictly religious rules and regulations of religious traditions should be established to prohibit illegal communities from teaching Buddhism (Dhumma) how to make people comprehend and show the path to enlightened and the acceptance are naturally through strong beliefs that social conflicts can be reduced thus bring goodness to mankind and the conservation of the natural environment by practicing good deeds (Yamamoto & Kuwahara, 2010). Gumo S., (2010) describes that spirituality and religious practices and beliefs based on individual values that can support environment protect and conservation such as religiously motivated conduct is safeguarded through the use of religious laws and taboos can help utilize the natural environment resources. Thus, appreciation for good practices and implementation in CBE it can be a way of achieving sustainable community development (Moeurn, Khim, & Sovanny, 2008).

## CHAPTER 9

### DISCUSSION AND INTERPRETATION

#### Introduction

This chapter described the discussion of the research results presented in Chapter 4, Chapter 5, Chapter 6, Chapter 7 and Chapter 8 in the context of the case study analyzed between the two communities to satisfy the main hypothesis and the research questions. Section 1 General characteristics. Section 2 Comparison the impact of community - based ecotourism on BBR Muslim community and BTCC Buddhism community based on 3 criteria: economic, social-culture and environment. Section 3 Comparison the potential of ecotourism attractions based on 6 criteria, including: physical and ecology characteristics, ecosystem management in tourism attraction, value and important of tourism attraction, education, management, participation in conservation. Section 4 Comparison implementation of the religious beliefs and practices. Section 5 Comparison sustainability of community-based ecotourism development based on 7 dimensions. And Section 6 Comparison the dimensions influencing the sustainable ecotourism development concept.

#### 9.1 General Characteristics

**Table 9. 1 General Characteristics**

Basic Indicators	BTCC	BBR	Similarities	Differences
Population & Households	2,312 people, 920 households	2,567 people, 948 households	√	
Religious and belief	Buddha	Oneness of Allah		√
History	100	Over 200		√
Occupations	Fisheries and employment	Farmer and Fisheries	√	

Society Type	Thai Buddhist, Thai-Chinese, north Thailand people, Sea Gypsies or Moken tribe	Thai Buddhist and Thai Muslim		√
<b>Basic Indicators</b>	<b>BTCC</b>	<b>BBR</b>	<b>Similarities</b>	<b>Differences</b>
Landscape	Northwest coast of Phuket	Mangrove Views		√
Location	Northwest coast of Phuket	Northeast coast of Phuket		√
Nature disaster Risky Zone and Nature Hazard	Nature disaster risky zone and nature hazard	-		√
Severity of tsunami disaster	5.92 meters	1.75 meters		√
Seasons of eco-tourism development	Limited tourism management base on tourism season	Various tourism activities, all year round		√
Networking Ecotourism activities Management	Linking ecotourism activities	Linking ecotourism activities		√

As it was show in Chapter 4 and Chapter 5, there are various differences in basic indicators, related to religious and beliefs received that the BBR village located in the northeast coast of Phuket Island, villagers 80% were Islamic, there was a very long history of more than the BTCC village. The BBR Muslim community is a green village landscape they have mangrove forests around the village and mangrove forests are essential for villages they offer protection against events such as a tsunami so the level of severity of tsunami disaster is less than that of the BTCC village, Muslim populations were affected by the tsunami disaster 92 cases and 28 households, height of tsunami was 1.75 meters. The BBR Muslim community has established an ecotourism pre-tsunami disaster. Also various tourism activities more than the BTCC

village there are significant difference in tourism management and can attract international tourist and domestic tourist more than the BTCC village, tourist can visit the BBR village all year round. The BTCC village is located in the northwest coast of Phuket Island, of the villagers 60% were Buddhist, and various societies such as Thai-Chinese, north Thailand people, Sea Gypsies or Moken tribe (New Thai) so various culture heritage more than the Muslim village. The BTCC village landscape is nearly coastal shore and beaches. There are nature disaster risky zones and nature hazard areas so that severity of tsunami disasters was a higher level than that of the Bang Rong village, populations were affected by the tsunami disaster 1,000 cases and 312 households, height of tsunami 5.92 meters. They established an ecotourism post-tsunami disaster. The BTCC village have limited tourism management based on the tourism season, beside types of ecotourism attractions that draw tourists to visit the community is less than the BBR community. The population of the two communities decreased due to the effects of the tsunami many people have decided to move away to safer areas.

## **9.2 Comparing Muslim Community and Buddhism Community post tsunami disaster**

### **9.2.1 Economic Impact**

Overall, on comparison of descriptive analysis as mentioned in Chapter 6, in the item of positive and negative economic impacts, both communities have quite high negative economic impacts, post tsunami disaster the negative economic impacts were increased while positive impact were decreased with substantial with pre- tsunami disaster due to recovery of tourism of Phuket island. In the case of the BBR Muslim community have the highest negative economic impacts. Considering, the sources of local people income from tourism activities were low due to some occupation groups having breakdowns caused by the failed management of community productions of marketing such as the level of quality of products, they have some marketing problems such as the place for selling products, decreased income from sales of the products, lack of support organized the best place for selling products by government agencies that

cause a decrease of the number of members in the occupation groups also making people interested in participation in tourism development activities were low such as the number of members that join in homestay services, local transportation services. Although, most villagers have a busy daily routine such as farming, fishing and other work activities, they earn little income from the CBE but it is not enough for daily life and they are not satisfied with the income from participation in ecotourism development (Kim, Park, & Phandanouvong, 2014) argue that benefits from CBE were little due to tourism seasonal management having a few number of tourists visit the village particularly in the rainy season it had influenced the local people way of earning money from tourists. Also, interpretative this notion that local people rarely take part in CBE but local experience is very limited participation in management, thus this village has become economically viable of tourism with damaging on the communities. Distinctively, ecotourism development cause increases in the price of land and housing and increase local resident's cost of living in both communities, such as food, water and electricity bills that have directly affected local residents' livelihood. Currently, it seems that the effects of all these impacts continue to harm poor people and indigenous. As mention, those villagers have indebtedness and have sold most of property, housing and own land to agencies with high prices. Unfortunately, ownership of land was transferred to some peoples outside the communities, lead to losing land and housing through people lack of knowledge in management the large money for investment. Many villagers working as laborers receive low wages, due to increases of imported foreign labour, thus the employment opportunities of those communities were decreased. In reality, ecotourism development in this community by outsiders, rich investors and large companies. In present, many outside investors, started construction of the hotels, resorts, pier and restaurants in beautiful ecotourism destinations with a new modern style as well as destroyed uniqueness nature and culture heritage, lead to waste and water pollution, are all serious in the BBR Muslim community. Theoretically, one the main concepts of sustainability CBEM, life condition improvement and preservation host community of nature and culture heritage (Foucat, 2002). After management of CBE in the BTCC Buddhism community, found that there were few decreased positive economic impacts. Yet, contribute benefits from CBE in aspect of

providing employment opportunities to grass root were low. Similarly, based on study economic impacts of tourism development in Phuket, Marzuki (2012) found that Phuket local residents are still very concerned about the negative economic impacts on the community have been down with the tourists due to ecotourism management in this community being unsustainable.

### **9.2.2 Social and cultural Impact**

Overall, for the perceptions of social and cultural impacts, showed highest negative impacts of ecotourism on social and cultural in the BTCC Buddhism community, after ecotourism was developed in this community, especially social conflicts in benefits distribution in CBE. Interpretation that the negative impacts on social and cultural increased on the host community of direct and indirect with tourists and growing among tourism industry, increase conflicts on land utilizations through market value of land increase also the increase in drugs and alcohol abuse and change of the traditional culture. Distinctively, there is a deep effect on the structure of societies and cultural change, appeared a rise of a new modernity and culture, whether between 8 to 18 young age and child imitate the tourist's behavior that they have observed from visiting tourists through demonstration and interaction. Consequently, ecotourism can increase crime to indigenous traditional culture, McClary (2008) argument that tourism causes negative impact on local lifestyles and destroyed equines culture which cultural homogenization blurs the distinctions between western and indigenous cultural values and may lead to disintegrate the traditional of the host community. For example, an increase of young women who are wearing short revealing clothing that make them more attractive to men thus losing respect of their own traditional culture, once lacking in moral responsibility that may be lead to increase in crime. Vishwanatha and Chandrashekara (2014) asserts that if there are more openings of pup-bars, nightclubs near the ecotourist destinations or in the community for attracting large number of domestic and international tourist it will have an effect on wildlife and other animal species in aspects the light and noise pollution through increase drugs and alcohol use. Likewise, leading to an increase of the number of local people that consume alcohol creating more opportunities for young women and young men to drink in pub-bars and



increasing in the supply and consumptions of sexual tourism services including child prostitution and human trafficking (Monterrubio & Mendoza-Ontiveros, 2014). In a similar context, residents of BBR community perceived the moderate negative impacts of ecotourism on social and cultural, post tsunami disaster found that there was little increase in crimes, drugs, accidents problems than that of the pre- tsunami disaster, which due to drunk-driving behaviour or alcohol- impaired driving crashes, including Phuket of physical characteristics were low potential such as dangerous curves on the road and lack of convenience. However, over the week/ special event/ celebration/ festival has been in testing alcoholism and drugs to prevent drinking and driving through promoting safety awareness in the local community. As literature review, principle of ecotourism, to achievement sustainability of CBE deal with the enhancement of community involvement manage the impacts as well as low negative impact on social and cultural and avoiding damage or deterioration, one the other hand should be engaging in social safety (McLaughlin , 2011; Les Roches, 2010; Nyaupane & Thapa, 2004). One of the important and positive impacts there were few increases than that of the pre- tsunami disaster.

### **9.2.3 Natural environment and ecology Impact**

Overall, on comparison of descriptive analysis, residents of the Bang Rong Muslim community perceived the most negative impact on mangroves, coastal ecosystems and fauna natural environment and ecology. In the case of the BTCC Buddhism community showed highest negative impact of ecotourism on community, after ecotourism was developed in these community. Post tsunami disaster of the BTCC Buddhism community have an implementation of community-based seeking to the recovery of the community economic and support ecosystem and natural resource management, appear that 4 years later, the implementation of ecotourism development in the BTCC Buddhism community as a result that increases the negative impact on natural environment and ecology, as to present that fauna and flora have been the highest destroyed, especially losing ecosystems in marine destination, many marine species that have become local extinct or are endangered depends on the land each year, such as coral reef, seagrass bed, fish, sand carbs (Mole crab), shell, oysters, rare

seabirds that nest on the cliffs, or marine turtles that lay eggs on the beaches, and some species which might vanish completely from the face of earth because of pollution, lead to an increase of dead dugongs, whales and dolphins, and whale sharks population of these species were decreased due to fishermen activity with catching the sand crabs (Mole crab), stingrays, sharks etc. Especially, tourist's consumption of behaviors directed harmful to stingrays and sharks, the stingray is a rare fish that live in Gulf of Thailand that people have been using in decoration, ornaments, production of weapons, leathers, and processed dried stingray as well as a major export to Malaysia to boost the fisheries community economic (ACFRDCP, 2014). In the modernism, the stingray is very popular it can be transformed into various products such as handicraft, handbags, shoes and jewelry which Chinese tourists believe that products made from stingray skin are like the "the Lucky Amulet" which brings good luck to the user (Pelle T., 2018), this belief lead to an increase in the number of stingrays killed and threatened in the marine its habitat. McCauley,D.J, Pinsky,M.L, Palumbi,S.R, Estes,J.A,Joyce, F.H & warner, R.R (2015) has concluded that humans are on the verge of causing deep damage to marine ecosystems because humans are intensely reliant on marine ecosystems for food and other services. Likewise, certain high demand and price for marine wildlife such as shark fins for 3,000 to 60,000 baht/ 1 kg., lobster for over 2,500 baht/ 1 each, and crabs for 600 baht/ 1 kg, when harvesting of marine food resource were continue to increases as these animals become "Marine defaunation" and or loss of marine animals from ecological communities (McCauley, et al., 2015). According to a report released by Wild Aid, increasing the impact on shark populations, Thailand has exported over 22, 467 tons of shark fins between 2012 and 2016 alone, and often sharks were killed just for their fins, approximately, 98% of the shark population have declined due to over consumption of the shark fin (WildAid, 2017). Although, with my experience in tourists guide over 17 years, I observed that Japanese and Chinese tourist like eating shark fin soups, the price of a bowl of shark fin soup ranges from 300 Baht to 4,000 Baht in high- class restaurants such as the famous Hong Kong restaurant in Phuket. Conclude, tourists' behaviors have an impact on ecosystems and marine life cycles, such as the lives of sharks have a significant value for marine ecotourism, for example, recreational diving, shark feeding and shark watching. Fishermen who are

involved in the catching for shark fin trade or who often enjoy eating shark fin soup causing the loss of sharks from Phuket Andaman Sea in future and influent on potential of ecotourism destinations. Despite, Department of Marine and Coastal Resources have a supporting campaign to protect rare sharks in Phuket base on laws and regulations: Environmental Protect Act in 1992 and National Park Act 2015 relate to ban the trade in rare sharks, but the sale of shark fins still happens in the black market in some restaurants in Phuket due to the lack of ownerships involvement in protection and conservation of nature resources.

In the BBR Muslim community, more negative natural environment and ecology impacts due to tourism activities and tsunami disaster. Currently, showed increase in land degradation and highest increased coastal ecosystems were destroyed due to agricultural activities, fisheries farming and construction of buildings, hotels, resorts, guest houses and other accommodations. It seems that the negative impacts are an intensification on natural environment and landscapes due to more widespread natural areas and mangrove encroachment for extension of agricultural land and development of tourism & hospitality by farmers and investors who live outside the community.

### **9.3 Comparison potential assessment ecotourism attractions in BBR Muslim community and BTCC Buddhism community**

**Table 9. 2 Comparison potential assessment ecotourism attraction**

Criteria	Interpretation		Similarities	Differences
	BBR	BTCC		
Physical and Ecology characteristics	Moderate	High		√
Ecosystem management in tourism attraction	High	Moderate		√
Value and important of tourism attraction	High	High	√	
Education	High	Moderate		√
Management	High	Moderate		√

Participation in conservation	High	Moderate		√
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Amongst, 3 groups of perceived on potential of ecotourism attractions with considered from summary of mean value that differences between two communities in 5 criteria based on physical and ecology characteristics, ecosystem management in tourism attraction, education, management and participation in conservation as above mentioned on Chapter 7. Based on the results, ecotourism attractions in the BBR Muslim community have high potential, the BTCC Buddhism community have moderate potential with ecosystem management in tourism attraction and education, management and participation in conservation. Post tsunami disaster, the Muslim community of ecotourism attractions quality were improved in the various aspects. For instance, uniqueness and distinctive culture, forest and mangrove management, spirituality and religious tradition tourism management, protecting cultural heritage values and restoration have high-highest potential indicate that host community and tourist of responsible behaviors have positive influence on ecotourism attractions measures that personal norms through residents' environment conservation behaviors can play the role for managing the environment of tourist destination (Zhang, et al., 2016). First, indicate that Muslim resident's encouragement in improving the quality of their education relate environment conservation, they participate in established leader groups for development of social and environment sustainability based on conservation of natural resources such as supported community energy projects; reducing emission and renewable and saving energy; gas, electricity, use of water lead to sustainable, it can help poor people who have low incomes (Martiskainen, 2016) as well as direct support senior leaderships, woman leaderships, and children and youth leaderships for responsibility culture heritage restoration and adopted agricultural activities as ecotourism programs. Second, Muslim residents concentrate more in management of support spirituality and religious tradition believe and practice for human source management and strictly Muslim spirituality and religious tradition of regulations for organizing society and environment.

Overall, in the BTCC Buddhism community of ecotourism attractions were not yet demonstrating readiness. For instance, faunal biodiversity, flora biodiversity, water availability and conservation (water supply), wastewater management,

knowledge of local people in tourism hospitality operations management (skills, communication, kindness), quality of maintaining environment (protection, maintenance, restoration), solid waste management, residents and tourist participation in ecotourism attractions protection, and participation in environment protection have low-moderate I assumed that host community are less likely to take responsibility on ecotourism attractions measures that actions and activities of individual have influence on ecotourism attractions. The finding of this study as well as those of Dukic et al. (2014), public sectors, private enterprise, and local people lack of awareness on responsible environment conservation, but connect promote culture heritage value as apart of attractions. Besides, a few years there are initiative in CBE, thus, local people and indigenous people lack of knowledge and experiences on ecotourism management, consequences of unsuccessful CBE. Yet, indigenous people less stimulus empowerment to development of ecotourism marketing for meeting the tourist expectations, for instance, there are few tourism activities and less number of owned ecotourism businesses, but there are high potential of inherited Buddhist tradition and acquired Buddhists protecting cultural heritage values and renovation, importance of archaeological, artistic and heritage, uniqueness and distinctive culture and Moken fisheries as a way of life such as Buddhist festival and Moken ceremony, local culture heritage as a tool for economic development, bring revenues and enhancing regenerate local business (OECD, 2017; Fellner, 2008; Lash & Austin, 2003; UN-HABITAT, 2005; Walker, Jackson, & Rosenstein, 2003).

#### 9.4 Comparison implementation of the religious beliefs and practices

**Table 9. 3 Comparison implementation of the religious beliefs and practices**

Basic Indicators	Similarities	Differences
1. Religious history, teaching and beliefs		√
2. Religious practice and faith		√
3. Religious teaching and beliefs based on nature environment protect and conservation	√	
4.The principles of religious that taken to enhance human life well- being and happiness	√	

5. Community of implementation on spirituality and religious management within community		√
6. Strictly spirituality and religious tradition of regulations within community		√
7. The intensity of religious conflict within community		√

There are various differences in the basic indicators as follow:

BBR Muslim community, majority of Muslims are Sunnis. Islamic belief one god {Allah} based on teaching of the Prophet Muhammad (founded 622CE in Mecca, Saudi Arabia) and belief that the human must submit (Islam) to the will of God to gain Paradise after death and belief paradise and hell after life. The sacred text of Muslim is the Quran. Bang Rong Islamic strictly spirituality and religious tradition of regulations more than the BTCC Buddhist particularly religious practices and rituals, every Muslim respect the Five Pillars: Faith, Prayer, Alms, Pilgrimage, Fasting. They need go to participate in religious activities at the Mosque Center on Friday. In case study, community religious leaders of vision to strengthen positive and make the community policy for human happiness such as not support selling and purchasing alcohol, not to offer service sex tourism clubs and night bars in this community, enhance spiritually and religious practice and faiths to children on holiday related to the pilgrimage and the fast of Ramadan. Besides, lack of religious conflict within community.

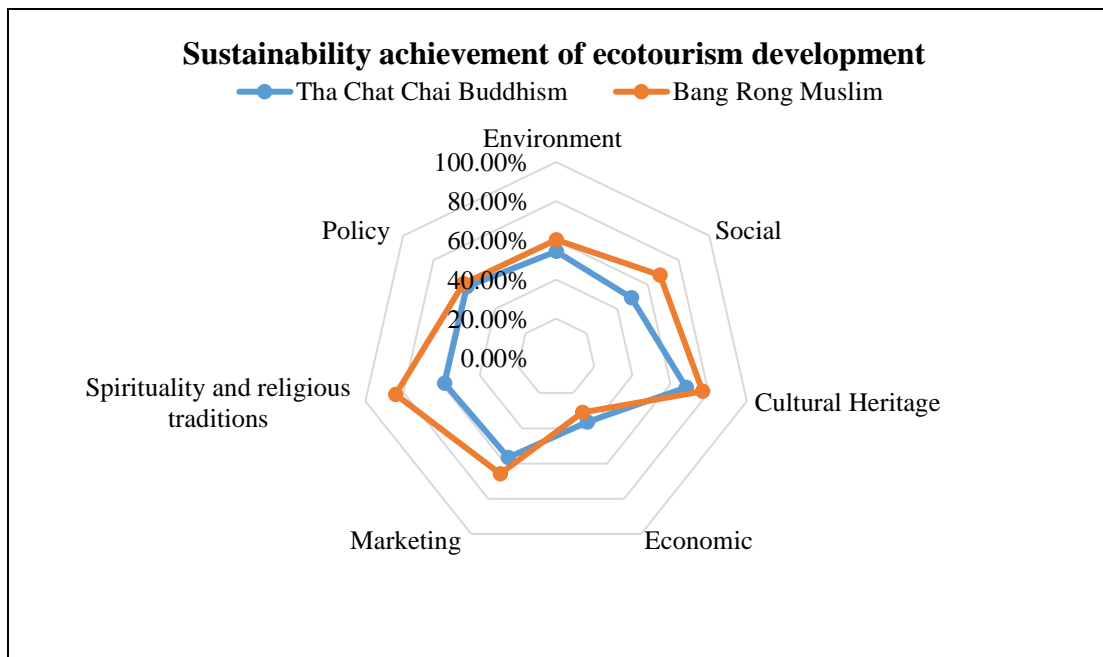
BTCC Buddhism community, majority of Buddhists are Theravada based on teaching of Siddharta Gautama (The Buddha) in C.520 BC, Nepal and India. Buddha taught nothing is permanent. Buddhist belief many gods, ancestors and deities. Avoid suffering and gain enlightenment and release from cycle of rebirth, or least attain a better rebirth by gaining merit and death is a return to earth. Variety practices in Buddhism religious such as meditation, mantras, devotion to deities. The sacred texts of Buddhist are Tripitaka (Pali Canon) and Buddhism' sacred days, or time were difference in Muslim religious. The date of holiday is based on the lunar calendar and various activities in Buddhist holidays and festivals day such as normally Buddhist visit to the local temple, where one offers some food or other items to the monks and listens to a Dharma talk (Buddha teaching), circumambulating (walking around) the temple and three times in honor of the Three Jewels, chanting and meditation. According to in-

depth interview and assessment residents perceived on management of indicators, indicates that BTCC Buddhism community strictly spirituality and religious tradition of regulations like less than BBR Muslim community. In Addition, I observation, local government do not pay attention on control and limited selling alcohol, bar nightclub, Karaoke within BTCC village and have social and environment problem more than BBR Muslim community. Another problem with the crime of petty theft or stolen, strongly conflict problems and another. Besides, two communities were different in the implementation on spirituality and religious management within the community. Lack of cooperation between community religious leaders and community leaders to resolve this problem also intensity of religious conflict within community, many residents did not go to make meditation and merit on Buddhist holidays in the community temple because they don't like the header of monks and decreased Buddhist religious beliefs and faith.

However, both communities have similarities in religious's teaching and beliefs relate to nature environment protect and conservation, and the principles of religious that taken to enhance human life well- being and happiness.

#### **9.5 Comparison of sustainability achievement of ecotourism development based on internal 7 dimensions in BBR Muslim and BTCC Buddhism communities**

As mentioned in Chapter 8, in an attempt to reduce the negative impacts of the ecotourism, needs to determine sustainability in terms of all seven dimensions and its achievements that the sustainable ecotourism development in the BBR Muslim and the BTCC Buddhism communities are contrasted, as well as achievements of implementation of CBED in different aspects as below:



**Figure 9. 1 Sustainability achievement of ecotourism development**

### 9.5.1 Environmental dimensions

To determine the contribution to sustainability achievement of CBED in both communities from each relationship aspects, the influence of implementation on environment dimension both communities show sustainability achievement. The BBR Muslim community, in perspective, show sustainability level at 60.30% (good performance) as above in Fig 8.9, the ecological and environment condition of the BBR Muslim community may have a quite satisfaction that they had achieved their goals. This particular in the protected areas, mangrove forests and rainforests (KPTNHA) was generally better than that in the BTCC Buddhism community. Despite, the implementation condition of environment dimension is still in the initial stage, it is fully justified the effectiveness of environment protects and conservation during ecotourism development (Wang, Zhong, Zhang, & Zhou, 2014). Post tsunami disaster, communities have established ecotourist destinations and ecological restoration of programs for mitigate the negative impacts of ecotourism through the effects of the tsunami and increasing other natural disasters caused by severe weather phenomena that continue to having direct impacts on environment and ecosystems lead to



increasing self-sufficient community in food products and economic aspects (Hasegawa, 2010). Because of, local government have collaboration between NGOs and local people to improve the quality of the ecological environment and the phenomena of environment degradation. An example, is that Muslim people actively participate in fauna and flora biodiversity recovery projects, geomorphological formations and soils of management plans, air pollution control, energy management plans, water and waste treatment etc. As suggested by Stone (2015), CBE projects that aim to natural resource conservation need to have community collaborative partnership effort empowerment in controls consumptive natural resource, that success of ecotourism need to take radical approach to kindness and oppose the killing of some wildlife animals and the species for sport hunting and or personal satisfaction and avoid depletion of the natural resources ecotourism (Pathmanandakumar, 2017).

The BTCC Buddhism community, in perspective, despite showed sustainability achievement level at 54.36 % (good performance) few less than the BBR Muslim community. However, the ecological and environment condition of the BTCC Buddhism community may have unsatisfactory environment condition, which could not be achieved without received support and participation of several government entities. Especially, air pollution or haze caused by forest fires in Indonesia, the thick smog, which has already shrouded parts of Malaysia and Singapore during November to December for two months, may have reached hazardous levels, many people in this community have been affected by haze pollution, caused illnesses or damage on the healthy such as pulmonary problems, coughing and wheezing also haze conditions affected the ecotourist destinations through economic impacts added due to fishermen of boats, water transportation, some flights have been cancelled, and Dominguez (2015) provides several reasons for impacts of Indonesian haze conditions on tourism industry much more severe than normal such as during the peak seasonal several flights delayed or diverted because unsafety, local people has led to a spike in costs of medical, but also effect on wildlife animals particularly small and rare species, and damage on plant and vegetation. Despite, Thai government have discussed the haze problems to find lasting solutions which collaboration with ASEAN countries such as Jakarta, Malaysia, Singapore, Australia including China, yet, it seems that implementation of air pollution

management can be impossible to resolve due to still lack of public awareness and neighborhood participation in the process of conservation and reduce this problem. Although the existence of flora and fauna biodiversity management plan for recovery species, the findings have shown that lack of some local people and private tourism companies are involved in ecotourism destinations recovery especially very serious in popular marine ecotourism destination (Sirinath MNP). Indeed, as mentioned above in Chapter 7, the potential of marine ecotourism activities was medium level, indicate that there is a biodiversity crisis, with loss of biodiversity for instance, fish species, plants, animals, coral reefs and other marine wildlife species, lead to fishermen and indigenous of health and livelihoods are at risk too due to the received earn income from fisheries has decreased. Thus, need to emphasize implementation programs to maintain and recovery wild population of native flora and fauna may direct help native people in economic aspects lead to stop land speculation and can prevent migration. Triarchi and Karamanis (Triarchi & Karamanis, 2017) has advocated that, for ecotourism as an alternative form of tourism need be distinguished with richness biodiversity as well as sustain social and economic benefit from ecosystem integrity that essential to local people well – being. According to Essays (2015) give a reason for restoration of flora and fauna biodiversity management plan need consider meticulously studies and potential of cohabitant of endangered species is still in ecosystems along with implementation the programs.

Regrettably, “Mass tourism plagues great ecotourism destinations” in Phuket island, ecotourism in Phuket has conventional or commercial tourism emerged since the 1970s, government, NGOs and private tourism agencies have collaboration in promote Phuket of tourism marketing, resulting appear that the swift development of tourism become mass tourism into ecotourism destinations, causing rich beauty landscape and small island are rapidly transformed into luxury hotel and resort destinations by international investors, and led to increased expansion in variety of accommodations, tourist activities and travel agencies, for example large ecotourism companies brings mass tourist to nature spots and marine ecotourism destinations in nearby locations of both communities that offers sea kayaking trips, snorkeling and scuba diving trips, canoeing, mountain biking, nature trail walking, mangrove trails and

elephant trekking, caused widespread, severe damage on natural environment. Deplorable but disappear foreigner tourists stay in communities due to lack of suitable accommodation for tourists and other reasons, without collaboration together host community for sustainability management yet, ecotourism is not favorable to host community and residents. In this reason, threats on the sustainability of implementation in environment dimension might lead to poor achieved. On other hand, Phuket's mass tourism can become more environment awareness that would require limited number of tourists throughout operating different times of the day to visit including limited number of ecotourism companies in involvement in consumption of natural resource and ecotourist destination particularly in the protected areas and sensitively environment attempt to decreasing tourist density per area and time periods for protected ecosystems (Kontogeorgopoulos, 2004). Indeed, post-tsunami disaster, Phuket's economic recovery plan which emphasizes on tourism industries and hospitality services has witnessed rapid exponential growth in Phuket, at the same time increasing the demand of ecotourism, led to increased tremendously expansion of ecotourism (Erdogan & Erdogan, 2010). Unfortunately, while the availability of suitable ecotourism destinations and potential of ecotourism attractions in Phuket were dwindling (such as coral reef, sea grass bed, marine animals and wildlife species). Tisdell C.A (Tisdell, 1998) give reason that numbers of tourists in exceed the carrying capacity of the ecotourism destinations, inadequate tourism infrastructure, and unsuitable development of tourism industries caused increasing degradation and destruction of natural environment, threatening their ecological sustainability it also threats to sustainable ecotourism as well.

### **9.5.2 Social dimensions**

Considerable in social dimension, the sustainability achievement of CBED in both communities were different. These differences can be explained, the influence of implementation on social dimension shown sustainability achievement in BBR Muslim community, in perspective, shown sustainability level at 67.79 % (good performance) and 49.28 % (poor performance) in BTCC Buddhism community. The social condition

of BBR Muslim community may have quite a satisfaction that most residents are satisfied with their life which deal with social conditions with imposing strict development plan under which strictly Islamic spirituality and religious tradition of regulations. Instance, BBR Muslim community encourages the role of Muslim women in ecotourism development, involvement of women in committees in create ecotourism program, such as women's conservation group, post tsunami disaster community have established handicrafts group to provide supplementary income and to aid their economic recovery they currency striving to create investment in Muslim art and handicrafts products by handmade, Hijab or head covering, hand- painted Batik, herbal soap, bags, shawls and handkerchiefs e.g., while existence of program of spiritual and religious activities with youth, providing and development knowledge of local people in environment conservation, and trained and ecotourism management. Barry (2012) study to women empowerment and community development through ecotourism, she concludes that women's empowerment can lead to successful sustainability CBED, they play an important role in the ecotourism project; empowering them to earn income from tourism while have collaborative on various projects to advance themselves economically and environmentally conscious scheme e.g., and enable them to play their role as stewards of their culture and traditional knowledge (IFAD, 2003). Ampumuza, et al. (Ampumuza, et al., 2008) further reveals that women are attracted to tourists in culture dances, show, entertainments aspects and they are using the funds to support and restore their monastery. Likewise, Islam preserves women's honor and dignity and require them to express their modesty through practice of hijab, while they have responsibility to care for the house and raising of the children (Cooper A. , 2009). Despite, for the last few decades, social conflicts are deeply embedded in Phuket. Since, before tsunami disaster, strongly social conflicts occurred among environmentalism and land use management caused social crime and social unrest. In current, BBR Muslims are able to overcoming barriers as well due to they must adhere to Islamic law (Shariah law), if Muslim commits a religious offense, he will be judged according to Islamic law. Islamic law or Shariah law is an essential guideline for Islamic life, which encompasses both the behavior and the practice of faith ( Kuruvilla, 2017) and are guides a Muslim's personal relationship with God (Rashid, 2012), for example, BBR

Muslims striving to seeking practice of middle path that require to benefit balance and moderation management and strategy in order to encourage individual and social welfare in this life and future, Kamali argues that the concept of moderation was highlight for sustainable social development, for example social justice (*al-adl*), wisdom or education (*al-hikmah*) e.g. Thus, BBR Muslim create management of ecotourism based on path way, do not over tourist carrying capacity in the sensitive areas and benefit balance in ecotourism planning and management within community, for example local government agencies reap the benefit from tourism; charged with administering natural resources, entry fee or visiting fees in tourist attractions, admission fee to enter community of pier etc., including charity money, all profits from CBE will be revolving funds or repayments can be used to finance its continuing operations from year to year within the community as well as increasing interest lead to community of financial stability, in such encouragement balancing in the social welfare, they have established saving groups and conducted financial groups for helping poor people such as loans to poor people with low interest and provide new habitat for those who are deeply in debt both members and non-members, through provide equal educational opportunities. This is consistent with the ecotourism implies to balance between economic benefit, ecology, social and cultural sustainability ( Chhewang, Walter J.V., & Pieter, 2007).

The BTCC Buddhism community, in perspective, shown unsustainability in the social dimension, there are different societies and way of life between Thai Buddhist and New Thai or Moken (Sea Gypsies). Their result might have been more interesting, relate to Moken indigenous of education is rather less than Thai Buddhist particularly lack of education among old generation. Although, government seeking to support the education to new generation but the children and youth do not pay to attend junior and high school. Likewise, lake of development knowledge of local people in environment conservation, trained and development knowledge of local people in ecotourism management. Current implementation of CBE within the BTCC community are inconsistent with Franca (2008) and the principle of ecotourism, necessity for promotion of education leading to open opportunities to local people in business investment. This is in good agreements with Kim, Park and Phandanouvong (2014) that

the solution and development knowledge of local people is important for CBE. However, there are tremendously barriers to Moken indigenous' participation in CBE and one of biggest challenges and opportunities of CBE projects within BTCC community, lack of knowledge, interest and weak collaboration among stakeholders were great obstacles to obtaining CBT (Tamir, 2015). Additionally, conflict management in tourism had not been discussed and there is no solution to the problems. According to interviews with a key informant who is a member in the CBE of organization, finding that since the CBEM initiate, there are many problems and strong social conflicts, instance of conflicts occurred, natural resources management, projects implementation, funding management, land use management, as well as conflicts solution in management water supplies and sharing systems cause implementation of quality infrastructure development were lowest potential, many residents have complained the quality of drinking water, not clean and short stage during November-May. Emerald (2016) suggested that the community can be achieved in CBT, when stakeholders such as local government, business owners and indigenous or poor people do have a good positive and strong relationships throughout require satisfying social need and emphasized social balance, promote sharing ideas or opinion in management plan such as marketing plan, financial plan, and cooperative in tourism activities development as good standard to attract tourist. Consequently, the difference in the term of social dimension between BBR Muslim community and BTCC Buddhism community should be considered from an empirical perspective.

### **9.5.3 Cultural heritage dimension**

For cultural heritage dimension, confirmed that distinctly different implantation level between two community's cultural heritage aspects, in BBR Muslim community perspective, shown sustainability achievement level at 76.78 % (excellent performance), and 68.17 % (good performance) in BTCC Buddhism community, indicate that BBR Muslim community empowerment in safeguard Muslim traditional and cultural heritage management.

Moreover, culture heritage condition has been shown to be essential to many aspects as resource based for marketing ecotourism products as it related to the

development and ecotourism growth. Similarly, the culture heritage dimension is very important in both communities, both the Muslim and Buddhists community think it's very important to restore and implement the traditions and the festivals of both communities. Although the Buddhists community thought it was necessary to be aware of the traditions of that religion. They didn't care much about the local products that they supply to the restaurants of the area. However, the Muslim community thought both traditions and festivals were important to restore and teach the younger people, they also felt that it is also important to restore and implement the need for the local products. Also, the products that are important to the local community and also foreigners must be also considered (UNWTO, 2016). In conclusion, I feel that both communities care about traditions alot , but the Buddhists community don't care about the economy that much because if they did they would care more about the local products and materials from that community that could drive the economy up. Also, both communities care about the clothing that they should wear due to their religion, for example, Muslims wear Hijabs, robes that cover most of their bodies. Buddhists are free to dress the way they want as long as it's not provocative. Furthermore, another important impact on the cultural sustainability is the ability to understand and being able to communicate with the different cultures of the foreigners that visit both communities. This meant that both communities should teach the people to speak more than one language so they could communicate with the foreigners who visit the country (Wanasuk & Thornton, 2015). Many tourists who visit Thailand want to experience the culture of the people of Thailand which may include going to the temple or experiencing some of the local festivals, local food and traditional dance (UNWTO, 2016). Ecotourism also adds value to the cultural traditions and practices of both the Muslim and the Buddhists communities. For example, Muslim and Buddhism community have supported local food festivals, its a high potential attractions such as one popular Muslim local food as Halal food is the most favorite for Thai and foreigner tourists, where principle of Muslim religious, and the vegetarian festival in the BTCC Buddhism community based on spirituality and Buddhists beliefs and practices, indicate that this festival can play an important the role for human development and relate to environment conservation, especially in the prayer groups whom keeps strict adherence

to the religious precepts which promotes the rule to abstain from killing and encouragement organism or refrain from persecution, training to refrain consumerisms of the products from organisms, holding to the priciple of harmlessness and can help to inhibits the hunting of wild animals through encourage an increased appreciation and love for natural environment (Wat Pa Nanachat, 1999). Unforetunately, in the case of the BTCC Buddhism community, local government providing and development of local foods and restuarants, conservation of value and management of artistic archaeological, and heritage buildings and support programs of recovery fishery way of life or traditional agriculture in the sortime, including there is a lack of collaboration among NGOs, educational institutions and local people to the implementation on activities mentioned above for attractions the both Thai and international tourists.



**Figure 9. 2 Buddhists and Muslim Culture**



#### **9.5.4 Economic dimension**

Overall, this finding confirms that the influence of implementation on economic dimension both communities shown the poorest sustainability achievement. The BBR Muslim community, in perspective, shown sustainability level at 30.99% (poor performance), and 36.52% in the BTCC Buddhism community, economic condition of the stakeholders in both communities has become very unsatisfactory. Post tsunami disaster, the Phuket government has increase promoted community- based tourism to help local people; yet, not only two communities such as Baan Kanan-Thep Kasatri community, Baan Bangtao-Cherng Talay community, Tambol Kamala community, The old Phuket Town community, and Lone Island-Rawai community. Unfortunately, when ecotourism initiated, residents earned little income from tourism activities at 32.9% of 5,000-10,000 Baht per month in BBR Muslim community, 38.8% of less than 5,000 Baht per month in the BTCC Buddhism community through low income from accommodations service, transportation and other services, local culture and traditional and heritage, tour operator and tourism activities management that may well justify that residents have low benefited from tourism because local ecotourism business can operate profitable for only seven months during the peak season, from November to May, rarely visitation in rainy season and occupations which related ecotourism were little of types service activities due to implementation marketing plan by government and ecotourism companies have influence on community economic development which was non- continuous CBEM caused insufficient income for live. Contradiction with earlier findings, ecotourism has positively to the economic impacts on the live of local people from providing various ecotourism activities offered to tourists (Thomas, 2016). To promote the economic development of an ecotourist destination, it is therefore most important to avoiding harming the ecosystems and anti-corruption in the environment led to adding the value of natural resource that has an increasing effect of economic growth on household income. Florida DEO (2017) natural environment provides dollar value to an array of medium and small businesses to create jobs in their host communities throughout the nation. As ecotourism expands found that widespread corruption in Thailand, not only Phuket Island that is a principal obstacle to the CEED, for example corruption in the field of land use planning and land

management, use of marine protect areas for build luxury hotels, restaurants and private pier services, illegal possession of public and protected areas then sale to international investors including consumption and or international trade of illicit in forest products, wildlife animals, marine mammals and other forest biological resources, it might destroy our environment or environment devastation (Chayes, 2016), yet impacts of corruption on the poor local people live in the nearby as well as indigenous people who are dependent on wild animals and plants for food, shelter, clothing, medicine and other subsistent needs (UNODC;, 2012) through corruption in financial capital for poured investment to promote ecotourism and develop the value of destination, addition in employment opportunities for local people and indigenous people (Jun, 2014), corruption is deeply embedded and thus difficult to resolve that causes poverty and economic backwardness in developing countries (Wallace & Pierce, 1996; Jun, 2014). Izquierdo (2017) have concluded, the major barriers to sustainable development are likely to be corruption. Being able to survive, community can do more effectively deal with strong organizations in implementation of self-management to support for long term conditions lead to economic sustainability (Wang C. , 2009) as well as strong ecotourism business, arrangement contributed to their economic and compliance with ecological and environmental regulations (Kang, LaMore, Snyder, & Schweitzer, 2010). Regarding both Buddhist cultures, Moken culture and Muslim culture can contribute to the community economic growth, most foreign and domestic tourists are interested in entertainment and relaxation that they want to enjoy an experience with local culture, local products, local dance and show etc. (Min & Roh). Unfortunately, local people can earn money from culture tourism activities only in short-term in both communities. Considerable attention in collaborations and partnership between other ecotourism business agencies such as hotels and restaurants within the community and outside to promote local good products for it successful economic development (Mottiar, Quinn, Theresa, & Stacey, 2013), World Tourism Organization (2016) suggest the policies and activities in respect of tourism and culture should be oriented in established long-term general platform based on collaboration on national, local scale, public and private sector. Furthermore, tourists' expenditure and visitor spending behavior have positive effects on the community economic in destinations (Disegna, 2016) when well

implemented ecotourism are planned and managed, ecotourism provide an incredible economic boost to host community (Edward, Jared, & Micki, 2009). Ultimately, over the last few years, ecotourism business has witnessed a continuous expansion in Phuket, ecotourism has been highly influencing on small-scale ecotourism companies from outside that they use ecotourism resources of host community for their own benefit of economic such as explicitly unique destinations, natural and cultural heritage site and beautiful landscapes can attract rich investors for investment in accommodations, restaurants, transportation, travel agencies and tour operators and other services, as result unsustainable economic development and become inequality sharing of ecotourism benefit to residents if there are poorly implemented ecotourism projects. In contrast, several scholarships arguments that the principle of ecotourism provides financial benefits and empowerment for local people, created opportunities for income generation and employment, and greater local economic flow within communities (McLaughlin, 2011; Narayan, 1998; Hogan, 2011; Coria & Calfucura, 2012).

#### **9.5.5 Marketing dimensions**

As a result, marketing dimension between the two communities were different, shown sustainability achievement level at 65.79% in the BBR Muslim community (good performance), and 56.55 % (good performance) in the BTCC Buddhism community.

According to in-depth interviews with entrepreneurs; accommodations, restaurants, transportation, souvenir shops, massages, local stores, etc., questionnaire and own observation, founding less number of visitation in both community, most of visitors are Thai travelers, there are tourist who come to visit themselves without tour operator or no tour guide, and one day trips, not staying within the village, in addition sometime have groups tour during peak season by large tour companies as one day trips, number of visitation have not been recorded in both communities, so can't analyze income from tourist by statistics. Unfortunately, stakeholders feel that "they have earn little income from tourism activities". Further, according to community of makers policy, funding implementation of community of ecotourism marketing action plan and strategy addressing protection of the biodiversity and environment conservation

through safeguard culture heritage, lead to ecotourism operate is emphasize small groups by small scale businesses among both communities. This study is consistent with Simeonova and Zingsta (n.d.) ecotourism provides an important opportunity for local community level through region to recovery economically with little investment by small businesses. However, fewer tourists' arrival effect on community of revenue and barrier to growth of malls business, community economic downturn become unsustainability, therefore in order to improving social- economic condition from ecotourism business activities should considering carefully promote ecotourism and make proper marketing policy (Reza, Ahmed, & Rehunuma, n.d.). Marketing strategies are important in both communities, as mentioned Chapter 7, founding that spirituality and religious tradition tourism are highest potential. Yet, local people feel that communities lack of implementation of community- based spirituality and religious tradition management for attracting the tourist's attention. However, the development of ecotourism activities requires to an assessment of the associated impacts, thus the types of ecotourism are consistent with the environment within community (Clifton & Benson, 2006), and individual ecotourist's attention (Wight, 1993), while the same reason in two communities were moderate potential on community economic and policy compliance. For development ecotourism attractions and successful marketing of any ecotourism attractions should direct consider implementation plan for improve low and moderate potential of ecotourism attractions in order to attract tourist though encourage sustainability tourism marketing (IUNC, 2008).

#### **9.5.6 Spirituality and religious traditions dimensions**

In these study, confirmed significant differences between two communities that influence of implementation on spirituality and religious traditional dimension in The BBR Muslim community perspective, shown sustainability achievement level at 84.14% (excellent performance), and 58.55%(good performance) in the BTCC Buddhism community, the two villages are at a distinctly different implantation level indicate that the BBR Muslim community empowerment in spirituality and religious traditional has been successfully in enhancing the well- being and harmony of the community, such as strong experience, skilled, religious leadership, a stable

successful ecotourism based on practices by tourism organization encourage more local investment to be good cooperate, then economic, social, and ecology environment impact of ecotourism on the community to be a good permanence. Bansal (2011) argued that management ecotourism in the large scale it can lead to many negatives on the environment, likewise the important is actively participation of locals in environmental solutions led to achievement of ecotourism goals.

Regrettably, this understanding does appear that among fishermen and investors don't like practices on law and regulation that are obstacles for enhance sustainability ecotourism development in both communities. It seems that the government failure of enforcing some of its laws, both social and environment law due to lake of individual consciousness in practices of law. Ecotourism at the community level should be developed within regional, national and even international, sustainable development principles of ecotourism that can be applied to regional ecotourism development (Page & Dowling, 2002). Also, knowledge have influencing on implementation ecotourism, one large problems in the BTCC Buddhism community is Moken people of education that barrier to sustainable development in nature-based tourism. Unfortunately, there are some problems of ecotourism policy conflicts, ignorance of the local community involvement, lack of enforcement of principles of ecotourism, however, maintaining conservation and safeguard to natural and cultural environment it becomes beautiful ecotourist destinations and increasing ecological integrity, therefore the most successful ecotourism policy is by identify the real commitment implementation of legislation of environmental and conservation programs and through cooperative programs with the provinces and territories, other countries, aboriginal groups or indigenous groups , conservation organizations and the private sector (Yogi, 2010).

## 9.6 Comparison the dimensions influencing the sustainable ecotourism development concept.

**Table 9. 4 Comparison the dimensions influencing the sustainable ecotourism development**

Dimension	BTCC	BBR	Similarities	Differences
	Interpretation	Interpretation		
Environment	Sustainable	Sustainable	√	
Social	Unsustainable	Sustainable		√
Cultural Heritage	Sustainable	Sustainable	√	
Economic	Unsustainable	Unsustainable	√	
Marketing	Sustainable	Sustainable	√	
Spirituality and religious traditions	Sustainable	Sustainable	√	
Policy	Sustainable	Sustainable	√	

In this study attempts to improve and developed the indicators to measure the CBED within a sustainability framework that was constructed and applied as the most suitable for the CBE in Phuket island. Based on sustainability tourism indicators assessment framework as a tool to assist in identifying the potential implementation of the CBE and problem areas for improvement sustainability performance in the BBR Muslim and the BTCC Buddhism community. As mentioned above in Chapter 8, interpretation that the influence of spirituality and religious traditions achieved the highest percentage (84.14%) for sustainability achievement in the BBR Muslim community, the aspect with the poorest sustainability is “influence of economic dimension” at 30.99 %. This result, the Muslim residents were perceived as negatively impactful on economics indicated that unsustainable influence implementation of the CBE. Although it was mentioned, the CBE programs that have significant theoretical considerations regarding to emphasizes rural community development and allows for local residents to have control over tourism projects and their impacts, and involvement of multiple stakeholders in implementation of ecotourism projects, and significant proportion of the community's benefits by sharing activities such as cultural activities,

homestays, transportation, restaurants, production of artisan goods, ceremonies and festivals (Stone M. T., 2015; Fiorello & Bo, 2012; Sproule, 1996; Dukic, Volic, Tisma, & Jelincic, 2014).

However, the BBR Muslims of the respondents felt that tourism has had a long term negative economic impact within community due to many of its projects to attract tourists were failed and did not continue management, most of participants in the operation of ecotourism were outside people and business investors such as travel agencies, tour guide and large investors in accommodations, and hence unsustainability practically on economic dimension. By contrast, larger tourism investors have been more successful in ecotourism management within this community, especially utilizations of land use in ecotourist destinations for building international hotel brands and resorts, and restaurants that those hospitality has highest potential and its can attract more tourist to visit. This result is rather inconsistent with the theory and practice of ecotourism that management of ecotourism should follow principles and practices associated with environmental, social, cultural and economic sustainability (Ly & Bauer, 2014; Chiutsi, Memory, Karigambe, & Mudzengi, 2011; Dimitriou, 2017). Aref F. (2009) study to investigates the community perceptions toward economic and environmental impacts of tourism between Old and New Districts in Shiraz, Iran, the extent to which differ slightly found that high positive environmental and economic impact of tourism as favorable for residents in both communities.

In the BTCC Buddhism community, interpretation that the influence of cultural heritage on community reached 68.17 %, followed by influence of spirituality and religious traditions at 58.55 % for sustainability achievement. The aspect with the poorest sustainability was “influence of economic” at 36.52 %, followed by influence of social at 49.28%. This indicated that the Buddhist residents was perceived negatively impactful on economic and social dimension which interpretation that unsustainable and constrains achievement of implementation of the CBE. Without an effective management, ecotourism lead instead to damage on economic and social, indigenous people lack of knowledge of ecotourism management and operate ecotourism venture by themselves, lake of tourism training programs required to develop people of skill and experience, lower income and rarely earn income from tourism activities based on

seasonal and or didn't continues received income from tourism activities lead to misunderstanding and conflicts, lack of familiarity with the processes of financial institutions and the inability to make the necessary business plans and financial plans. Unfortunately, native people and indigenous people not being direct beneficiaries of ecotourism, such as tourism operators are outsiders rather than local people. The findings of this study are consistent with previous studies showing that overall ecotourism practices likely negative impacts on resident's livelihood due to some projects was lacked transparency, residents are more likely to lacked financial resources for invest business, loss of equality and justice within collaborative partnership, accountability and proper oversight that is compounded continuously practice problems (Pawson , Arcy, & Richardson, 2017; Natalie , 2017). However, Caldicott J. & Don F. (2005) suggest that implementation of education and training programs for adults and young people might be help to improving quality of ecotourism management lead to operate a commercially successful ecotourism enterprise for native people and indigenous people based on empowerment with multi stakeholders within community.

Disappointingly, both communities are similarities in implementation of CBE has a negative influence on communities, the aspect with the poorest sustainability was "influence of economic dimension" which lead to low satisfaction. This findings and recommendation should be addressed in order to improve their sustainability performance of both communities. Despite, these challenges of implementation of CBE, author findings appear to be well substantiated by influence of spirituality and religious traditions, cultural heritage, environment, marketing and policy was sustainability achievement which many issues had good or excellent performance.

## **9.7 Chapter Summary**

This chapter show as ecotourism development that related literature continue to subtly position the concept as "sustainability of community- based ecotourism development". First, show that most the examples ecotourism in Phuket island to be strong and rich natural destinations in its competitive potential of ecotourism attractions in the Southeast Asia region. In addition, most research is need to have rich natural resources and or abundance of wildlife and ecosystem will become best ecotourism



destinations and so have more positive economic impacts of ecotourism on the communities, it not only just publishing in peer-reviewed journals but also taking maximizes benefits to legislators and others with decision – making power are awareness of value in the preserve and protect the natural resources base on consistent monitoring of ecotourism’ s impacts on natural environment with tourism industries and tourists activities, because degraded natural resources it lead to decreased visitation and there is no longer tourism economic flowing into communities (Boley & Green, 2016). Second, there need to be consistent of monitoring potential of ecotourism attractions to providing community of tour operators realized to the enormous ecotourism marketing potential to be better quality tourism standard, through urge to increasing indigenous people and tourist to take more responsibility on ecotourism destinations. Third, set the model of sustainable ecotourism development, there are seven dimensions; environment, economic, cultural, social, marketing, spirituality and religious tradition and policy sustainability, will present conclusions in Chapter 10.

## **CHAPTER 10**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **Introduction**

This chapter provides conclusion and recommendations. Firstly, it showed summarizes research findings related to the objective and hypothesis that was analyzed and discussed follow on research theoretical and conceptual framework as mentioned in chapter 9. Secondly, it provides conclusions relating to the sustainability of CBED. Finally, it presents recommendations for sustainability development, recommendations for community level, recommendations for cased studies and recommendations for future research.

#### **10.1 Conclusions**

Contingent on this study's results, ecotourism before and after the tsunami disaster when it was implemented in destination areas more than 14 years ago had different impacts on both communities, I can conclude, positive and negative impact of ecotourism have influence on local livelihood as follows:

##### **10.1.1 The impact of ecotourism**

**H1:** The opinions of the local people differ in the impact of ecotourism occurred before and after tsunami disaster

A. Overall, residents of BBR Muslim community perceived have a few decreased negative natural environment and ecology impacts, economic impact, and society and culture impact on community, where post tsunami disaster highest the negative impacts on community economic, such as increased cost of land or land speculation, and high cost of living or increased cost of products and services. Conversely, where post tsunami disaster a few increased the positive impacts. Distinctively, positive society

and cultural impacts of CBE, ecotourism encourages promotion and conservation of local culture, traditions, historical and religious heritages and increased involvement in cultural activities, traditions, historical and religious heritages, increase quality of local healthy and social welfare, increase quality of children education and efficient safety and or clean drinking water through increased support restorations ecotourism attractions programs for attracting tourists to visit. All Muslim people had the opportunity to be involved in celebrating Muslim ceremonies, Islamic music and dance, religious practices and other local culture. Community leaders and committees seeking to promoting social justice have seen strong commitment to management ecotourism with Muslim people and some Buddhism people within the community in order to reduce social conflicts problems, increased collaborative partnerships in both Islamic and Buddhist had the opportunity to participate in the projects of CBE. Indeed, most BBR Muslim people want to protect and conserve the original culture heritage and required to prevent social conflicts and collision and recreating relationships and reconciliation within community and outside communities, Sonn and Quayle (Sonn & Quayle, 2014) argue that required community empowerment and responsibility, such as woman, older and younger people pay attention in workplace culture, festivals, exhibitions, and shows lead to successful in program of community cultural development.

B. Overall, residents of the BTCC Buddhism community perceived that post tsunami disaster, community have more increased negative natural environment and ecology impacts, economic impacts, and society and culture impact due to past decades of ecotourism activities, besides nature disasters that had strongly affected the community. Post-tsunami disaster, the consequence management of CBE that were small groups and unequal contribution of incomes from tourism activities, residents and indigenous people have fewer benefits from CBE, for example the sources of income from ecotourism activities, residents rarely joined ecotourism management. Besides, they have had often faced economic problems and natural resources crisis due to Phuket tourism marketing development plan and strategy that have high negative impacts on indigenous people and poor people of livelihood, have increased their indebtedness,

where they can not rely on natural resources as like in the previous. The end, it seems that they are waiting from government sector assistance.

#### **10.1.2 Assessment of ecotourism attractions potential for sustainable development after the tsunami disaster.**

**H2:** The opinions of local people, domestic tourists and international tourists differ with aspect to the ecotourism attractions potential in BBR Muslim and BTCC Buddhism communities for sustainable development

A. Overall, in BBR Muslim community all of respondents perceived ecotourism attractions have high potential, as well as several ecotourism destinations and tourism activities have good-excellence potential for attract many both domestic and international such as the quality of managing mangrove forest tourism, rainforest tourism, and wildlife tourism. However, restoration impacts of physical and ecology characteristics of potential that may be difficult and use the long time although can't recovery of some cases due to some plants and animal's species imperiled and extinct from ecosystems and either very rare such as native aquatics species that continued rapidly decline in biodiversity. Consequently, challenger in environmental resources management and marine habitat restoration. According to achievement restoration and rehabilitation ecosystems functions, not only residents' spirituality and religious beliefs and practices toward environment sustainability but also spiritual of entrepreneurship and tourists play a vital role in the ecological restoration. Furthermore, to better understand tourist' attitude and behaviors, both domestic and international tourists who visit at the BBR Muslim community has significant behaviors in religious traditional beliefs and practices on environment conservation and ecotourism destination restoration particularly domestic tourists who are Buddhist and they interesting in BBR Muslim of spirituality and religious, such as domestic tourists has always respect the religion and traditional culture of the host community also international tourists has always become involved in the care, attention to protecting and rehabilitation the nature resource, measured that they pay attention in spirituality and religious traditional

dimension for environment sustainability.

B. Overall, in the BTCC Buddhism community all of respondents perceived that the ecotourism attractions have moderate potential, besides there are less tourism activities that cannot attract more tourists all year. Indeed, the potential of people are the biggest obstacles for CBED, particularly Moken of adult and children education, they lack knowledge about hospitality and tourism that obstacles in ecotourism business administration and management, woman and youth have a few opportunities to get jobs from the tourism business. Furthermore, local governments are not doing enough to create education and employment opportunities, there should be an improvement planned and development in order to the destination' capabilities and readiness for attractiveness to tourists' satisfaction (Popichit, Anuwichanont, Chuanchom, Serirat, & Mechinda, 2013). Moreover, the tourist's attitude and behaviors in religious traditional beliefs and practices influence on natural environment conservation and preserving ecotourism destination, regarding to the large percentage of domestic tourists who visit the BTCC Buddhism community has significant behaviors in religious traditional beliefs and practices and has influence in natural environment conservation and preserving ecotourism destination and the condition of ecotourism attractions potential, (Juvan & Dolnicar, 2016) argument that tourist can help restoration efforts and reduce negative impacts on communities with them acting in an environmentally sustainable manner when on travel at the destinations, in constant the highest percentage of domestic tourists has always supporting spirituality and religious traditional activities to children, always to foster care, and conscience protection on the host community religious and other and they often compliance with all of laws and land use regulations and zone management.

To this end, the two communities were different with effective of implementation in development of ecotourism attractions and restoration ecotourism destinations, measure outcome of CBE has influence on ecotourism destinations and local livelihood such as local peoples' involvement in managing the natural and cultural resources (Reggers, Grabowski, Wearing , Chatterton, & Schweinsberg, 2016). Increasingly, tourists' involvement in responsibility in all tourism activities leading to

CBE as a tool for poverty alleviation through a multi stakeholder effort to promote cooperate environment and social responsibility & sustainability within community. Within Phuket island much of ecotourist attractions and destinations but only allow tourist to visit certain areas that would greatly decrease the effect of tourism with sustainable ecotourism would have on Phuket. Thus, stakeholders in tourism sector, local government and political decisions makers for implementation of CBE. The politicians should improve the policy of the seven dimensions as below:

#### ***10.3.1 Sustainability environment development***

Ecotourism destinations and ecology restoration is difficult but more important for community economic, social and environment in both community. In Phuket, declines in shark populations in Andaman Sea due to over consumption of sharks, therefore government, NGOs, private stakeholders and local people should pay more attention in restoration of the sharks' species and marine animals reduce program, such as dugongs, whale, dolphin, and sea turtles. Morgan (Morgan, 2010), suggests that many shark species are important for marine ecotourism in order to achievement sustainability ecotourism and fishermen can earn income from shark ecotourism and other marine mammals, thus don't kill them for soup but reduce them as one of ecotourism destination for attract to tourists visit.

#### ***10.3.2 Sustainability social development***

As mentioned in chapter 6 and chapter 9, both the Muslim and the Buddhism community have experienced increase of negative impact on social and culture such as conflict problems, crime, drugs, accidents, infectious, diseases. Not only these problems occurred in the BTCC Buddhism community and the BBR Muslim community, but also have spreading of social crime in particularly on Patong beach, Karon Beach & Kata Beach are south of Patong beach on the Phuket island. Fortunately, restriction on free open drug-sex tourism service in these two communities due to best management of land regulation and other reasons. However, serious drug-sex tourism service still happens outside the communities, which strongly effect the poor indigenous people who lack of education because they want to be wealthy by earning

extra income from tourists which working relate to commercial prostitution, sexual slavery, exploitation in the pornography in the pup-bars, nightclubs. Besides, I overserved that many domestic tourists stay at homestays, guesthouses and accommodations in short time and use for sex tourism. Kumara (2016) argue that commerce sexual tourism is obnoxious in the aspect of moral, social and religious, which damage the image of ecotourism destinations within the community. Hence, the Phuket government should pay attention to this issue extremely important for the sustainability of CBED program. Post tsunami disaster, Phuket tourism is rapidly growing and increase number of tourists visit over the years, reaching nearly 10 million in 2017. Consequently, many investors, and other local people want to participate in ecotourism, especially, investors, agencies, and businessman looking beautiful landscape and natural tourist destination, thus, cause increase natural land and beach encroachment, as well as conflicts problem between investors and conservationist, conflicts fish catching areas between indigenous fishermen and large fisheries companies in small scale fisheries and large-scale fisheries operator. I suggest that in order to reduce and prevent the conflict problem, all of people should sharing benefit in use of natural resource, build social justice with a moral responsibility through pray in spirituality and religious beliefs and practices to create peace.

### ***10.3.3 Sustainability of culture heritage***

This research finding that both communities of culture heritage have high-highest potential can interested more tourist, local culture heritage products can create diversifying job and stimulate the community economic growth. If both communities seeking to improving organize within community to development of ecotourism operators and pattern of tourism services, such as festivals events, ceremonies, local shows and dance attracting internationals to visit, originally local culture charms and heritage value are highly desired and motivation for tourist (Ashley, Poultney, Haysom, McNab, & Harris, 2005; Alhaj Mohammad , 2014), but there are fewer potential of the local handicrafts development and more unsuccessful markets. Own survey and ask local people finding that handicrafts are not popular usually because of low the quality but high prices and lack of the good place for sale the community products. I suggest

that if community leaders and leadership should pay more attention themselves spirituality in social works, it is necessary in more mainstream on community-based approaches. Especially, leadership who are more spiritual can help poor local people build more opportunities generate it income from local culture heritage resources.

#### ***10.3.4 Sustainability of economic***

The research presented here suggests that the both communities were unsuccessful implementation of economic development. Consider to outcomes of CBE, the residents have the lowest income from ecotourism activities, besides management in networking ecotourism with other villages in both communities have moderate potential, networking ecotourism is the main challenges in the small- scale of CBE, however it bringing collaboration between stakeholders, sharing information and exchanging knowledge and experiences with other communities. According to UNWTO (2015) consider when developing economic with tourism should adapting tourism programs as multi-destinations tourism plan because can drive more profitable with to attract more tourist and necessary to building investment opportunities at grassroot level, especially in order to improve the health of their live and income level of the residents.

#### ***10.3.5 Sustainability ecotourism marketing development***

Based on marketing mix, people or human resource development is important for management ecotourism operator by community based. Describe in the case of the BTCC Buddhism community, many indigenous people pay attention operate in ecotourism by themselves, but they lack knowledge in ecotourism management were lowest level. Hence, local government should provide opportunity in education and support sustainable ecotourism training program such as local guide or children as local tour guide in ecotourism destination of host community not being involved in the children sex tourism. Protect youth and children in tourism is important the role of community leaders in ethics and social responsibility aspects, need to help improve sustainability practices and help to manage the negative impact on social and culture



#### ***10.3.6 Sustainability of spirituality and religious traditional dimension***

This study demonstrates that the community-based spirituality and religious traditional beliefs and practices management of the BTCC Buddhism community has weakened. According to discussion as above mentioned in Chapter 9, outcomes among distinction in spirituality and religious root of personalism have significant for CBED, their involvement in CBED must be related to that encouragement of tourism entrepreneurship of spirituality and religious beliefs and practices leading to sustainability ecotourism businesses and natural resources management. Indeed, the role of local tourism operators, travel agencies and tourist guides should involve more interpretation of the spirituality and religious traditional beliefs and practices of the host community to domestic and international tourists and pay more spiritual responsibility while visit at risk ecotourism destinations. In addition, the BTCC Buddhism community spirituality and religious traditional tourism have good potential, the role of tourism partnership should build the branding strategy to market spirituality and religious tourism activities. I am certain that these activities can help improve ecotourism destinations while increasing positive impacts on community with ensuring tourism delivers and ongoing performance management, sharing host-tourists of history, culture, food and language together (Haq & Medhekar, 2013).

#### ***10.3.7 Sustainability of policy dimension***

Considering to outcome of CBE and natural disaster that have directly affected the communities both the residents and ecotourism destinations of potential. In order to achievement in sustainability of CBED, and develop and effective CBEM in the small-scale communities. Consequently, the decision makers should realize design policy for human resources management that focus on spiritual empowerment and using the techniques and approaches based on rooted in spiritual and religious traditions all stakeholders. The role of spiritual and religious have significands for personal development, especially encourages spirituality and religious into educational programs for development of students (Degil & Regnier, 2014). Other social

researchers have agreed to spirituality and religious traditional in social work education more than just teaching students with adapting beliefs and practices into the classrooms (Graham & Shier, 2012), seeking a directs support younger leaders to join the programs (Pruzan, 2011) that could have significant impacts of behavior change interventions in children and youth. Likewise, consequences of expansion of tourism business have had more negative impacts on ecotourism destinations and native peoples, thus the role of entrepreneurship as an important key for sustainable ecotourism business, I suggest that they should aware that promote corporate social and environment sustainability, regarding to community-based spirituality and religious traditional beliefs and practices, which establish programs for workers and employees spirituality development wisdom-based responsibility in social and environment. Some scholarship argues about whether spirituality and religious management leading to develop potential of human quality (Ribera & Lozano, 2011) and successfully integrates performance, which private sector and business leaders have to take participation in activities (Thompson, 2011; Miller, 2011).

#### **10.4 Recommendation for case studies**

##### **10.4.1 BBR Muslim community**

In the case of the BBR Muslim community, to keep the mangrove forests intact alongside ecological restoration. Wildlife conservation has important practices, recognize wildlife plays a significant role to help to keep the environment clean and to maintain healthy ecosystems also ecological balance (Kotiyal , 2016), it can be major ecotourism attractions which wildlife is a source of income to local people and broaden communities' economic option. Thus, local government and NGOs are dedicated to wildlife conservation, which helps to implement policies and programs to protect wildlife not only gibbon rehabilitation project. Yet, around BBR Muslim of coastal found various types of wildlife tourism activities such as monkey viewing, bird watching, dugong watching etc., but these animals go missing from here. I have recommended that certain plant species restoration is important for the favorite food of animals, enhance restoring seagrass bed that were destroyed by human activities and

tsunami for shelter and food to some incredibly diverse marine animals, from tiny invertebrates to large fish, crabs, shrimp, turtles, marine mammals and birds. Although, sacred monkey mangrove sanctuary is popular tourist attractions, over 1,000 tourists per month visited this community. However, monkeys are wild animals and aggressive to people, particularly in their pursuit of food, sometime they climb on building of roof, bike, car, and people if encouraged also notorious for stealing personal belongings thus touching, feeding with them can be dangerous, to resolve monkey problem, I have suggestion that should to keep the trees and vegetation, and to restoration fruit trees important for the monkeys on them of lands.

#### **10.4.2 BTCC Buddhism community**

In the case of the BTCC Buddhism community, I am more pay attention in spirituality and religious dimension based on analysis and discussion, most highlight Buddhist cultural heritage, including Moken tribe of culture has high potential it can attract numerous of tourist go to visit if there are best implement cultural heritage plan, particularly spirituality and religious is the part of culture heritage dimension. The best way to ensure a successful, Phuket government would have more collaboration between NGOs, business or entrepreneurs, such as hotel, restaurants, transportations and travel agents to connecting support spirituality and religious tourism activities to put into place and effective PR and marketing strategy, such as spirituality and religious ceremonies, Moken tribes of ceremonies, ritual which relate to environment conservation and stewardship, which requires community members and tourists to be motivated for involve in implement tourism activities, such as meditation, vegetarian festival, Loy Krathong festival also boat floating festival of Moken. Recognized throughout the world, spirituality and religious beliefs and practices are significant in natural environment preservation and managing local community resources, Phuket government and decision makers should carefully consider Thalang's policies and actions plan for ecotourism destination and ecological restoration to achieve sustainability, such as restoration sharks , dugongs and dolphin or other mammals view point were important, might be attracting tourist revisit there. Besides, for children and youth, should have collaboration in management of spirituality and religious education

and teaching to children and young people relate to environment protect and preserve among this community for engagement children and young's experience such as designed the environment and natural resource sustainability programs for students seeking educational related to sustainable use of resource based on Buddhist principal of practices such as Middle Way or Middle Path, and Noble Eightfold Path consists of eight practices; right view, right resolve, right speech, right action, right livelihood, right effort, right mindfulness and right concentration, Jootla (1988) argued that practices followers of Noble Eightfold Path can help and encouraging positive on social and environment led to sustainability.

### **10.5 Recommendation for research**

Although the paper focuses on two villages as a basis for quantitative and qualitative social research methods, the context of a disciplinary specialization; potential assessment implementation of CBE can be applied to other villages, future research should be developed as above

- To assess the implementation of CBE by considering other important indicators and should be improve and adjusted some indicators to suitable for study areas.
- Next research should be study of Islamic law contributes to theory development toward environment conservation and protection aim to create high potential of ecotourists destination.
- To assessment of spirituality and religious traditional of two communities for development of strategy to market sustainability.
- Next study research should be the impacts of spirituality and religious traditional beliefs and practices in the social work for environment conservation and abundances of ecotourism destinations.

## 10.6 Chapter Summary

In summary, if considering the future of ecotourism in the Phuket, the most important dimension is spirituality and religious traditional dimension. Spirituality and religious beliefs and practices which relationship between human and environment conservation and stewardship. Muslim community beliefs in God and the villagers respect in own religious, through used the Quranic Principle of Islamic (Islamic Shariah Law), Five Pillars as essential guideline for Islamic life. Buddhism community beliefs Buddha' teaching (Dhamma), follow in the footsteps of Buddha based on practices Five precepts, Middle way, meditation, pilgrimage etc. to bring happiness and life' s peacefulness.

If both communities' adherence to the religious precepts which can be promote harmoniousness and the require to achieving balance use of natural resource, sharing benefits equally, maintaining, preservation the ecosystems and natural resource conservation that are associated with ecotourism, and provide positive economic and conserving and enhancing biodiversity through help protect the natural and culture heritage lead to beautiful ecotourism destinations and planet sustainability.

The paper ends with a cautious note, spirituality and religious traditional value are inherited generations to generations, the require to achieving sustainability CBED.

## APPENDIXES

### Appendix 1 Definition of impact indicators assessed before and after the tsunami disaster

Negative Impact		Positive Impact
Criteria	Impact of Indicators	Impact of Indicators
Natural environment and ecology	NN1= Coastal ecosystems were destroyed NN2= Mangroves were destroyed NN3= Fauna were destroyed NN4= Flora were destroyed NN5= Natural areas and mangrove encroachment NN6= Wastewater problem NN7= Garbage NN8= Soil degradation NN9= Air pollution NN10= Noise Pollution	PN1= Wildlife conservation PN2= Mangrove restoration PN3= Fauna restoration (Rare aquatic animals) PN4= Flora restoration (Rare aquatic plants) PN5= Successfully agriculture and Sufficient marine resource to ensure seafood supply for community
Economic	NE1= Land speculation and increased cost of land NE2= High cost of live or increased cost of products and service.	PE1= Increase sufficient economy promote project PE2= Increase village fund and well fare PE3= Increase community co-operatives groups PE4= Provide employment opportunities and income

	<p>NE3= Increased indebtedness</p> <p>NE4=Low-income from tourism and imbalance between revenues and costs.</p> <p>NE5=Leakage of money to outside business owners</p>	<p>PE5= Increase income from tourism activities</p> <p>PE6= Increase income from coastal fishing</p> <p>PE7= Increase income from agriculture</p> <p>PE8= Increase income distribution or flow of money in village</p>
Society and Culture	<p>NS1= Social conflict and collision</p> <p>NS2= Water shortage</p> <p>NS3= Poverty and unemployed</p> <p>NS4=Residential environment and habitat</p> <p>NS5= Illegal workers</p> <p>NS6= Crime, drugs, accidents, infectious diseases</p> <p>NS7= Coastal fishing, Agriculture</p> <p>NS8= Yachts, fishing boats and equipment of the villagers (Paklok Sub District )</p> <p>NS9= Affected Buddhism festivals, traditional lifestyle</p> <p>NS10= Affected SME business</p>	<p>PS1= Increase tourism facilities (hotel, homestay, restaurant, etc.)</p> <p>PS2= Tourism improve quality of education and tourism human resource development</p> <p>PS3= Increase quality of local healthy and social welfare</p> <p>PS4= Increase employment opportunities</p> <p>PS5= Live hoods: well-being, safety</p> <p>PS6= Increase established community organization and cooperation groups</p> <p>PS7=Increase quality of infrastructure and facilities (Road and transportation, Water supply, Pier, Electric power supply, Renewable energy)</p> <p>PS8= Restorations tourist attractions (Ancient ruins, temple , culture etc.)</p> <p>PS9= Promote and conservation of local culture, traditions, historical and religious heritages.</p> <p>PS10= Encourage local communities to value and benefit from natural and cultural resource.</p>

**Appendix 2 Impacts assessments of ecotourism before and after tsunami disaster in BBR Muslim community and BTCC Buddhism community**

			BBR Muslim community						BTCC Buddhism community					
	Criteria	Impact of Indicators	Before tsunami disaster			After tsunami disaster			Before tsunami disaster			After tsunami disaster		
			Mean	RII	Rank	Mean	RII.	Rank	Mean	RII	Rank	Mean	RII.	Rank
Negative Impact	Natural environment and ecology	NN1	2.59	0.8624	1	2.25	0.7505	2	2.09	0.6979	2	2.74	0.9146	2
		NN2	2.57	0.8581	2	1.95	0.6473	5	2.00	0.6666	5	2.10	0.7000	9
		NN3	2.10	0.6989	6	2.55	0.8495	1	1.78	0.5938	9	2.76	0.9208	1
		NN4	2.16	0.7204	5	1.45	0.4839	6	2.08	0.6917	3	2.71	0.9021	3
		NN5	2.19	0.7312	4	2.07	0.6903	3	1.94	0.6479	6	2.28	0.7583	7
		NN6	1.68	0.5613	8	1.16	0.3871	8	2.02	0.6729	4	2.42	0.8063	5
		NN7	1.69	0.5634	7	1.14	0.3785	9	1.94	0.6458	7	2.29	0.7625	6
		NN8	1.05	0.3505	10	1.17	0.3892	7	2.19	0.7313	1	2.63	0.8750	4
		NN9	1.07	0.3570	9	1.10	0.3656	10	1.84	0.6125	8	2.11	0.7042	8
		NN10	2.46	0.8194	3	1.97	0.6559	4	1.61	0.5354	10	2.03	0.6771	10
	Economic	NE1	2.48	0.8280	1	2.21	0.7376	4	1.80	0.6000	5	2.68	0.6604	5
		NE2	2.45	0.8172	2	2.48	0.8280	1	2.34	0.7792	1	2.59	0.8646	1
		NE3	1.89	0.6301	3	2.36	0.7871	2	2.07	0.6896	3	2.33	0.7750	2
		NE4	1.86	0.6215	4	2.36	0.7871	2	2.09	0.6958	2	2.28	0.7604	3



	Society and Culture	NE5	1.66	0.5548	5	1.68	0.5613	5	1.81	0.6021	4	1.99	0.6625	4
		NS1	2.05	0.6817	5	2.35	0.5699	9	1.91	0.6375	6	2.23	0.8917	1
		NS2	2.16	0.7204	3	2.25	0.7484	2	2.05	0.6833	2	2.41	0.8021	4
		NS3	2.41	0.8022	1	2.00	0.6667	7	1.93	0.6417	4	2.07	0.6896	7
		NS4	2.35	0.7828	2	1.91	0.6366	8	2.18	0.7250	1	2.37	0.7896	5
		NS5	1.89	0.6301	6	2.01	0.6688	6	1.93	0.6417	4	2.08	0.6917	6
		NS6	1.75	0.5849	8	2.26	0.7527	1	1.81	0.6042	8	1.94	0.6458	8
		NS7	2.14	0.7118	4	2.22	0.7398	4	1.99	0.6625	3	2.54	0.8458	2
		NS8	1.79	0.5957	7	2.25	0.7484	2	1.83	0.6104	7	2.43	0.8104	3
		NS9	1.32	0.4409	10	1.46	0.4860	10	1.60	0.5333	10	1.69	0.5646	10
Positive Impact	Natural environment and ecology	NS10	1.42	0.4731	9	2.14	0.7140	5	1.61	0.5375	9	1.72	0.5729	9
		PN1	1.42	0.4731	3	1.93	0.6430	4	1.76	0.5875	4	1.94	0.6458	3
		PN2	1.38	0.4602	4	2.22	0.7398	3	1.86	0.6208	3	2.16	0.7208	2
		PN3	1.52	0.5075	2	2.42	0.8065	1	1.70	0.5667	5	1.94	0.6458	3
		PN4	1.23	0.4108	5	2.28	0.7591	2	1.89	0.6313	2	2.29	0.7625	1
	Economic	PN5	2.26	0.7548	1	1.71	0.5699	5	2.74	0.9146	1	1.15	0.3833	5
		PE1	1.14	0.3785	8	1.55	0.5161	5	1.94	0.6479	3	2.27	0.7563	1
		PE2	1.63	0.5419	4	1.61	0.5355	3	1.81	0.6021	4	1.93	0.6417	2
		PE3	1.34	0.4452	6	2.18	0.7269	1	1.76	0.5875	5	1.89	0.6292	3
		PE4	1.38	0.4602	5	1.43	0.4753	7	2.02	0.6729	2	1.73	0.5750	4
		PE5	2.06	0.6882	3	1.35	0.4516	8	1.62	0.5396	6	1.53	0.5104	8
		PE6	2.13	0.7097	2	1.48	0.4946	6	2.47	0.7479	1	1.67	0.5563	5

		PE7	2.29	0.7634	1	2.05	0.6817	2	1.58	0.5250	7	1.59	0.5313	7
		PE8	1.32	0.4387	7	1.58	0.5269	4	1.56	0.5208	8	1.63	0.5417	6
	Society and Culture	PS1	1.94	0.6473	4	1.71	0.5699	6	2.12	0.7063	1	2.41	0.8042	3
		PS2	1.24	0.4129	10	2.05	0.6839	5	1.71	0.5708	7	1.84	0.6125	10
		PS3	1.34	0.4473	8	2.19	0.7290	2	1.84	0.6125	5	2.11	0.7021	7
		PS4	1.35	0.4516	7	1.44	0.4796	9	1.83	0.6083	6	2.08	0.6917	8
		PS5	1.34	0.4473	8	1.55	0.5183	7	1.99	0.6646	3	2.31	0.7688	4
		PS6	1.77	0.5892	5	2.29	0.7634	1	2.00	0.6667	2	2.16	0.7208	5
		PS7	2.14	0.7140	1	1.19	0.3978	10	1.98	0.6604	4	2.15	0.7167	6
		PS8	1.72	0.5720	6	2.07	0.6903	4	1.58	0.5271	8	2.49	0.8313	2
		PS9	1.97	0.6559	3	2.12	0.7075	3	1.34	0.4458	10	2.92	0.9729	1
		PS10	2.01	0.6710	2	1.45	0.4817	8	1.39	0.4646	9	2.07	0.6896	9

### Appendix 3 Residents Interviews

**Questionnaires: Impact assessment and potentials of ecotourism  
attractions  
For Local people / Community member**

**Local people / Community member opinion questionnaires for assessment of  
potentials of ecotourism attractions for sustainable development in coastal  
community**

**Date**..... / ..... / ..... **Place**.....

---

**Part 1 Personnel demographic Characteristics**

**Explanation** Please mark √ in the ☐ meets your opinions.

1. Gender  
☐ 1. Male    ☐ 2. Female
2. Age  
☐ 1. Under 20    ☐ 2. 20-30    ☐ 3. 31-40    ☐ 4. 41-50  
☐ 5. 51-60    ☐ 6. Over 60
3. Education level  
☐ 1. High School    ☐ 2. Diploma  
☐ 3. Bachelor's Degree    ☐ 4. Masters degree or above.
4. Occupation  
☐ 1. Student    ☐ 2. Employees of privately  
☐ 3. Employee of state enterprises    ☐ 4. Public servant  
☐ 5. Commercial    ☐ 6. Farmers  
☐ 7. Fishermen    ☐ 8. More (Please specify).....
5. In come  
☐ 1. Less than 5,000 baht    ☐ 2. 5,000-10,000 baht  
☐ 3. 10,001-15,000 baht    ☐ 4. 15,001-20,000 baht  
☐ 5. 20,001-25,000 baht    ☐ 6. More than 25,000 baht

**Part 2 Impact of tsunami**

6. Have you been affected by the tsunami disaster?  
☐ 1. Yes    ☐ 2. No

7. How have you been affected by the tsunami disaster?

- ☐ 1. Pradhan family    ☐ 2. Losing family    ☐ 3. Loss of housing  
☐ 4. Employment / livelihood    ☐ 5. Psychological trauma/ Mental changes  
☐ 6. More (Please specify).....

**Part3 Opinion of impact assessment in community before and after tsunami**

**H= High      M= Medium      L= Low**

Impact	Indicators	Level of impact before tsunami			Level of impact after tsunami		
		H	M	L	H	M	L
<b>Natural environment and ecology</b>	<b>Positive Impact</b>						
	<b>Conservation and Recovery</b>						
	-Wildlife conservation project						
	-Gibbon rehabilitation						
	-Mangrove restoration project						
	-Project rare aquatic plants						
	-Rare aquatic conservation						
	<b>Negative Impact</b>						
	<b>Environmental problem</b>						
	Coastal ecosystems have been destroyed						
	Mangroves were destroyed						
	Wild animals have been destroyed						
	Aquatic animals have been destroyed						
	Natural areas and mangrove have been compromised						
	Marine flora and fauna were destroyed						
	<b>Pollution</b>						
	Wastewater						
	Garbage						
	Air pollution						
	Noise						
<b>Economy</b>	<b>Positive Impact</b>						
	Sufficient economic						
	Direct employment opportunities and income						

	Income from tourism activities						
	<b>Indicators</b>	<b>Level of impact before tsunami</b>			<b>Level of impact after tsunami</b>		
		<b>H</b>	<b>M</b>	<b>L</b>	<b>H</b>	<b>M</b>	<b>L</b>
	Income from coastal fishing						
	Income from agriculture						
	Fond village and well fare						
	Community co-operatives						
	Flow of money						
	<b>Negative Impact</b>						
<b>Economy</b>	Capitalism Land (Land sale)						
	High cost of living						
	Indebtedness						
	Low-income						
	Leakage of money						
<b>Society &amp; Culture</b>	<b>Positive Impact</b>						
	Increase quality of local healthy and social welfare						
	Increase tourism facilities (hotel, homestay, restaurant, etc.)						
	Restorations tourist attractions (Ancient ruins, temple etc.)						
	Tourism improve quality of education and tourism human resource development						
	Increase employment opportunities						
	Live hoods: well-being, safety						
	Increase established community organization						
	Increase quality of Infrastructure and Facility (Road and transportation, Water supply, Pier, Electric power supply, Renewable energy)						
	<b>Negative Impact</b>						
	Social conflict and collision						
	Water shortage.						

	Poverty and Unemployed						
	Residential environment, habitat						
	<b>Indicators</b>	<b>Level of impact before tsunami</b>			<b>Level of impact after tsunami</b>		
		<b>H</b>	<b>M</b>	<b>L</b>	<b>H</b>	<b>M</b>	<b>L</b>
	Illegal workers						
	Crime, drugs, accidents, infectious diseases						
	Coastal fishing, Agriculture						
	Yachts, fishing boats and equipment of the villagers						
	Affected Buddhism festivals, traditional lifestyle						
	SME business						

#### **Part 4 Opinion questionnaires for assessment of ecotourism attractions potentials for sustainable development**

**5 = Most    4 = Much    3 = Moderate    2 = Little    1 = Least**

Topic of indicators		Opinion Level				
<b>1.    <u>Physical characteristics.</u></b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.1 Convenient access to tourism attractions.						
1.2 Dangerous curve road						
1.3 Landscape (Number of building around nature public area, height of building, etc.)						
1.4 Geomorphological formations and soils.						
1.5 Flora biodiversity						
1.6 Faunal biodiversity						
1.7 Other.....						
<b>2.    <u>Ecosystem management in tourism attractions.</u></b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
2.1 Quality of maintaining environment. (The protection, maintenance, restoration.)						
2.2 Voice quality management. (Far from urban communities, near industrial, sound pressure level. etc.)						
2.3 Solid waste management. (Enough and suitable garbage bins, classified						

garbage, waste disposal signs. etc.)					
2.4 Wastewater management					
2.5 Water availability and conservation					
2.6 Energy management					
2.7 Air pollution management (Dust, smell diffusion and smoke. etc)					
2.8 Other.....					
<b>3. <u>Value and importance of tourism attraction.</u></b>					
3.1 Complete ecosystem/Biological diversity.					
3.2 Beautiful landscape.					
3.3 Agricultural way of life.					
3.4 Unique and distinctive culture.					
3.5 Various tourism activities.					
3.6 Value and importance of archaeological, artistic and heritage					
3.7 Inherited Islamic tradition					
3.8 Fair price					
3.9 Other.....					
<b>4. <u>Education.</u></b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
4.1 Knowledge of local people in environment conservation					
4.2 Knowledge of local people in ecotourism management					
4.3 Environmental compliance (Environment laws, regulations)					
4.4 Knowledge of local people in tourism hospitality operations management (Skills, communication, fairly, build credibility politeness and kindness)					
4.5 Environmental conscious					
4.6 Other.....					
<b>5. <u>Management.</u></b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
5.1 Ecotourism marketing management.					
5.2 Guideline for community base ecotourism development					
5.3 Visitors' safety management (Nature disaster, immigration measure).					
5.4 Strictly security measures and it well equipped to cope with the emergencies at all time					
5.5 Control land use in tourist attractions					
5.6 Networking ecotourism in another village					
5.7 Other.....					
<b>6. <u>Participation.</u></b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
6.1 Local people participation in land conservation					

6.2 Participation in environment rehabilitation					
6.3 Participation in culture conservation					
6.4 Participation in environment protection					
6.5 Tourist participation in ecotourism attractions protection					
6.6 Other.....					

### **Part 5 Opinion questionnaires for assessment of implementation of CBED**

Topic of indicators	Opinion Level				
	5	4	3	2	1
<b>7. <u>Environment.</u></b>					
7.1 Existence of management plans for Convenience of access to tourist attractions and basic tourist facilities					
7.2 Quality improvement plan of the roads transportation					
7.3 Existence of landscape management plan					
7.4 Existence of management plans for geomorphological formations and soils					
7.5 Existence of flora biodiversity management plan					
7.6 Existence of faunal biodiversity management plan					
7.7 Local people participation in land conservation					
7.8 Participation in environment rehabilitation					
7.9 Participation in culture conservation					
7.10Participation in environment protection					
7.11Tourist participation in ecotourism attractions protection					
7.12Quality of maintaining environment (The protection, maintenance, restoration.)					
7.13Voice quality management (Far from urban communities, near industrial, sound pressure level. etc.)					
7.14Solid waste management (Enough and suitable garbage bins, classified garbage, waste disposal signs. etc.)					
7.15Wastewater management (Consumption water per person and per day, drinking water supply, safe and clean water)					
7.16Water availability and conservation (Enough water fit for drinking, Water scarcity)					
7.17Energy management					
7.18Air pollution management (Dust, smell diffusion and smoke. etc)					
<b>8. <u>Social.</u></b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>



8.1 Safety management for creating community Images					
8.2 Strictly Islamic spirituality and religious tradition of regulations/ Strictly Buddhism spirituality and religious tradition of regulations management					
8.3 Control land use in tourist attractions, Adequate Housing)					
8.4 Existence of program of spiritual and religious activities with youth					
8.5 Providing and development knowledge of local people in environment conservation					
8.6 Trained and development knowledge of local people in ecotourism management					
8.7 Environmental compliance (Environment laws, regulations)					
8.8 Conflict management in tourism					
8.9 To capture (keep) levels of environmental consciousness existent					
8.10 Implementation of quality infrastructure development					
<b>9. <u>Culture and traditions.</u></b>					
9.1 Existence of protecting cultural heritage values					
9.2 Participation in culture conservation					
9.3 Program of recovery fishery way of life /Traditional Agriculture					
9.4 Existence and Revival program of traditional clothing, music and dance					
9.5 Conservation of value and management of artistic archaeological, and heritage buildings					
9.6 Awareness of the existence of inherited Buddhist tradition/ Muslim tradition					
9.7 Providing and development of local foods and Restaurants					
9.8 Recovery & Implementation of local traditional rituals and festivals					
<b>10. <u>Economic.</u></b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
10.1 Tour operator and tourism activities management					
10.2 Accommodations service					
10.3 Environmental compliance (Environment laws, regulations)					
10.4 Transportation and other service					
10.5 Local culture and heritage					
10.6 Commercial fishery activities					
10.7 Commercial agriculture activity					
10.8 Commercial livestock activity					
<b>11. <u>Marketing.</u></b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
11.1 Implementation of plan for Ecotourism marketing management.					

11.2 Promote CBE management and marketing destinations					
11.3 Community base spirituality and religious tradition tourism management					
11.4 Development of tourist activities and tourism products to impress tourist					
11.5 Development of local products for sale to tourist					
11.6 Providing and development knowledge experience and skills of local people in tourism hospitality operations management					
11.7 No. of tourist visitation					
11.8 Preserve the existing value of tourism resources					
11.9 Stakeholders coordination management on tourism					
11.10Existence of tourism- services management at fair price					
<b>12. <u>Spirituality and religious traditions</u></b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
12.1 Often adopt your own religious teachings to daily life					
12.2 Have opportunities to participate in practices of your own religious					
12.3 Participation in your own evangelism and their faith to children					
12.4 Supporting spirituality and religious traditional activities to children					
12.5 Often to foster care, and conscience protection on your own religious and other					
12.6 Respect the religion and traditional culture of the Buddhism community/ Muslim community					
12.7 Obtaining equality and justice and encourage local communities to value and benefit from natural and cultural resource					
12.8 Participate in the preservation and promotion of local traditional culture, historical and religious heritages					
12.9 Compliance with all of low and land use regulations and zone management					
12.10Involved in the care, attention to protecting and rehabilitation the nature resource					
<b>13. <u>Policy</u></b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
13.1 Restoration flora and fauna project					
13.2 Management of ecosystem, ecological health and Process					
13.3 Promote education and public awareness					
13.4 Rehabilitation and conservation of local cultural and historical values					
13.5 Land use management					
13.6 Regularly landscape improvements					
13.7 Conservation of biological diversity and ecosystems					
13.8 Safety management for local people and tourist					

13.9 Existence of policy and planning in religious or spirituality sector for enhancing sustainable ecotourism development					
13.10 Promote investment that support local development					

#### Appendix 4 Potential indicators used in ecotourism attractions

Criteria	Indicators
Physical and Ecology characteristics	PE1= Convenient access to tourism attractions
	PE2= Quality of roads (Slope, dangerous curve, road surface)
	PE3= Landscape (Minimal number of building around nature public area, height of building, etc.)
	PE4= Geomorphological formations and soils
	PE5= Flora biodiversity
	PE6= Faunal biodiversity
Ecosystem management in tourism attractions	EM1= Quality of maintaining environment (Protection, maintenance, restoration)
	EM2= Voice quality management
	EM3= Solid waste management
	EM4= Wastewater management
	EM5= Water availability and conservation
	EM6= Energy management (Per capita consumption of energy from all sources, applying energy saving policy, renewable resources)
	EM7= Air pollution management
Value and important of tourism attractions	VT1= Complete ecosystem /Biological diversity/ original and natural condition
	VT2= Beautiful landscape
	VT3= Fishery way of life /Agriculture
	VT4= Uniqueness and distinctive culture
	VT5= Various tourism activities
	VT6= Value and importance of archaeological, artistic and heritage
	VT7= Inherited Buddhism tradition/ Muslim tradition
	VT8= Fair price
Education	ED1= Knowledge of local people in environment conservation
	ED2= Knowledge of local people in ecotourism management
	ED3= Environmental compliance (Environment lows, regulations, standards)
	ED4= Knowledge of local people in tourism hospitality operations management

	ED5= Environmental conscious
Management	MN1= Ecotourism marketing management
	MN2= Community base spirituality and religious tradition tourism management
	MN3= Protecting cultural heritage values(Interpretation, renovation ,restorations)
	MN4= Safety management (Possible occurrence of nature hazard, crime, accidents statistics and damage, immigration measure)
	MN5= Strictly Islamic spirituality and religious tradition of regulations/ Strictly Buddhism spirituality and religious tradition of regulations
	MN6= Control land use in tourist attractions, Adequate housing
	MN7= Networking ecotourism in another village
Participation in conservation	PC1= Local people participation in land conservation
	PC2= Participation in environment rehabilitation
	PC3= Participation in culture conservation
	PC4= Participation in environment protection
	PC5= Tourist participation in ecotourism attractions protection

## Appendix 5 Tourists Interviews

### Tourist Opinion Questionnaire

**Tourist opinion questionnaires for assessment of potentials of ecotourism attractions for sustainable development in Ban Bang Rong/ Ban Tha Chat Chai community**

**Date** ..... / ..... / ..... **Place** .....

---

#### **Part 1 Personnel demographic Characteristics**

**Explanation** Please mark ✓ in the ☐ meets your opinions.

**1. Gender**

- ☐ 1. Male ☐ 2. Female

**2. Age**

- ☐ 1. Under 20 years ☐ 2. 20-24 years old ☐ 3. 25-34 years old  
☐ 4. 35-44 years old ☐ 5. 45-54 years old ☐ 6. More than 55 years old

**3. Marital status**

- ☐ 1. Single ☐ 2. Marry  
☐ 3. Windowed ☐ 4. Divorced

**4. Religion**

- ☐ 1. Hinduism ☐ 2. Buddhism  
☐ 3. Muslim ☐ 4. Christian  
☐ 5. Other (Please specify).....

**5. Education level**

- ☐ 1. High School ☐ 2. Diploma  
☐ 3. Bachelor's Degree ☐ 4. Masters degree or above.

**6. Occupation**

- ☐ 1. Student ☐ 2. Employees of privately  
☐ 3. Employee of state enterprises ☐ 4. Public servant  
☐ 5. Commercial ☐ 6. Farmers  
☐ 7. More (Please specify).....

**7. In come**

- ☐ 1. Less than 5,000 baht ☐ 2. 5,000-10,000 baht

- ☐ 3. 10,001-15,000 baht
- ☐ 4. 15,001-20,000 baht
- ☐ 5. 20,001-25,000 baht
- ☐ 6. More than 25,000 baht

**Part 2 Tourism behaviours data.**

**8. Do you prefer to travel with?**

- ☐ 1. Alone
- ☐ 2. Families
- ☐ 3. Friends
- ☐ 4. Travel agency
- ☐ 5. Other.....

**9. What kind of vehicle do you prefer?**

- ☐ 1. Private car
- ☐ 2. Rental car / Van bus
- ☐ 3. Tour bus
- ☐ 4. Other.....

**10. The purpose of visit.**

- ☐ 1. Nature
- ☐ 2. History
- ☐ 3. Culture
- ☐ 4. Arts and antiquities
- ☐ 5. Livelihoods of local communities
- ☐ 6. Agro-Tourism
- ☐ 7. Other.....

**11. How many times you have been to Bang Rong village?**

- ☐ 1. First time
- ☐ 2. Second
- ☐ 3. More than 2 times

**12. How long you visit in this village?**

- ☐ 1. 1 day
- ☐ 2. 2-3 days
- ☐ 3. 4-5 days
- ☐ 4. Over 5 days
- ☐ 5. Uncertain

**13. What do you know the types of media about this village information?**

- ☐ 1. Travel agencies
- ☐ 2. Newspapers / magazines
- ☐ 3. Internet /www.
- ☐ 4. Brochure
- ☐ 5. Friends / relatives or Families

**14. The cost of travel per day.**

- ☐ 1. Less than 1,000 baht
- ☐ 2. 1,001-2,000 Baht
- ☐ 3. 2,001-3,000 Baht
- ☐ 4. 3,001-4,000 Baht
- ☐ 5. Over 4,000 Baht

**15. What kind of activities do you like the most?**

- ☐ 1. Nature
- ☐ 2. History
- ☐ 3. Culture
- ☐ 4. Arts and antiquities
- ☐ 5. Livelihoods of local communities
- ☐ 6. Agro-Tourism
- ☐ 7. Other.....

**16. Tourists' attitude toward spirituality and religious traditional beliefs and practices in natural environment conservation and preserving ecotourism destination**

## Appendix 6 Public Sector Interviews

### Interview Community Leaders

Date of interview ...../...../..... Place .....

#### Community leaders

1. Name: .....
2. Occupation /positions: .....
3. Salary income: .....
4. Community detail:
  - 4.1 Histories of community: .....
  - 4.2 Religions: .....
  - 4.3 Number of community member: .....
  - 4.4 Occupation: .....
  - 4.5 Resource: .....
  - 4.6 Household: .....
  - 4.7 Infrastructure: .....
  - 4.8 Facility: .....
  - 4.9 Other: .....
5. Tourism situation of community before tsunami: .....
6. Affected by tsunami in 2004
  - 6.1 Area: .....
    - I. Resident .....
    - II. Tourism .....
    - III. Fishery .....
    - IV. Agriculture .....
  - 6.2 Economic: .....
  - 6.3 Environment and Ecology: .....
  - 6.4 Social and Cultural: .....
  - 6.5 Other: .....
7. Tourism situation of community after tsunami: .....
8. What is your role of participation in tourism development? ☐1. Yes ☐2. No  
.....
9. How many numbers of local residents participate in tourism management?



- .....
10. How tourism developed in this community? ☐1. Yes      ☐2. No
- .....
11. What is form of community tourism?
- ☐1. Nature tourism
- ☐2. Agro-tourism
- ☐3. Cultural tourism
- ☐4. Healthy tourism
- ☐5. Spirituality and Religious Traditional tourism
- ☐6. Other.....
12. What are the most characterized tourism activities in this community? ☐1. Yes   ☐2. No
- .....
13. Who is tourist target?
- .....
14. How many tourists to visit?
- .....
15. How do you have the policy of tourism marketing plan?   ☐1. Yes   ☐2. No
- .....
16. How do you have process and promote CBED ?      ☐1. Yes   ☐2. No
- .....
17. How do you have the policy of environment and nature resource conservation?
- 17.1 Carrying capacity.....
- 17.2 Protected area.....
- 17.3 Water supply.....
- 17.4 Wastewater.....
- 17.5 Waste.....
- 17.6 Pollution.....
- 17.7 Spirituality and Religious Traditional management for ecotourism and ecology restoration
- .....
- 17.8 Other.....
18. How do you have the policy of social management?
- ☐ 1.Social welfare
- ☐ 2.Social insurance
- ☐ 3.Scholarship
- ☐ 4.Groups of Occupation Housewife
- ☐ 5.Savings and Credit Cooperatives

- ☐ 6. Local Bank
- ☐ 7. Other
19. How do you have the policy of cultural management? ☐1. Yes ☐2. No  
.....
20. How do you have the policy of safety in tourism destination management? ☐1. Yes ☐2. No  
.....
21. How do you have the policy of land use management? ☐1. Yes ☐2. No  
.....
22. How do you have the policy of management accommodation? ☐1. Yes ☐2. No  
.....
23. How management the public facilities and infrastructure?
- 23.1 Restroom and showers.....
- 23.2 Public electricity systems.....
- 23.3 Transportation.....
- 23.4 Port (International standard: Structure, width, length).....
- 23.5 Road (Structure, width, length).....
- 23.6 Water supply.....
- 23.7 Telephone.....
- 23.8 Internet.....
- 23.9 First aid emergency measures.....
- 23.10 Other.....
24. The problem and threat in community?
- 24.1 Social problem.
- ☐ 1. Lack of people and personnel management.
- ☐ 2. Lack of cooperation and participation of the community.
- ☐ 3. Lack of knowledge and understanding the rural tourism management.
- ☐ 4. Social conflict.
- ☐ 5. Unemployment.
- ☐ 6. Poverty.
- ☐ 7. Drug problems.
- ☐ 8. Crime.
- ☐ 9. Terrorism.
- ☐ 10. Prostitution.
- ☐ 11. Catching disease such as rubella, rabies.
- ☐ 12. Other.....
- 24.2 Economic problem.

- ☐ 1. Lack of funding sources.
- ☐ 2. Leakage financial problems.
- ☐ 3. Lack of money management.
- ☐ 4. Foreign labour
- ☐ 5. Other.....

24.3 Environment problem.

- ☐ 1. Mangrove encroachment.
- ☐ 2. Destroying natural resources.
- ☐ 3. Water management.
- ☐ 4. Waste
- ☐ 5. Oil stains
- ☐ 6. Pollution
- ☐ 7. Other.....

24.4 Tourism management problem.

- ☐ 1. No Tourist Service Centre
- ☐ 2. No OTOP centre
- ☐ 3. Lack of understanding in bringing local resources to benefits
- ☐ 4. Lack of tourism information
- ☐ 5. Tourists gaining advantage
- ☐ 6. Lack of cooperation and participation of tourism management.
- ☐ 7. Lack of provides education and practical knowledge to sustainable tourism.
- ☐ 8. Other.....

25. Suggestion for sustainable ecotourism development.

- ☐ 1. Training Skill and knowledge to tourism of local guide
- ☐ 2. Establish quality standards for cleaning or eliminate waste (Water, Oil, Air –Pollution).
- ☐ 3. Protecting tourist against exploitation from Tourism.
- ☐ 4. Security measures in tourist attractions.
- ☐ 5. Other.....

## Appendix 7 Private Sector Interviews

### Interview Paper for Government Organization and Entrepreneur

Date..... / ..... / ..... Place.....

Organization's Name.....

Interviewer's Name.....

Interviewer's Position.....

Male..... Female.....

Type of Organization.....

1. How did you and your organization play the role in planning and develop of your community's ecotourism?

.....  
.....

2. How did you and your organization implementation of spirituality and religious traditional beliefs and practices likely promote environment conservation and restoration?

.....  
.....

3. What was government agencies support and involvement process in ecotourism development?

.....  
.....

4. What community-based ecotourism or projects are in practices in your community?

.....  
.....

5. What is impacts of ecotourism on community occurred before and after tsunami disaster?

.....  
.....

6. What kind of promotional tools for advertise ecotourism in your community?

.....  
.....

7. What was government agencies support and involvement process in ecotourism

marketing implementation?

.....  
.....

8. Are you satisfied with the result from your marketing plans and strategies designed until now?

.....  
.....

9. How about impacted of tsunami disaster on 26 December 2004 on tourism attractions and community?

.....  
.....

10. What is the potential for community-based ecotourism development?

.....  
.....

11. How about create jobs for local people or indigenous people?

.....  
.....

12. What are the problems that have bedeviled ecotourism in your community?

.....  
.....

13. How engagement spirituality religious to local people environment conservation?







.....  
.....

14. Do you have any additional comments regarding to community-based ecotourism development?

.....  
.....

Appendix 8 Ban Bang Rong Muslim community

Tsunami Impact on coastal communities, 2004

	
Bang Rong Pier Before Tsunami	
	
	
After Tsunami	



Building encroachment on the canal and coastal line



Charcoal from coconut shell



## Muslim lifestyle



*Islamic Meditation*



*Community seminar*



*Organic agriculture*



*Mixed vegetable gardening*



*Para rubber plantation*



*Para rubber process*





*Goat Farming*



*Fish farming in cages*

## Appendix 9 Ban Tha Chat Chai Buddhism community

### Tsunami Impact on coastal communities,2004

 <p>A photograph showing a flooded agricultural area with palm trees and other vegetation in the background. The water is murky and reflects the surrounding greenery. A red timestamp '9 10:21AM' is visible in the bottom right corner.</p>	 <p>A photograph showing a mangrove swamp with dense green trees and their reflection in the water. The water appears slightly turbid. A red timestamp '9 10:21AM' is visible in the bottom right corner.</p>
<i>Tsunami Impact on agriculture area</i>	<i>Tsunami Impact on mangrove swamp</i>
 <p>A photograph showing a sandy beachfront with several tall, thin trees. The ground is covered in sand and some debris. A red timestamp '9 10:21AM' is visible in the bottom right corner.</p>	 <p>A photograph showing a village area with several small, simple houses and a lot of debris scattered on the ground. The area appears to be a mix of sand and mud. A red timestamp '9 10:21AM' is visible in the bottom right corner.</p>
<i>Tsunami Impact on Sai Kaew beachfront</i>	<i>Tsunami Impact on Mai Kao village</i>
 <p>A photograph showing the interior of a damaged wooden structure, likely a house or a small shop. The floor is covered in debris and the walls are partially collapsed. A red timestamp '9 10:21AM' is visible in the bottom right corner.</p>	 <p>A photograph showing a village area with several small, simple houses and a lot of debris scattered on the ground. The area appears to be a mix of sand and mud. A red timestamp '9 10:21AM' is visible in the bottom right corner.</p>
<i>Tsunami Impact on Tha Chat Chai Village</i>	<i>Tsunami Impact on Moklen Livelihood</i>

## Recovery Project



*Made new permanent homes*



*New fishing equipment*



*Tsunami Wall of Remembrance*



*Mai Khao beach after tsunami*



*Local Thai Massage at Mai Khao beach*



*Homestays*



*Ban Laem La sea gypsies of livelihood*



## Ban Hin Look Deaw sea gypsies of livelihood



*Laem Hin Sea Gypsy (New Thai) Village*



*Hai Tib or small oysters*



*Loy Krathong festival*



*Effective Microorganism (EM) tank*



Buddhist teaching



Summer Buddhist novice

## References

- ACFRDCP. (2014). *Summary report the cooperation between the Department of Fisheries and Bay of Bengal Large Marine Ecosystem Project; BOBLME*. Department of Fisheries, Ministry of Agriculture and Cooperatives: Marine Fisheries Research and Development Center.
- Adulyanukosol, K., & Poovachiranon, S. (2006). Dugong (*Dugong dugong*) and seagrass in Thailand: present status and future challenges. *Phuket Marine Biological Center. Department of Marine and Coastal Resources*.
- Adulyanukosol, K., Hines, E., & Boonyanate, P. (2010). Cultural significance of dugong to Thai Villagers: Implications for conservation. 41-49. Retrieved from <http://hdl.handle.net/2433/107337>
- A fairer world .org. (2014). *Participation and Empowerment*. The Tasmanian Centre for Global Learning. Retrieved March 16, 2014, from [WWW.afairerword.org/\\_Development/participation.html](http://WWW.afairerword.org/_Development/participation.html)
- Agbim, K., Oriarewo, G., & Ijie, N. (2013). The relative importance of spirituality in entrepreneurship development among graduates of Nigerian tertiary institutions. *International Journal of Business and Management Invention*, 2(4), 25-35.
- Akis, A. (2011). The effects of mass tourism: A case study from Manavgat ( Antalya-Turkey). *Procedia Social and Behavioral Sciences*, 19, 289-296.
- Al- Banna, F. (2016, May 31). *Islam and Environment Protect*. Retrieved March 15, 2017, from <https://www.ecomena.org/islam-environment/>
- Al Mamun, A., & Mitra, S. (2012). A Methodology for Assessing Tourism Potential: Case Study Murshidabad District, West Bengal, India. 2(9), 1-8. Retrieved September 20, 2014, from <http://www.ijsrp.org/research-paper-0912/ijsrp-p0982.pdf>
- Almann, M., Bubta , A., & Mazimpaka , O. (2012). *Religious & Sustainability: The Contribution of Religious Belief in Moving Society towards Sustainability*. Thesis submitted for completion of Master of Strategic Leadership towards. Karlskrona, Sweden: Blekinge Institute of Technology.
- Al- Qaradawi, Y. (1994 ). *The Lawful and the Prohibited in Islam Al-Halal Wal Haram*

- <http://www.tatnews.org/responsible-eco-tourism-and-marine-conservation-in-phuket/>
- NOAA. (2017, October 10). *How do coral reefs protect lives and property?* Retrieved from [https://oceanservice.noaa.gov/facts/coral\\_protect.html](https://oceanservice.noaa.gov/facts/coral_protect.html)
- Nugroho, I., Pramukanto, F., Negara, P., Purnomowati, W., & Wulandari, W. (2016). Promoting the Rural Development through the Ecotourism Activities in Indonesia. *American Journal of Tourism Management*, 5(1), 9-18.
- Nyaupane, G., & Thapa, B. (2004). Evaluation of Ecotourism: A Comparative Assessment in the Annapurna Conservation Area Project, Nepal. *Journal of Ecotourism*, 3(1), 20-45. doi:DOI: 10.1080/14724040408668148
- OECD. (2017). Culture and Local Development: Maximising the Impact Towards and OECD Guide for Local Governments, Communities and Museums.
- Office of Environmental policy and planning. (2002). *Wetland Biodiversity in Ban Mai Khao* (Vol. 6). (O. W. Series, Ed.) Integrated Promotion Technology Co.,Ltd.
- Office of the Prime Minister. (2014, October 17). The Government Public Relations Department. *Sufficiency Economy Village for Tourism and Study*. Thailand. Retrieved October 20, 2015
- Okan, T., Kose, N., Arifoglu, E., & Kose, C. (2016). Assessing Ecotourism Potential of Traditional Wooden Architecture in Rural areas: The case of Papart Valley. *Journal of Sustainability*, 8(10), 974. doi:10.3390/su8100974
- Oliver, R. (2008, January 28). *All About : Religion and the environment*. Retrieved from <http://edition.cnn.com/2008/WORLD/asiapcf/01/27/eco.about.religion/?iref=n extin>
- OSM Andaman. (2013). *Development Plan for the Southern Andaman Coast (Ranong, Phang Nga, Trang, and Phuket) 2014-2017*. The Office of Strategy Management for Southern Province Cluster.
- OSM Andaman. (2013). *Southern Andaman Coast of Development Plan 2014-2017: Seagrass bed*. Phuket: 2017 The Office of Strategy Management for Southern Province Cluster (OSM Andaman). Retrieved from <http://www.osmsouth-w.moi.go.th/file-data/013092.pdf>
- Ounmany, K. (2014). *Community –Based Ecotourism in Laos: Benefits and Burdens*

*Sharing among Stakeholders*. BOKU University.

- Page, S., & Dowling, R. (2002). *Ecotourism*. Harlow, England ; New York : Prentice Hall.
- Pathmanandakumar, V. (2017). Ecotourism as a Strategy for Sustainable Natural Resource Management in Sri Lanka. *Department of Geography, Eastern University, Sri Lanka. International Journal of Innovative Research & development*, 6(10).
- Pawson , S., Arcy, P., & Richardson, S. (2017). The Value of community- baesd tourism in Banteay Chhmar, Cambodia. *Tourism Geographies*, 378-397.
- PDDPM;. (2006). *Report of Tsunami Rik Area on six Province along the Andaman Sea Coast of Thailand*. Retrieved from [www.disaster.go.th/dpm/datarisk/zunami/.../phuket.xls](http://www.disaster.go.th/dpm/datarisk/zunami/.../phuket.xls)
- Pelle T., J. (2018, Febuary 28). *Belief of Stingray*. Retrieved 01 17, 2018, from <http://jewelpelle.com/belief-stingray>
- Phuket City Municipality. (2018). *Four years of Local Development Plan (2018-2021)*. Phuket Town Municipality Office.
- Phuket Community Foundation. (2016). *Phuket Community Study Report*. Phuket.
- Phuket Cultural Office. (2010). *Congregation and Religious Site*. Phuket: Phuket Cultural Office, Phuket Buddhist Office.
- Phuket Gazette. (2013 , August 1). *Phuket forum*. Retrieved from <http://www.thephuketforum.net/Property-5/Southern-Thailand>
- Phuket Marine Biological Center. (2010). Marine and Coastal Research and Development Institute. *Annual Report 2010*, (p. 45).
- Phuket Marine Biological Center. (2011). *Annual report 201:Marine and Coastal Research and Development Institute*. Phuket Marine Biological Center Research Bulletin.
- Phuket Office of Tourism and Sports. (2017). *Community Based Tourism In Phuket*. Retrieved January 20, 2017, from 7 Community Based Tourism Routes In Phetket: <http://phuketcommunitytourism.com/index>
- Phuket Provincial Buddhist Office . (2018). *Phuket Buddhist Temple and monastic residence*. Phuket: Phuket Provincial Buddhist Office .

Corporate Body of the Buddha Educational Foundation Taipei.

- Vincent, V., & Thompson, W. (2002). Assessing Community Support and Sustainability for Ecotourism Development. *Journal of Travel Research*, 41(2), 153-160.
- Virojtrairatt, V. (2010). *Community Pre-Empowering for Tourism: Sustainable Tourism mangement Guideline Amphoe Mae Chaem, Chiang Mai, Thailand*. Master of Arts in Architectural heritage Management and Tourism. Silpakorn University.
- Vishwanatha, S., & Chandrashekara , B. (2014). A Study on the Environmental Impacts of Ecotourism in Kodagu District,Karnataka. *American Journal of Research Communication*, 2(4), 256-265. Retrieved from [www.usa-journals.com](http://www.usa-journals.com)
- Vishwanatha, S., & Chandrashekara, B. (2014). A Study on the Environmental Impacts of Ecotourism in Kodagu District,Karnataka. *American Journal of Research Communication*, 2(4), 256-265. Retrieved from [www.usa-journals.com](http://www.usa-journals.com)
- Vishwanatha, S., & Chandrashekara, B. (2014). An Analysis of Socio- Cultural Impact of Ecotourism in Kodagu District. *American Journal of Research Communication*, 2(7), 135-147.
- Walker, C., Jackson, M., & Rosenstein, C. (2003). *Culture and Commerce: traditional arts in economic development*. The Urban Institute Metropolitan Housing and Communities Policy Center: The Fund for Folk Culture Santa Fe, New Mexico.
- Wallace, G., & Pierce, S. (1996). An evaluation of ecotourism in Amazonas, Brazil. *Annals of Tourism Research*, 23(4), 843-873.
- Walter, P. (2007). Activist forest monks, adult learning and the Buddhist environmental movement in Thailand,. *International Journal of Lifelong Education*, 26(3), 329-345.
- Wanasuk, P., & Thornton, T. (2015). Aboriginal Tourism as Sustainable Social-Environmental Enterprise (SSEE): A Tlingit Case Study from Southeast Alaska. *The International Indigenous Policy Journal*, 6(4).
- Wang, , H., & Min , T. (2009, March). Research on Community Participation in Environmental Management of Ecotourism. *School of Economics & Management, Northeast Forestry University Vol.4No.3*.
- Wang, C. (2009). Earthquake to ecotourism in Taiwan: Sustainable livelihoods challenges following a crisis event. *Department of Tourism, Leisure, Hotel and*



*Sports Management. Griffith University*, 9.

- Wang, L.-e., Zhong, L., Zhang, Y., & Zhou, B. (2014). Ecotourism Environment Protection Measures and Their Effects on Protected Areas in China. *Sustainability*, 6, 6781-6798. doi:10.3390/su6106781
- Waris, M., Shahir Liew, M., Faris Khamidi, M., & Idrus, A. (2014). Criteria for the selection of sustainable onsite construction equipment. *International Journal of Sustainable Built Environment*, 96-110. Retrieved from <http://www.sciencedirect.com/science/article/pii/S221260901400034X>
- Wat Pa Nanachat. (1999). *Forest Path Talks, essays, poems, drawings and photographs from the community at Wat Pah Nanachat*. Buddha Dharma Education Association Inc. Papyrus printing.
- Wearing , S., Archer , D., & Beeton , S. (2007). The sustainable marketing of tourism in Protected Areas Moving Forward. (C. Cooper, Ed.) *Cooperative Resource Centre for Sustainable Tourism Pty Ltd*.
- Wearing, S., Stevenson, D., & Young, T. (2010). *Tourist Cultures: Identity, Place and the Traveller*. London: SAGE Publications.
- Weaver, D. (2001). *The Encyclopedia of Ecotourism*. (D. Weaver, Ed.) Wallingford, UK: CABI Publishing.
- Weeramantry, C. (2017, July 17). *Islam, Buddhism, Hinduism and the Environment*. Asian Tribune. Retrieved from Asian Tribune: <https://www.resilience.org/stories/2007-07-17/islam-buddhism-hinduism-and-environment/>
- Wen, J., & Tisdell, C. (2001). Tourism and China's Development: Policies, Regional Economic Growth and Ecotourism. In *Ecotourism: Its Nature, Sustainability, and Other Issues* (pp. 141-172). Singapore: World Scientific Publishing.
- Western, D. (1993). *Ecosystem conservation and rural development: the case of Amboseli*. (D. Western, M. Wright, & S. Strum, Eds.) Washington, DC: Island Press.
- White, V., McCrum, G., Blackstock, K., & Scott, A. (2006). *Indicator of sustainability and sustainable tourism: Some example sets*. Aberdeen: The Macaulay.
- Wight, P. (1993). Sustainable Ecotourism : Balancing economic, environmental and social goals within an ethical framework. *The Journal of tourism studies*, 4(2),

54-66.

- Wikipedia. (n.d.). *Wikipedia*. Retrieved from Emerita (genus): [https://en.wikipedia.org/wiki/Emerita\\_\(genus\)](https://en.wikipedia.org/wiki/Emerita_(genus))
- Wikipedia. (2017, December 4). *Sirinat Nation Park*. Retrieved from [https://en.wikipedia.org/wiki/Sirinat\\_National\\_Park](https://en.wikipedia.org/wiki/Sirinat_National_Park)
- Wikipedia;. (2013). Coral reef. Retrieved June 16, 2013, from [https://en.wikipedia.org/wiki/Coral\\_reef](https://en.wikipedia.org/wiki/Coral_reef)
- WildAid. (2017, July 18). Thailand Eating Too Much Shark Fin. *Protecting Wildlife Reducing Demand*. Retrieved from <https://wildaid.org/thailand-eating-too-much-shark-fin/>
- Wood , M. (2002). Ecotourism: Principles, Practice & Policies for sustainability. In U. N. Technology, *Industry and economic*.
- Woodhouse, E. (2012). *The role of Tibetan Buddhism in environmental conservation under changing socio- economic condition in China*. Doctor of Philosophy, Centre for Environmental Policy & Department of Life Sciences. Imperial College London: The role of Tibetan Buddhism in environmental.
- Woodhouse, E., Mills, A. M., Philip, M. J., & Gulland, M. E. (2015). Religious Relationships with the Environment in a Tibetan Rural Community: Interactions and Contrasts with Popular Notions of Indigenous Environmentalism. *Hum Ecolo*, 43, 295-307. doi:DOI 10.1007/s10745-015-9742-4
- World Tourism Organization. (2016). Tourism and Culture Partnership in Peru- Models for Collaboration between Tourism, Culture and Community. *UNWTO*, 17.
- Yamamoto, S., & Kuwahara, V. (2010). Sustainability and Buddhism: How do we measure quality of life and degree of happiness?. . *The Journal of Oriental Studies* , 20, 129-143.
- Yogi, H. (2010). *Eco-tourism and Sustainability - Opportunities and Challenges in the Case of Nepal*. Department of sustainable development of Uppsala . Autum,Sweden: University of Uppsala.
- Zahir, H., Solandt, J.-L., Rajasuriya, A., & Tamelander, J. (2006). Post- Tsunami Status of the Coral Reefs of the Islands and Atolls of the Maldives. *Australian Institute of Marine Science*.

- Zapalska, A., & Brozik, D. (2014). Female entrepreneurial businesses in tourism and hospitality industry in Poland. *Problems and Perspectives in Management*, 12(2), 6-13.
- Zhang, Y., Zhang, J., Ye, Y., Wu, Q., Jin, L., & Zhang, H. (2016). Residents' Environmental Conservation Behaviors at Tourist Sites: Brodening the Norm Activation Framework by Adopting Environment Attachment. *Journal of Sustainability*, 8(571), 1-16. doi:doi:10.3390/su8060571