Sustaining Island Tourism through a Tourist Lens: A Case of Three Islands in the Gulf of Thailand

by

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B.Sc., University of Victoria, 2017

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of

MASTER OF SCIENCE

in the Department of Geography

Supervisory Committee

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Abstract

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Tourism is one of the fastest-growing industries in the world and bears significant weight in global economic terms. However, there are concerns about the sustainability of the industry from an environmental and social/cultural perspective. One of the world's top ten international tourism destinations, Thailand, had a record-breaking 39 million international tourists in 2019 but is expected to fall to around 14 million in 2020, the lowest level in 14 years, due to COVID-19. These impacts can be especially severe in small tropical islands where the land base is small, resources scarce, and local populations have low incomes and limited opportunities for livelihood diversification. Especially amid a global pandemic and the impending risks of climate change, it is crucial to reset, carefully consider concerns about sustainable tourism development, and move forward with management regimes that better embrace sustainability principles.

This thesis examines the application of sustainable tourism using Koh Phangan, Koh Samui, and Koh Tao in the Gulf of Thailand as case studies to aid in sustainability planning for the future, particularly for island tourism destinations. Data were collected using a standardized questionnaire administered to 1261 tourists visiting the three islands during the peak tourism season (January to March) of 2018. The findings are presented within this thesis in three papers. The first paper focussed on the behavioral approach and compared visitors to each island, noting differences in tourist demographics, travel

characteristics, motivation factors, and areas of management concern identified. The second paper focussed on the limits of acceptable change approach and used cluster analysis of visitor motivations to identify three types of visitors that were described in terms of the specialization concept: Cluster 1 ("very high importance generalists"), Cluster 2 ("high importance generalists"), and cluster 3 ("mixed importance"). While cluster 1 had the greatest mean importance scores for all environmental, social, economic, and logistical factors, it identified the most areas of concern whereas cluster 3 identified the least. The third paper explored scenario planning as a vehicle for sustainable tourism planning on the island of Koh Phangan and was framed within the Tourism Area Life Cycle (TALC), Tourism Opportunity Spectrum (TOS), and Ecotourism Opportunity Spectrum (ECOS) models. Most respondents preferred the "green scenario" in terms of accessibility, amount of visitors, development, food and accommodation, transportation around the island, traffic, waste management, water storage, and the scale of tourism.

Collectively, these findings suggest that tourists can play an important role in identifying management priorities and that tourists tend to support a more sustainable tourism industry, as opposed to a focus on "mass tourism", sometimes referred to as "sun, sea, sand" tourism. The study argues for adopting place-based planning practices and creating educational opportunities to ensure that the benefits of tourism are not outweighed by the costs. Especially as the tourism industry continues to expand, there is often a push to enhance visitation and the economic benefits that tourism provides; however, it is important to consider the environmental, social, economic, and logistical capacities of a tourism destination.

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Acknowledgments

Thank you to my fellow lab mates that have provided inspiration, guidance, and conservation filled conversation. A big thank you to Alessia Kockel in particular for welcoming me into MPARG and providing guidance and resources that have helped immensely throughout this project.

Thank you to all the tourists that participated in the surveys, taking time out of your vacation in Thailand to assist in this research and engaging in conversations about how to contribute to a more sustainable tourism industry on these beautiful islands. This work would not have been possible without all of you, your enthusiasm, and eagerness to help.

Thank you to the kind and wonderful people I have met while in Thailand that have taught me the wai of the Thai, taught me about the beautiful culture, and have made me feel at home in the land of smiles.

Thank you to my friends and family that have provided love and support throughout the highs and lows of this journey. Thank you, family for the hours spent assisting with Russian survey translations and for friends that have assisted in editing and providing feedback. A big thank you goes out to my mom, dad, sister, grandma, Fluffy, Nala, Atilla, Michelle, and Matthew.

I would also like to give a BIG thank you to my supervisors, Rick Rollins and Philip Dearden. Thank you, Rick for your insight, time, positivity, patience, and making this

process enjoyable. Lastly, thank you Phil, for this would not have been possible without you. Having taken Geog 101A in my second year of Biology, I was inspired by your work and the possibilities through Geography to tackle some of the world's environmental and social challenges. I knew that I would love to be one of your students embarking on a journey to Thailand to gain hands on experience and little did I know that years later, I would get this incredible opportunity. So thank you so much for welcoming me into MPARG, sharing your experience, welcoming me to the Land of Smiles, and demanding nothing less than excellence.

This work was made possible by funding from the Canadian Social Science and Research Council of Canada and the University of Victoria. I am also tremendously grateful for the generous support by Dr. David and Dorothy Lam and the Ajaib Singh Memorial Scholarship.

1 Introduction: Sustainable Island Tourism and the Role of Tourists

Tourism is one of the fastest-growing industries in the world and bears significant weight in global economic terms. According to the World Tourism Organization (UNWTO), international tourist arrivals grew 5% in 2018 with a total of 1.4 billion international tourist arrivals, generating $USD 1.7 trillion and making 2018 the ninth consecutive year of sustained tourism growth (UNWTO, 2019). However, as a result of the COVID-19 pandemic, international tourism has decreased by 22% during the first quarter of 2020 and it is estimated that tourism could decline by 60-80% over the year, placing millions of livelihoods at risk and threatening the progress made in advancing the Sustainable Development Goals (UNWTO, 2020). One of the world's top ten international tourism destinations, Thailand, had a record-breaking 39 million international tourists in 2019 but is expected to fall to around 14 million, the lowest level in 14 years, as a result of COVID-19. These impacts can be especially severe in small tropical islands where the land base is small, resources scarce, and local populations have low incomes and limited opportunities for livelihood diversification (Kokkranikal *et al.,* 2003).

However, tourism is not only vulnerable to global phenomena, but also the negative environmental, economic, and social impacts that tourism has brought to many regions of the world. The economic aspects of tourism are often cited as the primary driver for tourism development in host communities, in many cases to the detriment of the region socially and environmentally. Especially amid a global pandemic and the impending risks of climate change, it is crucial to reset, carefully consider concerns about

sustainable tourism development, and move forward with management regimes that better embrace sustainability principles. This thesis examines the main principles of sustainable tourism, the role of tourists in acting as drivers or barriers of sustainable tourism development, and how this can be applied to small tropical islands by using Koh Phangan, Koh Samui and Koh Tao in Thailand as case studies to aid in sustainability planning for the future.

This chapter presents the main arguments, conceptual frameworks, methodology, site description, and context for each of the three papers of this thesis. The chapter is broken into four sections. The first three sections set the context for the research by outlining the problems addressed by this work, the major theoretical frameworks used to examine them, and the importance of this work on three islands in the Gulf of Thailand. Finally, section 4 outlines the specific research objectives and structure of this thesis.

1.1. Background

1.1.1. Sustainable Tourism

Tourism is one of the most influential industries in the world and is a key driver of socioeconomic progress; however, it can also create undesirable impacts that threaten the future sustainability of the industry. Table 1 provides a summary of some of the positive and negative environmental, social, and economic impacts of tourism.

Table 1.1. *Positive and negative environmental, social, and economic impacts of tourism*

Positive impact of tourism	Negative impact of tourism
Environmental Impacts of Tourism (Dearden et al., 2007; Jackson and Leahy, 2004; Kensbock, 2011; Newsome et al., 2013; Rollins et al., 2016; Scarpaci and Parsons, 2014; Sharma and Rao, 2019; Wiredu et al., 2020; Yasué & Dearden, 2006).	
• Many negative impacts can be reduced or eliminated with effective management • Greater awareness of endangered or "at risk" species • Protection of natural resources and sites for leisure and recreation • Greater awareness by tourism operators to market environmentally and ecologically sound business practices has emerged • Motivation to protect ecologically or historically unique sites and areas from development or resource extraction	• Damage to natural environments from growing number of visitors and built structures • Significant impacts to wildlife through altered habitat, hunting, or feeding which can lead to wildlife habituation, dependency, and death • Increased garbage, demands on sewage and water systems, impacts on vegetation through construction of new roads and tourism facilities • Dredging, sewage, loss of beach vegetation, and the inappropriate locations of marinas and beach resorts • Impacts of marine recreation such as diving and snorkeling (trampling coral) • Conservation is not always supported by tourism industries that promote growth
Social Impacts of Tourism (Aliyeva et al., 2019; Campón-Cerro et al., 2019; Chipeniuk, 2004; Deery et al., 2012; George et al., 2009; Jackson and Leahy, 2004; Kuvan and Akan, 2012; Overton, 1996; Overton, 2007; Ramos & Stoddart, 2016; Rollins et al., 2016; Rothman, 1998; Royle, 2009; Solymosi, 2011; Weaver, 2002).	
• Enriched sense of community identity • Enhanced sense of connection to local environments • Increased social capital from engaging with visitors and developing new skills • Provision of additional infrastructure • Community pride • Cultural appreciation between tourists and local residents • Widening viewpoints of local cultures • Maintenance and appreciation of local cultures • Enhanced quality of life among residents	• Commodification of local cultures and histories • Distract attention from deeper political problems in rural areas • High visitor numbers may stress local services (congestion) • Local control over the host community may erode in response to tourist demands (power shift) • Tourists may feel less constrained on holiday - may be rude, condescending, rowdy, or obnoxious to local residents • Tourists may be unaware of local customs or sensitives and may offend without meaning • Language barriers may lead to misunderstanding and conflict • Tourism may be centered around tourism ghettos (tourism bubbles or enclaves) such as in all-inclusive resorts with limited opportunities for mutual learning and appreciation of local cultures • Tourists may feel they are being overcharged • Demonstration effect may cause stress within rural areas when its people aspire to a lifestyle of visitors which can be difficult to obtain • Can lead to increase in crime and sex trade • Displacement of local residents • Stress on traditional community decision making • Movement of people for pleasure (rather than economy) which impact and manipulate the destination to suit their needs (amenity migration)

Economic Impacts of Tourism (Aliyeva et al., 2019; do Val Simardi Beraldo Souza et al., 2019, Eagles et al., 2002; Inchausti-Sintes & Voltes-Dorta, 2020; Jackson and Leahy, 2004; Lupoli et al., 2014; Naidoo et al., 2016; Rollins et al., 2016).	
Positive impact of tourism	Negative impact of tourism
• Generates substantial revenues for communities and private operators (Naidoo et al., 2016) • Provides salaried jobs (Naidoo et al., 2016) • Increase in jobs for local residents, particularly in rural areas • Increase in incomes • New tourism enterprises • Stimulation and diversification of the local economy • Local manufacture of goods • New markets and foreign exchange • Improved living standards • Tax revenues at local, regional and national levels • New skills learned by employees • Increased funding for protected areas and local communities • Can provide employment in new economic opportunities in rural areas when there is a decline in employment in resource-based industries	• Tourism-related employment can be seasonal and low-paying • Prices for products can be increased during peak season, impacting community residents • Tourism operations may be owned and operated by people not living in the region - leakage of tourism revenues away from local communities • Leakage exacerbated through employment of non-resident seasonal workers and the purchase of products outside the area • Tourism can displace other sources of income • Increases in property value can make housing less affordable for residents • Diversification to tourism employment can be unstable and vulnerable to some of the same factors that influence other resource-based industries

While tourism is dependent upon the environment for much of its well-being, the prevailing lack of knowledge, responsibility, and long-term planning, often results in development which is neither environmentally nor culturally sympathetic to the host area and community (Butler, 1991). Especially with tourists “loving to death” natural areas (Stabler, 1997, pg.13), it is important to understand how tourism can be used as a tool to enhance the protection and quality of not only the natural environment but also the social, political, cultural, and economic environments as well.

Concerns over the negative impacts of tourism (Table 1) have emphasized the need for more sustainable approaches to tourism development. Sustainable development was first highlighted in the publication of the Brundtland Report by the International Union for the Conservation of Nature (IUCN) in 1987 (World Commission on Environment and Development, 1987). Thirty years later, the year 2017 was named the year of Sustainable Tourism for Development by the World Tourism

Organization (WTO) (UNWTO, 2015) to help support the Sustainable Development Goals (SDGs) outlined by the United Nations Development Programme (UNDP) (2015) and widely adopted throughout the world. Sustainable tourism can present and preserve a destination's rich cultural and natural heritage, attract visitors in search of meaningful experiences and create a high-end tourism product that benefits local communities and conserves cultural and natural resources for current and future generations (Laitamaki et al., 2016), ultimately increasing the positive impacts of tourism as outlined in Table 1 above, while minimizing the negative impacts.

The definition for sustainable tourism provided by the World Tourism Organization (WTO) was inspired by the Brundtland Report and defines sustainable tourism as that which "takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities (United Nations Environment Programme, 2005, p.12)." However, there is little agreement as to what the concepts of "sustainable development" and "sustainable tourism" actually mean in practice and often, the "needs of visitors" are overlooked in decision-making and implementation of sustainable tourism. For example, to make Thailand's tourism industry more sustainable, the Tourism Authority of Thailand (TAT) announced the "7 Greens" policy initiative in 2008 which seeks to engage all stakeholders directly and indirectly involved in tourism, identified as the local community, local government, industry, non-governmental organizations/associations, central government, and the TAT, to work collaboratively for the development of a more sustainable sector (Muangasame & McKercher, 2015). However, tourists were not included in this analysis. Yet, the negative impacts of tourism can be minimized if

tourists, local communities, and government agencies play a role in environmental conservation activities (Ng et al., 2017). Although there is an increase in the awareness of sustainable development policies, in practice there is still an implementation gap between policy and practice (Ong & Smith, 2014). Nowhere is this more apparent than on the many tropical islands that have come to rely upon tourism as a major livelihood strategy.

1.1.2. Sustainable Island Tourism

When people think of islands, an image of fantasy is created: a paradise with an exotic island lifestyle where one can escape from reality, the normal, the routine, and stress. Insularity becomes an attraction and motivates people to travel across political, social, and emotional boundaries for the island experience (Lim & Cooper, 2008). For example, tourists may choose to visit particular island destinations based on "sun, sea, sand" tourism which accounts for warm weather, long white sand beaches, and clear blue water (Mestanza-Ramón et al., 2020). Coastal ecosystems are also amongst the most productive ecosystems in the world (Kurniawan *et al.,* 2016) and small islands are usually high in coastal and marine biodiversity (Hassanali, 2013). However, in the absence of proper controls and enforcement, unplanned tourism growth can cause environmental degradation and social and cultural conflicts, as outlined in table 1.1., which undermines the long-term sustainability of the tourism industry (Wongthong & Harvey, 2014). While their geographical, cultural, ecological, and economic features attract visitors, the fragility and limitations of these same elements make the island environment and communities more vulnerable to the pressures of tourism (Kokkranikal *et al.,* 2003). Since the most attractive features of an environment are often those most sensitive to visitor pressures, damage to the environment will, in the long run, mean

damage to the tourism industry, societies, and ecosystems (Chen *et al.,* 2017; Dearden, 1983; Rollins et al., 2016; Sharma & Rao, 2019; Stabler, 1997).

However, the focus of island tourism development has mainly been on economic aspects rather than social and human ones, resulting in the failure of tourism through overdevelopment and encouragement of mass tourism (Lim & Cooper, 2008). Mass tourism (traditional or conventional tourism) generally involves large numbers of people visiting somewhat staged settings, such as all-inclusive resorts, that may have little relationship to the actual environment where they are set (Rollins et al., 2016). However, many island-decision makers have failed to anticipate the negative impacts of mass tourism practices and the connection between inadequate facilities, infrastructure, and amenity planning and management, which tends to cumulatively stress the setting (Padilla & McElroy, 2005). For example, in the Dominican Republic, much of the growth in tourism has been overly rapid, unplanned, intrusive, and harmful to the islands' fragile ecosystems as decision-makers have rushed to embrace the varied economic benefits of tourism while failing to anticipate the destructive cumulative impacts of mass tourism practice (Padilla & McElroy, 2005).

In contrast to mass tourism, alternative tourism (Dearden & Harron, 1994) usually involves a smaller number of tourists visiting more authentic settings with an emphasis on attractions that are more consistent with local natural, social, and community values. Kokkranikal et al (2003) argue that islands have an ideal setting, not only to follow a planned and controlled approach to tourism development but also to introduce remedial measures effectively. Thus, developing sustainable island tourism must be thoroughly evaluated in consideration of ecological, economic, and social factors on account of the

fragility of island ecosystems (Chen *et al*., 2017). Although this is well known, planning and implementation often fail to take into account the very people who make the industry possible, the tourists themselves.

1.1.3. Tourists

Stakeholders' attitudes and preferences must be taken into account for sustainable tourism to be achieved. A stakeholder is defined as "a group or individual who has an interest in the actions of an organization and the ability to influence it" (Freeman, 1984, p.94). While stakeholder theory has grown in popularity, there is rarely agreement as to who the stakeholders are and how their influence is determined. Tourists are one such stakeholder group, in addition to local residents, government officials, and tourism operators. While some papers have recognized the importance of incorporating tourists as stakeholders and trying to determine what makes a "sustainable tourist" (eg Ballantyne *et al.,* 2009; Budenau, 2007; Cheng *et al.,* 2013; Cheng & Wu, 2014; Cohen & Higham, 2011; Dodds *et al.,* 2010; Dubois *et al.,* 2016; Han *et al.,* 2016; Kang & Moscardo, 2006; Lee, 2011; Mejía & Brandt, 2015; Miller *et al.,* 2010; Moyle *et al.,* 2012; Passafaro *et al.,* 2015; Ramkissoon *et al.,* 2012; Scannell & Gifford, 2010; Uyarra *et al.,* 2005), few papers have examined visitor perceptions of how the future of tourism might look, especially in more than one tourism site. For example, when tourists on the islands of Koh Phi Phi, Thailand, and Gili Trawangan, Indonesia were compared, it was found that tourists in both islands were willing to pay for sustainability practices, but there were differences around who they felt should be primarily responsible for implementing sustainability measures (Dodds *et al.*, 2010). However, the authors focused on identifying who the burden of the responsibility should be placed upon and economic

values as the solution to sustainable tourism on two islands with similar stages of development. Especially when examining decision-making, planning, and management of sustainable island tourism, tourists are often excluded from the analysis (Dabphet *et al.,* 2012; Dodds, 2010; Muangasame & McKercher, 2015; Ong & Smith, 2014). However, understanding who the tourists are, their motivations for visiting such places, and their perceptions of sustainability issues can aid in complex development, planning, and governance issues. It is important to understand tourists to mitigate serious damage to ecological and cultural resources (Cheng & Wu, 2014) through visitor management, but to also determine the role that tourists can play in acting as barriers or drivers of sustainable tourism. To do this, it is necessary to understand tourist perceptions and behaviours.

1.2. Behavioural Approach

Visitor management is complex because it needs to address social, facility, and ecological impacts on a tourism destination, which are the key aspects of sustainable tourism. Visitors may be dissatisfied with their experience at a particular site due to issues such as crowding, litter, available facilities and services, and damage to natural environments (Needham *et al.,* 2016). Mannell's (1999) 'behavioural approach to recreation' proposes that people engage in specific activities in certain settings to fulfill motivations and realize benefits. There are three main components of the behavioural approach: motivations (reasons for visiting an area or participating in an activity), experiences (interactions between activities and settings), and visitor responses (immediate satisfaction and long-term benefits) (Needham *et al.,* 2016). The behavioural approach states that benefits, such as satisfactions, are created when experiences meet or

exceed expectations and the forces that push or pull people to experience these experiences. By ensuring that compatible settings and opportunities are available, managers can increase the chances that visitors are satisfied (Needham *et al.,* 2016). This is a key area because it helps determine why people engage in leisure behavior in the manner they do, it assists in understanding the consequences of leisure engagements, and can help practitioners develop programs that have the greatest likelihood of minimizing conflicts between users and of yielding human benefits (Manfredo *et al.,* 1996). This can help minimize the negative impacts of tourism while working to increase the positive impacts to ensure the long-term environmental, social, and economic sustainability of a tourism industry.

Research on the behavior of visitors relies on the study of leisure behavior, which is how people act and feel when not at work, where activities are freely chosen and satisfying (Manning, 2011). Motivations within tourism research seek to explain why people travel and is a key component and driving force behind tourist behavior (Andreu et al., 2005; Crompton, 1979; Dolnicar, 2008; Fodness, 1994; Hsu & Huang, 2007; Lee, 2009; Park & Yoon, 2009; Plog, 1974; Tkaczynski et al., 2009; Wong et al., 2017). Motivations include internal factors activating behavior (forces *pushing* people to engage in these activities) and external characteristics of activities and settings *pulling* people to select activities or settings (Mannell, 1999). A predominant paradigm for understanding motivation in tourism research is the pull-push theory (Aquino *et al.,* 2017; Dann, 1997; Dan, 1981; Jeong, 2014; Yoon & Uysal, 2005). The push-pull theory can be used to examine how motives and destination image can attract tourists to spend their holidays in a particular area (Dolinting *et al.,* 2015). Push factors are mostly intrinsic including,

emotional factors and can include having social interaction, the desire to escape, adventure, relaxation, and self-exploration. Pull factors are mostly extrinsic site or activity specific and include recreational opportunities, cost, safety, natural scenery, cultural attractions, facilities, and infrastructure (Dann, 1977; Klenosky, 2002; Uysal & Jurowski, 1994). In understanding decision choice, pull factors are considered more important (Bello and Etzel, 1985); however, it is important to understand not only the needs and wants of tourists, but also tourist satisfaction (Yoon & Uysal, 2005).

While recreation is a dynamic, multi-phase experience consisting of those on-site experiences as well as anticipation, travel to, travel back, and recollection (Needham et al., 2016), it is generally accepted that motivations initiate participation in activities and settings while benefits, such as satisfaction, occur as a result of participation (Manning, 2011). Satisfaction is the congruence between expectations (ie. motivations) and outcomes (Manning, 2011). It is the primary method used to measure the quality of a visitor's experience (Tonge & Moore, 2007), allowing managers to provide services and infrastructure that meet visitor expectations, as well as identify whether visitors are satisfied with the experiences provided. If the experience turned out as expected, the individual would be satisfied and the feedback loop in the behavioural approach may result in seeking similar experiences in the future. If the experience was not as expected, benefits may not be realized, resulting in a lower probability that similar experiences would be sought (Needham *et al.,* 2016). The behavioral approach thus provides a conceptual framework for understanding tourist behavior and how behavior can be linked to sustainable practices and will be used as the conceptual framework for this project examining visitors on three islands in Thailand.

1.3. Gulf of Thailand: A Case of Three Islands

This project examines the main principles of sustainable tourism and how they can be applied to small, tropical islands by using Koh Phangan, Koh Samui and Koh Tao as case studies to aid in sustainability planning for the future. These three islands are located in the Chumphon Archipelago in the Gulf of Thailand and part of Surat Thani province (Figure 1.1). Koh Phangan is located between the larger Koh Samui to the south and the smaller Koh Tao to the north and has an area of 125 km^2 and a population of 11,846. Koh Samui is Thailand's second largest island, after Phuket, with an area of 228.7 km^2 and a population of 62,500. Koh Samui is the only island in this study that is accessible both by ferry and airplane. Lastly, Koh Tao has an area of 21 km^2, a population of 1,382, and an economy that is almost exclusively centred on tourism, especially scuba diving.

These islands differ in size but also have differing tourist attractions, levels of tourism development, markets, and levels of current and potential future sustainability (Dearden, 2020), as discussed throughout the thesis. However, there are questions as to whether the hospitality industry and future tourism plans recognize these differences adequately and will incorporate them into planning for sustainable tourism in the future. For example, Koh Phangan is Thailand's most popular destination for full-moon parties, particularly among foreign tourists, attracting up to 30,000 people each month during the peak season of December to March (Wong, 2012). Koh Phangan is currently only accessible by a 30 to 45-minute speedboat ride from Koh Samui or a five-hour journey from the mainland port of Surat Thani, including a 2.5-hour ferry ride (Wong, 2012). In contrast, Koh Samui has direct air connection both to Bangkok and international

destinations. Some members of the hospitality industry on Koh Phangan feel that the Island should have similar connectivity in order to boost tourism numbers, and, in fact, the construction of an airport had illegally started through removal of trees on prime forest land in the national forest reserve, obviously not a move consistent with sustainable island development. The airport is currently on-hold but many questions are raised by the proposed development that are at the heart of the quest for sustainable island tourism.

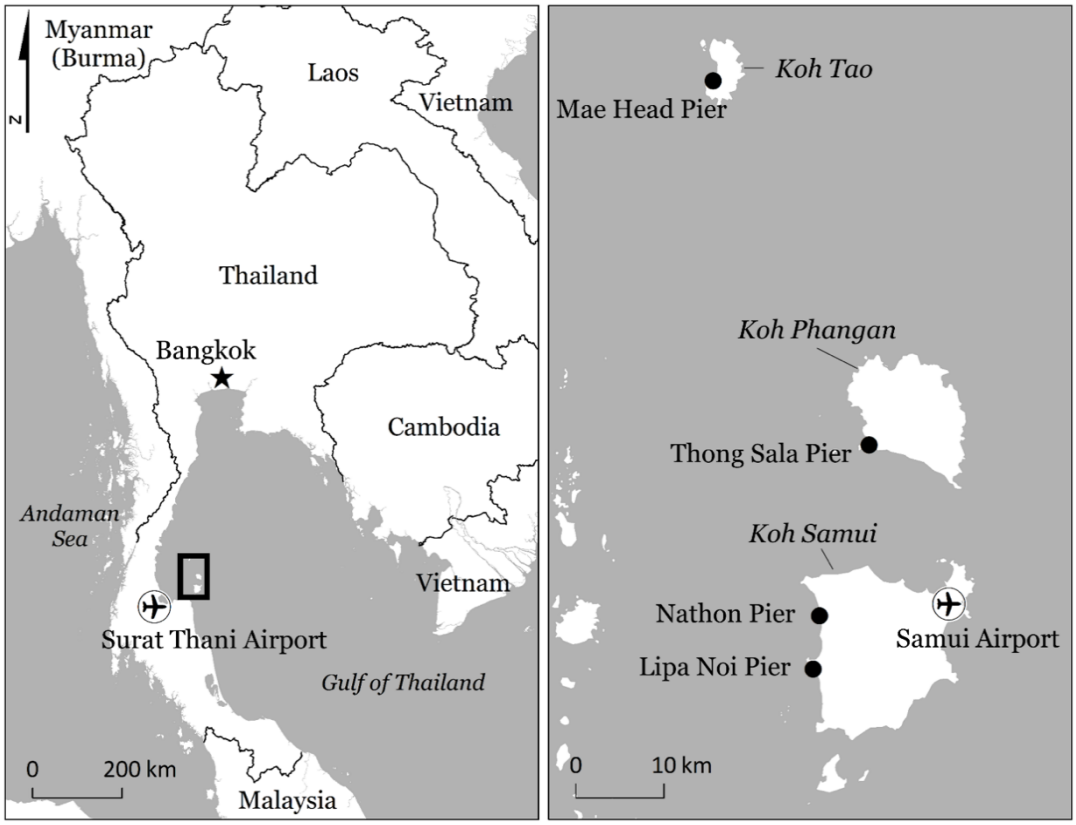

Figure 1.1. *Map of the study site*

1.4. Research Objectives and Organization of Thesis

This thesis is organized into three papers that address the overarching goal of examining the role of tourists as important stakeholders in the implementation of sustainability in tourism management. The first paper compares the motivations,

satisfactions, and future tourism preferences of tourists visiting these islands to help understand how tourists may differ among the sites and the implications for developing more sustainable tourist products in the future. The analysis is framed within the behavioural approach and Importance Performance (IP) analysis to identify areas of management priority.

The specific objectives are to compare the islands in terms of:

1) Tourist demographic variables
2) Motivations and satisfactions
3) Preferences for alternative future tourist development paths.

The second paper examines visitor motivations to visit the islands, how these motivations vary as identified through cluster analysis, and how visitor motivations compare with visitor satisfaction. This analysis is framed within the LAC concept, suggesting how tourism sustainability can be managed more effectively through monitoring of tourism motivations and satisfactions. The specific objectives are:

1) To identify tourist subgroups based on tourist motivations for desired environmental, social, economic and logistic factors
2) To compare the demographic and travel characteristics of tourists within each subgroup.
3) To compare tourist subgroups in terms of gaps between visitor motivations and satisfactions across environmental, social, economic and logistical domains
4) To compare tourist subgroups based on participation in the Full Moon Party in terms of gaps between motivations and satisfactions across environmental, social, economic, and logistical domains.

The last paper explores scenario planning as a vehicle for sustainable tourism planning in an island environment and is framed within the Tourism Area Lifecycle (TALC), Tourism Opportunity Spectrum (TOS), and Ecotourism Opportunity Spectrum (ECOS) models, suggesting how tourism sustainability can be managed more effectively through an understanding of visitor preferences. Specific objectives include:

1) To identify the preferred future scenarios for sustainable tourism on Koh Phangan (KP) as defined by visitors.
2) To identify the preferred tourism setting characteristics for KP as defined by visitors.
3) To compare the motivations of visitors preferring each scenario.
4) To compare the demographic and travel characteristics of visitors preferring each scenario.

Since each paper is intended as an individual publication there is some overlap among the three papers, particularly within the methods and background information. The thesis concludes with a chapter synthesizing key findings and recommendations. Together the papers evaluate the barriers to tourism sustainability in the Gulf of Thailand, as identified by tourists, and make recommendations for management priorities for sustainable tourism development in the Gulf of Thailand and island tourism more broadly.

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2 Paper 1: Sustainable Tourism Management from a Tourist Perspective: A Case of Three Islands

2.1. Introduction

The current COVID-19 pandemic has devastated the global tourism industry, but it can also provide an opportunity to reset, more carefully consider concerns about sustainable tourism development, and move forward with management regimes that better embrace sustainability principles. There are currently 1.2 billion tourists crossing borders each year, representing 10% of world GDP, one in 10 jobs, and seven percent of global exports, tourism is a vital contributor to job and wealth creation, economic growth, and poverty alleviation (UNWTO & UNDP, 2017). However, it can also create undesirable impacts that threaten the future sustainability of the industry. These impacts can be especially severe in small tropical islands where the land base is small, resources scarce, and local populations have low incomes and limited opportunities for livelihood diversification (Kokkranikal *et al.,* 2003). In these circumstances, it is particularly important to plan for and implement, sustainable tourism, especially as these environments become increasingly threatened by climate change realities such as sea-level rise and increasing temperatures (Uyarra *et al.,* 2005).

Sustainable development was first highlighted in the publication of the Brundtland Report by the International Union for the Conservation of Nature (IUCN) in 1987 (World Commission on Environment and Development, 1987). Thirty years later, the year 2017 was named the year of Sustainable Tourism for Development by the World Tourism Organization (WTO) (UNWTO, 2015) to help support the Sustainable Development Goals (SDGs) outlined by the United Nations Development Programme

(UNDP) (2015) and widely adopted throughout the world. The definition for sustainable tourism provided by the World Tourism Organization (WTO) was inspired by the Brundtland Report and defines sustainable tourism as that which "takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities (United Nations Environment Programme, 2005, p.12)." However, there is little agreement as to what the concepts of "sustainable development" and "sustainable tourism" actually mean in practice and often, the "needs of the visitors" are overlooked in decision-making. Evidence does suggest, however, that mainstream tourism is far from sustainable (Buckley, 2012). As Higgins-Desbiolles (2018) claims, despite three decades discussing pathways to sustainable tourism, tourism authorities continue to promote tourism growth regardless of the ecological and social limits of living on a finite planet. For example, in many popular tourist countries and destinations such as Australia, Venice, Dubrovnik, Barcelona, and Bali, or the ever-growing "last chance tourism" of Antarctica comprised of cruise ships and flyovers or challenges of "slum tourism", there continues to be a push towards growing demand, reducing the regulatory burden, and increasing access and infrastructure to grow tourist numbers despite these places experiencing "overtourism" (Higgins-Desbiolles, 2018).

Small islands are usually high in coastal and marine biodiversity and detrimental activities may threaten their ecological, social, and economic sustainability. Having a vibrant, sustainable tourism sector on an island often depends on maintaining a relatively pristine coastal environment with healthy ecosystems that provide a range of goods and services for visitors (Hassanali, 2013). Since the most attractive features of an

environment are often those most sensitive to visitor pressures, damage to the environment will, in the long run, mean damage to the tourism industry, societies, and ecosystems (Dearden, 1983). This emphasis on growth is resulting in tourism killing tourism (Higgins-Desbiolles, 2018). For example, tropical reefs and beaches attract an immense number of tourists from temperate zones. One example is Tobago's Bucco Reef Marine Park; where the increased and largely unchecked land clearing and construction activity in the region, a strained sewage treatment system, and the continual flaunting of the regulations have led to pollution and other degenerative pressures on the Buccoo Reef, threatening its ecological integrity and the continued enjoyment of tourists visiting the reef (Hassanali, 2013).

There are many examples of the challenges of island tourism development and sustainability that can be found in Thailand. Thailand was one of the world's top ten international tourism destinations in 2018, with 35.4 million international tourists (8.6% more than in 2016) and generating $USD 57.5 billion (13.1% increase from 2016) (UNWTO, 2018). However, this rapid growth and tendency to promote development has brought questions as to how to manage tourism in ways that protect the environment, visitor experiences, and local communities, key components to sustainable tourism. In 2001, Thailand received 10.13 million visitors but by 2019 there were 39.8 million international tourists (Tourism Statistics Thailand 2000-2019, 2019). In an attempt to ensure sustainable environmental management of Thailand's valuable natural heritage, the Department of National Parks, Wildlife, and Plant Conservation (DNP) has begun an annual seasonal closure of several attractions in 66 of 147 national parks nationwide. While several attractions have been closed each year for a certain period due to extreme

weather and park conditions, this annual closure has been put in place to allow time for the parks to restore their ecological balance and to regenerate from the effects of mass tourism. For example, the closure of Maya Bay, which was made famous by the movie "The Beach" has been extended for another two years until 2021 to allow recovery of its corals and wildlife. Closing areas is not an optimal solution and ways must be found to manage tourism impacts on an ongoing basis such that closures are not necessary.

This paper examines sustainable tourism and how it can be applied to small tropical islands by using three islands in Thailand, Koh Phangan, Koh Samui, and Koh Tao, as case studies to aid in sustainability planning for the future. It provides a consumer perspective to sustainable tourism development by focusing on tourists as important stakeholders to be involved in the design and implementation of sustainable tourism. Although there are papers recognizing the importance of tourists (Cheng & Wu, 2014; Dodds *et al.,* 2010; Kang & Moscardo, 2006; Moyle *et al.,* 2012; Uyarra *et al.,* 2005), few papers examine the diversity of tourist preferences across a landscape, such as this study comparing three islands. The research objectives of this paper are to compare the Islands in terms of:

1. Tourist demographic variables
2. Tourist motivations and satisfactions
3. Tourist preferences for alternative future tourist development paths.

Although the case study is in Thailand, the findings can help inform tropical island tourism planning in many locations where tourism is an important form of livelihood support for local people. The next section provides a critical overview of the literature in this area.

2.2. Literature Review

The literature review provides a critical analysis of the literature in two areas: island tourism and the role of tourists in visioning and implementing tourism on small tropical islands, using visitor motivation and satisfaction to inform planning.

2.2.1. Island Tourism

When people think of islands, an image of fantasy is created: a paradise with an exotic island lifestyle where one can escape from reality, the normal, the routine, and stress. Insularity becomes an attraction and motivates people to travel across political, social, and emotional boundaries for the island experience (Lim & Cooper, 2008). However, island tourism development has often neglected these aspects, instead focusing on economic growth and often resulting in the failure of tourism through overdevelopment and encouragement of mass tourism (Lim & Cooper, 2008). Mainstream tourism" (or mass tourism) generally involves large numbers of people visiting somewhat staged settings, such as all-inclusive resorts, that have little relationship to the actual environment where they are set. Thus, the development of sustainable island tourism must be thoroughly evaluated in consideration of ecological, economic, and social factors on account of the fragility of island ecosystems (Chen et al., 2017). For example, Tioman Island, Malaysia, has received international recognition with its beautiful beaches featured in the 1958 movie "South Pacific" and voted one of the world's ten most beautiful islands by TIME magazine (Ng *et al*., 2017). Like many island residents, the main income source for the Tioman islanders of Malaysia comes from tourism; however, rapid tourism development has compromised the island's ecosystem and diminished the quality of the visitor experience (Ng *et al*., 2017). Development such as condominium and hotel construction on steep

hillsides or the construction of marinas and resorts along delicate coasts has damaged, depleted, and polluted forests, watersheds, wetlands, lagoons, mangrove forests, salt ponds, reef systems, and endemic species in the Dominican Republic (Padilla & McElroy, 2008). Similarly, mass tourism on Barbados has led to beach erosion, water pollution and coral reef damage due to inadequate infrastructure, weak public participation, and the fact that environmental impact assessments for potentially damaging tourism projects were not required (Mycoo, 2006).

In island settings, most studies have focused on sustainable tourism on individual islands (Calgaro & Lloyd, 2008; Calgaro *et al.,* 2014; Chen *et al.,* 2017; Cheng *et al.,* 2013; Dodds et al., 2010; Hassanali, 2013; Jang *et al.,* 2014; Jitpakdee & Thapa, 2012; Mycoo, 2006; Ng *et al.,* 2017; Padilla & McElroy, 2005). However, there few papers address the commonalities and differences in the obstacles to sustainable island tourism across a region or on multiple islands. In this study, tourist demographics, motivations, and satisfactions were examined on Koh Phangan, Koh Samui, and Koh Tao to identify how these factors may influence tourism planning. These islands are part of the same archipelago but differ in size, tourist attractions, levels of tourism development, markets, and levels of current and potential future sustainability, as outlined in the discussion.

2.2.2. The Role of Tourists and the Behavioural Approach to Inform Planning

The challenge in implementing sustainable tourism in a destination is managing use in ways that protect natural resources while providing satisfactory visitor experiences and supporting vibrant local communities. Nevertheless, visitors may be unsatisfied with their experience based on concerns about issues such as crowding, litter, damage to natural environments, park facilities, services, and noisy or rowdy visitor behaviour.

Mannell's (1999) 'behavioural approach' proposes that people engage in specific leisure activities in certain settings to fulfill motivations and realize benefits. There are three main components of the behavioural approach: motivations (reasons for visiting an area or participating in an activity), experiences (interactions between activities and settings), and visitor responses (immediate satisfaction and long-term benefits) (Needham *et al.,* 2016). The behavioural approach states that benefits, such as satisfactions, are created when experiences meet or exceed expectations and the motivational forces that push or pull people to experience these experiences. By ensuring that compatible settings and opportunities are available, managers can increase the chances that visitors are satisfied (Needham *et al.,* 2016). This is a key area because it helps determine why people engage in leisure behavior in the manner they do. It also assists in understanding the consequences of leisure engagements and can help practitioners develop programs that have the greatest likelihood of minimizing conflicts between users and of yielding human benefits (Artal-Tur et al., 2019; Ban et al., 2019; Manfredo *et al.,* 1996; Ziegler et al., 2012).

Motivations are the basis for behaviour and critical in explaining why people behave the way they do. Research on tourism motivations seeks to explain why people travel and is a key component and driving force behind tourist behavior (Crompton, 1979; Hsu & Huang, 2007; Lee, 2009; Andreu et al., 2005; Park & Yoon, 2009; Fodness, 1994; Plog, 1974; Tkaczynski et al., 2009; Dolnicar, 2008; Wong et al., 2017). Motivations include internal factors activating behavior (forces *pushing* people to engage in these activities) and external characteristics of activities and settings *pulling* people to select activities or settings (Mannell, 1999). Pull factors are thought to be largely controllable by

management and include social, environmental, and facility/service dimensions. In understanding decision choice, pull factors are considered more important; however, it is important to understand not only the needs and wants of tourists, but also tourist satisfaction (Yoon & Uysal, 2005).

Motivations initiate participation in activities and settings while benefits, such as satisfaction, occur as a result of participation (Manning, 2011). Satisfaction is the congruence between expectations (ie. motivations) and actual experiences (Manning, 2011), and this congruence can be examined along environmental, social, and service dimensions, as illustrated in the present study. Satisfaction is the primary method used to measure the quality of a visitor's experience (Tonge & Moore, 2007), allowing managers to provide services and infrastructure that meet visitor expectations (Hornback & Eagles, 1999). If the experience turned out as expected, the individual would be satisfied and the feedback loop in the behavioural approach may result in seeking similar experiences in the future (Figure 2.1). If the experience was not as expected, benefits may not be realized, resulting in a lower probability that similar experiences would be sought (Needham *et al.,* 2016).

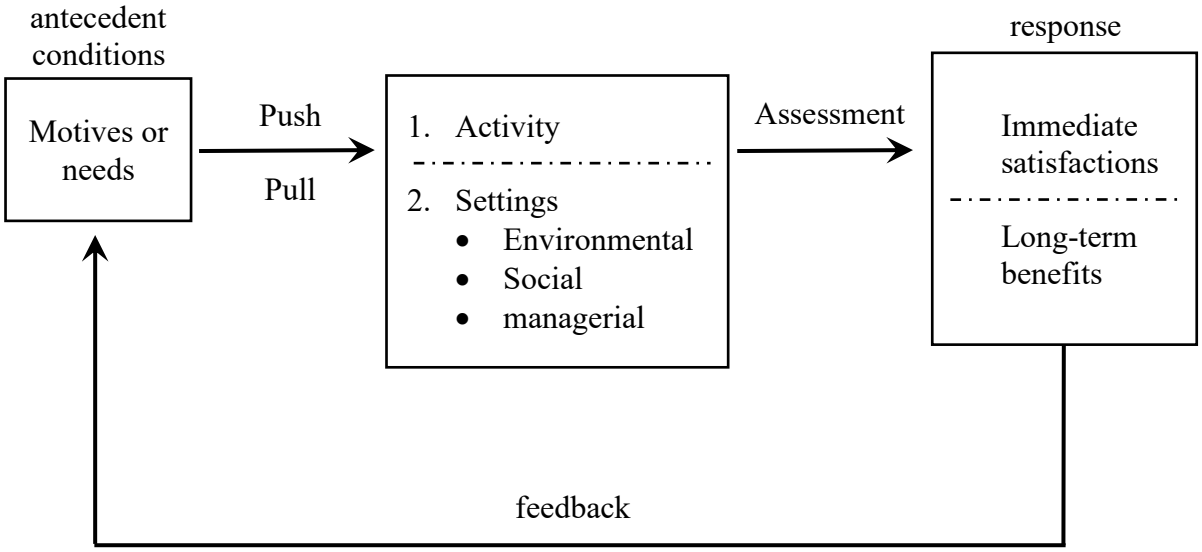

Figure 2.1. *The behavioural approach to recreation. Source: Mannell (1999).*

To understand the relationship between motivations and satisfactions, importance-performance analysis (IPA) can be used (Vaske *et al.,* 1996). IP analysis is a simple approach that is designed to compare the mean score for 'perceived importance' of various tourism features with the corresponding 'satisfaction rating'. If importance is rated high and satisfactions low, then it is unlikely that visitors will continue to visit and the site will not provide a sustainable tourism opportunity. This technique can diagnose underlying deficiencies and set priorities in tourism development. As a result, a more efficient allocation of limited resources could be achieved to improve tourist satisfaction and destination competitiveness (Sever, 2015).

This study contributes to this literature through an examination of visitor motivations to visit three islands in Thailand, how these motivations vary between islands, and how visitor motivations compare with performance. This analysis is framed within the IP

analysis, suggesting how tourism sustainability can be managed more effectively through monitoring of tourism motivations and satisfaction.

2.3. Methodology

2.3.1. Study Site

Koh Phangan, Koh Samui, and Koh Tao are three islands located in the Chumphon Archipelago in the Gulf of Thailand and part of Surat Thani province. They are different in size and they have differing tourist attractions, levels of tourism development, markets, and levels of current and potential future sustainability. Koh Phangan is located between the larger Koh Samui to the south and the smaller Koh Tao to the north (Figure 1.1) and has an area of 125 km^2 and a population of 11,846. Koh Samui is Thailand's second-largest island, after Phuket, with an area of 228.7 km^2 and a population of 62,500. Compared to the other two islands, Koh Samui has an airport, larger roads to accommodate busses, chain restaurants and accommodations, as well as shopping malls and large tourist attractions such as a safari and water park. Koh Tao has an area of 21 km^2, a population of 1,382, and an economy that is almost exclusively centred on tourism, especially scuba diving. Similarly, Koh Phangan is well known for its Full Moon Party which can attract up to 20,000 tourists each month. Both Koh Phangan and Koh Tao are characterised by small-scale and locally-owned businesses, with few chain organizations outside of the standard 7/11.

2.3.2. Sampling Methods

The target population for this research was tourists visiting Koh Phangan, Koh Samui, and Koh Tao. Survey participants were recruited through random sampling, with purposefully selected survey sites, where each tourist over the age of 18 and waiting at

one of the sample sites had an equal chance of being selected. This method was selected for the low cost and time requirements. However, there are some limitations to this method, such as sampling bias due to language barriers and time constraints associated with departure times on the islands. However, concerns about sample bias are mitigated somewhat by the high response rate of 86% overall, with slightly different response rates at each study site.

Tourists were sampled at the ferry ports on the islands, waiting to leave the island at the end of their trip. However, since visitors to Koh Samui can arrive by ferry or airplane, tourists were also surveyed while waiting inside Samui International Airport. On Koh Phangan, 412 surveys were completed inside the Thong Sala Pier waiting Area, Lomprayah waiting area, and on Thong Sala Pier (Raja, Seatran, Lomprayah, and Songserm waiting areas). On Koh Samui, 293 surveys were completed in the Samui International Airport in association with Walailak University and 251 surveys were completed at ferry ports: Nathon Pier (Lomprayah, Songserm, and Seatran waiting areas) and Lipa Noi Pier (Raja waiting area). Lastly, 305 surveys were completed on Koh Tao at Mae Haad Pier at the Lomprayah, Seatran, and Songserm ferry waiting areas. With a total sample size of 1261, the margin of error (accuracy) was estimated at + or – 2.8%, at the 95% confidence level (Salant and Dillman, 1994).

2.3.3. Questionnaire Design

Tourists were asked questions about the diversity of activities they engage in; the importance of environmental, social, economic, and logistical factors for visiting the island and the satisfaction with those factors; overall satisfaction with their tourism experience and how that relates to their expectations; preferences for the future of

tourism; and demographic questions (see Table 1). Importance was measured on a 5-point Likert scale with scores of 1 corresponding to ‘not at all important’, 2 to ‘low importance’, 3 to ‘moderate importance’, 4 to ‘high importance’, and a score of 5 to ‘very high importance’. Performance was measured on a 6-point scale with 0 corresponding to ‘not applicable, 1 to ‘not at all satisfied’, 2 to ‘low satisfaction’, 3 to ‘moderate satisfaction’, 4 to ‘high satisfaction’, and a score of 5 to ‘very high satisfaction’. The questionnaire was prepared in English, and in Russian (due to the growing number of Russian tourists to these islands and the researcher’s proficiency in the Russian language), and took approximately 10 minutes to complete.

2.3.4. Pilot Testing and Revisions

The questionnaire was pilot-tested at Thong Sala Pier on Koh Phangan January 3-10, 2018, to examine, non-response, flow, question skips, timing, and respondent interest and attention. Following the pilot tests (and revisions to the questionnaire), data were collected on Koh Phangan (January 10-February 16), Koh Samui (Feb 18 – March 7), and Koh Tao (March 7 – March 29). For the analysis of the data, 1261 cases were entered, coded, and statistically analyzed using SPSS software.

2.4. Results

The following section provides a comparison of tourist profiles among the different island respondents’ motivations, satisfactions, and ideas for the future.

2.4.1. Research Objective 1: Comparing Tourist Demographics by Island Visited

This section examines whether all islands have visitors with similar demographic profiles. A Pearson Chi-square test with a level of $p < 0.05$ was used to indicate significant differences between the islands. There were no significant differences among the islands in terms of gender and the number of previous trips made to the island on which they were surveyed. All three islands had slightly more tourists surveyed that identified as female rather than male and most tourists to all islands were visiting for the first time (zero previous trips). There were significant differences among the islands in terms of respondents' length of trip to Thailand, length of trip to the island, who they were traveling with, nationality, highest level of education, and age (Table 2.1.).

When comparing the islands, most visitors to Koh Samui tend to spend less time in Thailand but more time on the island itself compared those visiting Koh Phangan and Koh Tao. Visitors to Koh Tao tend to spend the least amount of time on Koh Tao itself. Visitors to Koh Phangan and Koh Tao tend to be predominantly European followed by North American. There tend to be more Asian and Oceanian tourists visiting Koh Samui. Visitors to Koh Samui tend to be older, Koh Phangan tend to have higher levels of education, and Koh Tao respondents tend to be younger with lower levels of education. Koh Samui respondents had the highest percentage of tourists traveling with family and the least amount of tourists traveling with friends or alone, compared to Koh Phangan and Koh Tao.

Table 2.1. *Demographic characteristics of tourists on each island.*

Variable		*Response (%)*			P[a]	*Eta (η)*[b]
		Koh Phangan	*Koh Samui*	*Koh Tao*		
Length of trip to Thailand	0 to 7 days	5.4	18.5	4.0	.000	.259
	8 – 14 days	20.8	33.8	18.8		
	15 – 21 days	36.9	22.9	31.1		
	Over 21 days	36.2	25.0	46.0		
Length of trip to Island	0 – 5 days	52.7	46.9	71.4	.000	.239
	6 – 10 days	25.5	35.3	21.7		
	Over 10 days	21.6	18.1	6.8		
Who are you traveling with?	Alone	18.0	12.7	17.7	.000	.073
	Partner	37.9	41.5	39.3		
	Friend(s)	28.2	15.4	29.5		
	Family	9.2	24.3	6.9		
	Organized group	1.7	0.6	1.9		
	Other	5.1	5.7	4.7		
Nationality	German	16.5	15.3	31.1	.000	.285
	British	13.1	13.8	12.5		
	French	10.2	11.2	10.2		
	Russian	9.0	7.4	0.7		
	North American	10.9	9.0	7.6		
	South American	2.4	1.5	4.6		
	Other European	28.1	19.9	26.5		
	African	0.0	0.6	0.3		
	Asian	6.5	13.1	3.5		
	Oceanian	2.7	8.9	2.9		
Highest level of education	Grade school	1.7	3.3	0.7	.016	.077
	High School	17.0	16.4	24.6		
	Some college or university	20.4	25.4	19.7		
	Bachelor's degree	33.7	31.4	32.5		
	Master's degree	22.1	19.9	18.7		
	Doctoral degree	3.6	1.7	2.6		
	Other	1.5	2.0	1.3		
Age	Under 26	25.2	23.5	46.2	.000	.165
	26-35	44.4	32.0	39.7		
	36-45	15.8	18.9	7.2		
	46-55	7.8	13.8	3.6		
	56-65	5.1	7.9	2.6		
	Over 65	1.7	3.9	0.7		

[a]Based on a Pearson Chi Square Test, significance of $P < 0.05$

[b]Effect size was determined using an eta (η) value of .10 for a minimal relationship, .243 for a typical relationship, and .371 for a substantial relationship (Vaske, 2008).

On all three islands, most tourists were traveling with a partner but on both Koh Tao and Koh Phangan, many tourists were also traveling with friends or alone. Respondents on each island were also asked whether they had visited one or both of the neighbouring islands. On Koh Phangan, 39.3% of tourists also visited Koh Samui while 22.6% visited Koh Tao and 10% of the respondents visited both KS and KT. On Koh Samui, 27.2% also visited KP, 18% visited KT, and 8% of tourists visited both KP and KT. Lastly, on Koh Tao, 28.5% of tourists also visited Koh Phangan, 34.1% visited Koh Samui, and 16% visited both.

2.4.2. Research Objective 2: Comparing Motivations and Satisfactions by Island

2.4.2.1. Motivation

Respondents were asked to rate the importance of various environmental, social, economic, and logistical motivations for visiting each of the islands. Mean importance scores were computed from responses measured on a 5-point Likert scale with scores of 1 corresponding to ‘not at all important’, 2 to ‘low importance’, 3 to ‘moderate importance’, 4 to ‘high importance’, and a score of 5 to ‘very high importance’. Importance scores were compared between islands using ANOVA and Scheffe tests (Table 2.2). The ANOVA test indicates where there is at least one significant difference between the three islands while the Scheffe test indicates where the differences occur between the specific islands. The eta value shows the strength of the relationships where an eta (η) value of .10 is a minimal relationship, .243 is a typical relationship, and .371 is a substantial relationship (Vaske, 2008).

Table 2.2. *Importance of environmental, social, economic, and logistical factors for visiting each island. Comparing mean responses by island.*

ENVIRONMENTAL	*Overall Mean (n = 1261)*	*Koh Phangan (n=412)*	*Koh Samui (n=544)*	*Koh Tao (n=305)*	*ANOVA (F, P)*	*Scheffe Test[a] KP-KS*	*Scheffe Test KP-KT*	*Scheffe Test KS-KT*	*Eta[b] (η)*
Having good weather	4.39	4.33	4.44	4.37	F=2.042	NS	NS	NS	.057
Spending time on beaches	4.25	4.29	4.28	4.11	F=4.389*	NS	*	*	.083
Being close to nature	3.98	4.14	3.86	4.00	F=9.997*	*	NS	NS	.125
Seeing interesting landscapes	3.98	3.99	3.94	4.01	F=0.539	NS	NS	NS	.029
Being in a clean place	3.98	4.03	3.99	3.90	F=1.769	NS	NS	NS	.053
Seeing marine life	3.55	3.39	3.39	4.07	F=39.348*	NS	*	*	.243
Being in a remote place	3.53	3.64	3.47	3.49	F=3.254*	NS	NS	NS	.072
Experiencing the marine environment	3.52	3.35	3.38	3.99	F=33.750*	NS	*	*	.226
Learning about conservation	2.94	2.86	2.94	3.02	F=1.736	NS	NS	NS	.052
MEAN ENVIRONMENTAL SCORES	3.79	3.78	3.74	3.88	F=5.492*	NS	NS	*	.093
SOCIAL									
Visiting a safe place	3.97	3.92	4.10	3.82	F=8.035*	*	NS	*	.112
Visiting a unique place	3.93	4.07	3.83	3.93	F=7.013*	*	NS	NS	.105
Meeting friendly local people	3.89	4.00	3.90	3.74	F=5.690*	NS	*	NS	.095
Seeking adventure	3.68	3.79	3.53	3.78	F=9.200*	*	NS	*	.120
Being with family and friends	3.64	3.61	3.79	3.39	F=9.128*	NS	NS	*	.120
Learning about local cultures	3.61	3.70	3.67	3.38	F=9.766*	NS	*	*	.124
Healing the body & calming the mind	3.59	3.54	3.72	3.42	F=6.564*	NS	NS	*	.102
Meeting new people	3.46	3.64	3.33	3.45	F=8.036*	*	NS	NS	.112
Experiencing nightlife and entertainment	3.02	3.16	2.99	2.88	F=4.467*	NS	*	NS	.084
Expertise of tour operators/instructors	2.72	2.53	2.94	2.59	F=15.426*	*	NS	*	.155
MEAN SOCIAL SCORES	3.55	3.60	3.58	3.44	F-7.018*	NS	*	*	.105
ECONOMIC									
Reasonable prices	3.95	4.00	3.94	3.89	F=1.481	NS	NS	NS	.048
Supporting local businesses	3.55	3.62	3.51	3.54	F=1.405	NS	NS	NS	.047
Bringing income to local communities	3.38	3.42	3.37	3.33	F=0.690	NS	NS	NS	.033
MEAN ECONOMIC SCORES	3.63	3.68	3.60	3.58	F=1.474	NS	NS	NS	.048
LOGISTICAL									
Quality of food options	4.11	4.10	4.18	3.97	F=5.712*	NS	NS	*	.095
Variety of food options	3.96	3.96	4.04	3.81	F=6.180*	NS	NS	*	.099
Good access to the island	3.95	3.91	4.02	3.87	F=3.395*	NS	NS	NS	.073
Quality of accommodations	3.93	3.90	4.06	3.74	F=13.057*	*	NS	*	.143
Variety of accommodations	3.71	3.71	3.78	3.58	F=4.479*	NS	NS	*	.084
Amount of tourist attractions	3.32	3.25	3.41	3.26	F=3.416*	NS	NS	NS	.073
Shopping opportunities	2.82	2.73	3.12	2.43	F=37.613*	*	*	*	.238
Home ownership	2.22	1.96	2.51	2.05	F=28.221*	*	NS	*	.207
MEAN LOGISTIC SCORES	3.50	3.44	3.64	3.34	F=24.094*	*	NS	*	.192

*Significant difference at $\alpha = 0.05$

[a]Sheffe test to indicate differences between KP (Koh Phangan), KS (Koh Samui), and KT (Koh Tao). NS = Not significant.

[b]Effect size determined using eta (η) value of .10 for minimal, .243 for typical, and .371 for a substantial relationship (Vaske, 2008).

Overall, the most important dimension across all islands is environmental (mean=3.79), followed by economic (mean=3.63), social (mean=3.55), and logistical (mean=3.50). Within the environment dimension, the most important factors are having good weather, spending time on beaches, being close to nature, seeing interesting landscapes, and being in a clean place. Within the social dimension, the most important factors are visiting a

safe place, visiting a unique place, meeting friendly local people, and seeking adventure. Within the economic dimension, the most important factors are reasonable prices, supporting local businesses, and bringing income to local communities. Within the logistic dimension, the most important factors are quality and variety of food options, good access to the island, and quality of accommodations. While the most important dimension on each island is environmental, the overall rank order of the dimensions varies among the islands. Following environmental dimensions on Koh Phangan and Koh Tao, the most important dimensions are economic, social, and logistical. On Koh Samui, the most important dimensions following the environmental are logistical, economic, and social. There were significant differences in mean environmental scores between Koh Samui and Koh Tao; in mean social scores between Koh Tao and both other islands; and in mean logistical scores between Koh Samui and both other islands.

Island Comparisons

Importance scores vary between islands, with significant differences apparent in 5 of 9 environmental factors, 10 of 10 social factors, and 8 of 8 logistical factors. There are no differences regarding any of the 3 economic factors. However, the magnitude of these differences was small, as indicated by the eta values in the far-right column of Table 2. Island to island comparisons are indicated with the Scheffe tests, which indicate that the most statistically significant differences occurred between the importance scores on Koh Samui and Koh Tao (15 differences), followed by Koh Samui and Koh Phangan (9 differences), and the least differences between Koh Phangan and Koh Tao (7 differences).

When comparing Koh Phangan and Koh Samui, Koh Phangan had higher mean importance scores for being close to nature, seeking adventure, and meeting new people; whereas Kho Samui had higher mean importance scores for visiting a new place, visiting a safe place, expertise of tour operators, quality of accommodation, shopping opportunities, and home ownership. When comparing, Koh Phangan and Koh Tao, Koh Phangan had higher mean scores for spending time on beaches, experiencing nightlife, learning about local cultures, and meeting friendly people; whereas Koh Tao had higher mean scores for seeing marine life, experiencing the marine environment, and shopping opportunities. When comparing Koh Samui and Koh Tao, Koh Samui had higher mean score for most items, including spending time on beaches, learning about local cultures, being with family and friends, visiting a safe place, seeking adventure, healing the body and mind, expertise of tour operators, quality of food option, variety of food options, quality of accommodations, variety of food options, shopping opportunities, and home ownership; whereas Koh Tah had higher mean scores for just two factors: seeing marine life, and experiencing the marine environment.

Koh Phangan

Tourists on Koh Phangan had the highest importance scores for the following environmental factors: having good weather, spending time on beaches, being close to nature, and being in a clean place. Respondents had the greatest importance scores for the following social factors: experiencing nightlife and entertainment, visiting a unique place, meeting friendly local people, visiting a safe place, and seeking adventure. The most important economic factor was reasonable price. The most important logistical factors were the quality of food options, variety of food options, and quality of accommodations.

Koh Samui

Tourists on Koh Samui had the highest mean importance score for the following environmental factors: having good weather, spending time on beaches, being in a clean place, and seeing interesting landscapes. Respondents had the greatest importance scores for the following social factors: visiting a safe place, meeting friendly local people, being with family and friends, and healing the body & calming the mind. The highest economic factor was "reasonable prices". The highest-rated logistic factors were the quality of food options, quality of accommodations, and variety of food options.

Koh Tao

Tourists on Koh Tao had the highest importance scores for the following environmental factors: having good weather, spending time on beaches, seeing marine life, and seeing interesting landscapes. The most important social factors were visiting a unique place, seeking adventure, being with family and friends, and learning about local cultures. The most important economic factor was reasonable prices. The most important logistical factors were quality of food options, good access to the island, variety of food options, and quality of accommodations.

2.4.2.2. Satisfaction

Respondents were asked to rate their satisfaction with factors for visiting each of the islands for their tourism experience. Performance was measured on a 6-point scale with 0 corresponding to 'not applicable, 1 to 'not at all satisfied', 2 to 'low satisfaction', 3 to 'moderate satisfaction', 4 to 'high satisfaction', and a score of 5 to 'very high satisfaction'. Mean scores are shown in table 2.3.

Table 2.3. *Satisfaction with the environmental, social, economic, and logistical factors for visiting each of the 3 islands. Comparing mean responses by island.*

	Overall Mean n = 1261	*Koh Phangan (n=412)*	*Koh Samui (n=544)*	*Koh Tao (n=305)*	*ANOVA (F, P)*	*Scheffe Test[a] KP-KS*	*Scheffe Test KP-KT*	*Scheffe Test KS-KT*	*Eta[b] (η)*
ENVIRONMENTAL									
Having good weather	4.31	3.99	4.47	4.47	F=44.838*	*	*	NS	.258
Spending time on beaches	4.24	4.23	4.27	4.20	F=0.579	NS	NS	NS	.030
Being close to nature	4.00	4.11	3.85	4.12	F=11.258*	*	NS	*	.133
Seeing interesting landscapes	3.92	4.00	3.81	4.04	F=5.517*	*	NS	*	.093
Being in a clean place	3.57	3.64	3.54	3.50	F=1.542	NS	NS	NS	.049
Being in a remote place	3.53	3.74	3.38	3.52	F=9.785*	*	NS	NS	.124
Seeing marine life	3.18	2.86	3.01	3.90	F=46.739*	NS	*	*	.263
Experiencing the marine environment	3.08	2.81	2.94	3.71	F=33.397*	NS	*	*	.225
Learning about conservation	2.35	2.16	2.42	2.49	F=4.806*	*	*	NS	.087
MEAN ENVIRONMENTAL SCORES	3.58	3.50	3.52	3.77	F=14.399*	NS	*	*	.150
SOCIAL									
Visiting a safe place	3.96	4.03	3.88	3.99	F=2.160	NS	NS	NS	.058
Meeting friendly local people	3.78	3.93	3.76	3.62	F=5.610*	NS	*	NS	.094
Visiting a unique place	3.71	3.87	3.53	3.81	F=9.529*	*	NS	*	.122
Being with family and friends	3.54	3.54	3.69	3.29	F=5.676*	NS	NS	*	.095
Healing the body & calming the mind	3.40	3.30	3.56	3.25	F=5.133*	*	NS	*	.090
Meeting new people	3.39	3.55	3.30	3.33	F=3.606*	*	NS	NS	.075
Seeking adventure	3.33	3.47	3.13	3.49	F=8.087*	*	NS	*	.113
Learning about local cultures	3.07	3.16	3.17	2.78	F=8.584*	NS	*	*	.116
Experiencing nightlife and entertainment	2.94	3.10	2.88	2.82	F=2.930	NS	NS	NS	.068
Expertise of tour operators/instructors	2.51	2.23	2.63	2.67	F=7.292*	*	*	NS	.107
MEAN SOCIAL SCORES	3.36	3.42	3.35	3.31	F=1.721	NS	NS	NS	.052
ECONOMIC									
Reasonable prices	3.72	3.80	3.70	3.64	F=2.596	NS	NS	NS	.064
Supporting local businesses	3.37	3.39	3.32	3.42	F=0.576	NS	NS	NS	.030
Bringing new income to local communities	3.19	3.26	3.16	3.16	F=0.595	NS	NS	NS	.031
MEAN ECONOMIC SCORES	3.43	3.48	3.39	3.41	F=0.947	NS	NS	NS	.039
LOGISTICAL									
Quality of food options	4.08	4.05	4.13	4.04	F=1.346	NS	NS	NS	.046
Variety of food options	4.02	4.03	4.05	3.93	F=1.717	NS	NS	NS	.052
Good access to the island	3.98	3.97	3.96	4.04	F=0.789	NS	NS	NS	.035
Quality of accommodations	3.92	3.90	3.98	3.82	F=2.392	NS	NS	NS	.062
Variety of accommodations	3.80	3.82	3.82	3.74	F=0.515	NS	NS	NS	.029
Amount of tourist attractions	3.50	3.40	3.59	3.48	F=2.563	NS	NS	NS	.064
Shopping opportunities	3.07	2.96	3.31	2.80	F=13.221*	*	NS	*	.143
Home ownership	1.57	1.39	1.74	1.52	F=4.607*	*	NS	NS	.085
MEAN LOGISTICAL SCORES	3.49	3.44	3.57	3.42	F=5.929*	*	NS	*	.097

*Significant difference at $\alpha = 0.05$

[a]Sheffe test to indicate differences between KP (Koh Phangan), KS (Koh Samui), and KT (Koh Tao). NS = Not significant.

[b]Effect size determined using eta (η) value of .10 for minimal, .243 for typical, and .371 for a substantial relationship (Vaske, 2008).

Koh Phangan

For Koh Phangan, the highest levels of satisfaction for environmental factors were for spending time on beaches, being close to nature, seeing interesting landscapes, and having good weather. Regarding social factors, the highest levels of satisfaction were for visiting a safe place, meeting friendly local people, visiting a unique place, and meeting new people. For economic factors, the highest satisfaction was for reasonable prices. For logistic factors, the highest satisfaction was for the quality of food options, variety of food options, good access to the island, and quality of accommodations.

Koh Samui

The highest levels of satisfaction for environmental factors on Koh Samui were for having good weather, spending time on beaches, being close to nature, and seeing interesting landscapes. The highest levels of satisfaction for social factors on Koh Samui were visiting a safe place, meeting friendly local people, being with family and friends, and healing the body and calming the mind. For economic factors, the highest satisfaction was for reasonable prices. The highest satisfaction for logistical factors were for the quality of food options, variety of food options, quality of accommodations, and good accessibility to the island.

Koh Tao

Tourists on Koh Tao had the highest performance scores for the following environmental factors: having good weather, spending time on beaches, being close to nature, and seeing interesting landscapes. The most highly rated social factors were visiting a safe place, visiting a unique place, meeting friendly local people, and healing the body and calming the mind. The most highly rated economic factor was reasonable prices. The most highly

rated logistical factors were good access to the island, quality of food items, variety of food options, and quality of accommodations.

Island Comparisons

Comparisons between islands are indicated in the ANOVA and Scheffe tests provided in Table 3. Significant differences in mean satisfaction scores were apparent between 7 of 10 environmental factors, 8 of 10 environmental factors, 2 of 8 logistical factors, but none of the 3 economic factors. Looking first at the environmental factors Koh Phangan had higher mean satisfaction scores than Koh Samui on 4 of 5 comparisons, and Koh Phangan was higher than Koh Tao on 4 of 4 comparisons. Koh Tao was higher than Ko Samui on 4 of 4 comparisons.

Looking next at social factors, Koh Phangan had higher mean satisfaction scores than Koh Samui on 3 of 5 comparisons, and Koh Phangan was higher than Kao Tao on 2 of 3 comparisons. Kao Tao was higher than Koh Samui on 3 of 5 comparisons.

Regarding logistic factors, there were only 2 significant comparisons, and in both cases, Koh Phangan mean satisfaction scores were greater than Ko Tao. Finally, there were no significant differences between islands regarding economic factors.

In summary, there was the most number of statistically significant differences in satisfaction when comparing Koh Samui and Koh Phangan (12 differences), followed by comparisons between Koh Samui and Koh Tao (10 differences), and the least differences occurred when comparing Koh Phangan and Koh Tao (7 differences). However, effect size for comparisons was generally minimal, as indicated by the eta scores.

To provide more detail, when comparing Koh Samui with Koh Phangan, mean satisfaction scores were higher on Koh Phangan for being close to nature, seeing

interesting landscapes, being in a remote place, visiting a unique place, healing the body and mind, and meeting new people; whereas mean scores were higher on Koh Samui for having good weather, learning about conservation, healing the body and mind, expertise of tour operators, shopping opportunities, and home ownership. When comparing Koh Phangan with Koh Tao, satisfaction scores were higher on Koh Phangan for being close to nature, seeing interesting landscapes, being in a remote place, visiting a unique place, seeking adventure, and meeting new people; whereas Koh Tao had higher mean satisfaction scores for having good weather, seeing marine life, experiencing the marine environment, and expertise of tour operators. Lastly, when comparing Koh Samui with Koh Tao, satisfaction scores were higher on Koh Samui for being close to nature, being with family and friends, and healing the body and mind; whereas mean satisfaction scores were higher on Koh Tao for seeing marine life, seeing interesting landscapes, learning about local culture, meeting friendly local people, and seeking adventure.

2.4.2.3. Importance Performance Analysis

The above analysis considered importance and satisfaction separately. However, the IP approach suggests comparing satisfaction and motivation scores for each destination characteristic to identify “gaps”. For example, when examining visitor satisfaction, site features with lower satisfaction values may suggest that management intervention is required. However, when comparing those values to the corresponding motivation score, satisfaction may be higher than the importance of that feature suggesting that visitors are satisfied with the feature.

Accordingly, a gap analysis was performed to identify features with significantly different mean importance and performance satisfaction scores using paired *t*-tests where importance mean scores are subtracted from performance mean scores. The result represents the size and direction of the relationship between the two measures. A positive value (Performance > Importance) represents a feature in which visitor expectations were met whereas a negative value (Importance > Performance) represents features that were found to be not satisfactory. Table 2.4 displays significant differences with an asterisk and also indicates if the difference is positive (satisfied) or negative (not satisfied). Blank cells indicate where no significant difference occurs between importance and performance.

It is important to highlight the areas of concern for each island, where concern areas represent factors where mean performance scores are less mean satisfaction scores, and where these differences are significantly different. For Koh Phangan, the areas of concern were having good weather, seeing marine life, being in a clean place, learning about local culture, and reasonable prices. For Koh Samui and Koh Tao, the areas of concern are similar but do not include seeing marine life. This gap analysis can provide useful information as examining importance and performance values separately can be ineffective in assessing a particular tourism site's success in meeting participant needs and achieving ecological and socioeconomic sustainability as it may not account for differences in motivation and satisfaction for particular site features.

Table 2.4. *Gap Analysis by island.*

	Koh Phangan (n=412)			*Koh Samui (n=544)*			*Koh Tao (n=305)*		
Factor	*Mean I*	*Mean P*	*Gap (P-I)*	*Mean Imp*	*Mean Sat*	*Gap (P-I)*	*Mean Imp*	*Mean Sat*	*Gap (P-I)*
Environmental									
Being close to nature	4.15	4.14		3.89	3.98	+ *	4.02	4.16	+ *
Spending time on beaches	4.30	4.24		4.29	4.31		4.16	4.27	+ *
Having good weather	4.33	3.99	-*	4.45	4.51		4.37	4.47	
Seeing marine life	3.50	3.35	-*	3.57	3.53		4.15	4.17	
Seeing interesting landscapes	4.01	4.06		4.00	4.00		4.02	4.16	+ *
Being in a remote place	3.66	3.82	+*	3.52	3.66	+ *	3.51	3.72	+ *
Being in a clean place	4.04	3.67	-*	4.01	3.63	- *	3.89	3.55	-*
Experiencing the marine environment	3.48	3.39		3.60	3.51		4.07	4.03	
Learning about conservation	3.09	2.97		3.09	3.10		3.09	3.00	
Social									
Experiencing nightlife and entertainment	3.43	3.76	+*	3.28	3.61	+ *	3.18	3.51	+ *
Visiting a unique place	4.10	4.01		3.94	3.87		3.97	3.98	
Learning about local cultures	3.77	3.46	-*	3.77	3.54	- *	3.46	3.13	-*
Meeting friendly local people	4.03	4.04		3.95	3.98		3.79	3.80	
Being with family and friends	3.91	4.12	+*	3.92	4.10	+ *	3.61	3.92	+ *
Visiting a safe place	3.96	4.17	+*	4.15	4.08		3.83	4.08	+ *
Seeking adventure	3.91	3.88		3.70	3.74		3.88	3.85	
Healing the body & calming the mind	3.72	3.83		3.83	3.95	+ *	3.60	3.70	
Expertise of tour operators/instructors	2.76	3.31	+*	3.11	3.49	+ *	2.88	3.64	+ *
Meeting new people	3.75	3.90	+*	3.48	3.74	+ *	3.62	3.77	+ *
Economic									
Reasonable prices	4.00	3.82	-*	3.94	3.71	- *	3.89	3.64	-*
Bringing new income to local communities	3.58	3.73	+*	3.55	3.70	+ *	3.45	3.56	
Supporting local businesses	3.76	3.78		3.66	3.76	+ *	3.66	3.70	
Logistic									
Good access to the island	3.91	3.99		4.03	4.02		3.87	4.08	+ *
Amount of tourist attractions	3.34	3.71	+*	3.48	3.83	+*	3.38	3.78	+ *
Quality of food options	4.10	4.05		4.20	4.19		3.97	4.08	
Variety of food options	3.96	4.03		4.06	4.12		3.81	3.96	+ *
Quality of accommodations	3.90	3.94		4.08	4.12		3.75	3.87	
Variety of accommodations	3.75	3.97	+*	3.84	4.07	+ *	3.61	3.92	+ *
Shopping opportunities	2.88	3.43	+*	3.25	3.68	+ *	2.56	3.23	+ *
Home ownership	2.60	3.10	+*	2.93	3.26	+ *	2.52	3.11	+ *

*indicates significance difference between importance and satisfaction gaps, using paired t test and significance at the .05 level.

2.4.3. Research Objective 3: Comparing Tourist Preferences for Alternative Future Tourist Development Paths by Island

Respondents were asked to rate how they would like certain tourism aspects to change in the future for the island that they were surveyed on. Preference for the future was measured on a 5-point Likert scale (1 = significant decrease, 2 = slight decrease, 3 = stay the same, 4 = slight increase, 5 = significant decrease). Results for each island are displayed below in Table 2.5, where responses have been collapsed into three categories: less, same, and more.

Table 2.5. *Comparing preferred changes in setting attributes by island.*

	Response (%)								
	Koh Phangan (n=412)			*Koh Samui (n=544)*			*Koh Tao (n=305)*		
Attribute	*Less*	*Same*	*More*	*Less*	*Same*	*More*	*Less*	*Same*	*More*
Amount of tourists	29.1	59.7	11.2	36.4	54.4	9.2	30.5	61.0	8.6
Safety and security	1.5	63.3	35.2	1.7	58.5	39.9	2.3	64.9	32.8
Standard of cleanliness	3.7	29.1	67.3	2.2	25.9	71.8	2.0	29.5	68.6
Ease of access to the island	2.7	66.7	30.6	3.3	63.8	32.9	3.7	72.5	24.0
Amount of development	13.3	60.7	25.9	15.2	53.7	31.0	13.4	61.3	25.3
Cost of accommodation	23.8	67.7	8.5	29.9	61.6	8.5	26.0	65.9	8.2
Amount of luxury accommodations	18.5	63.1	18.5	16.1	66.5	17.3	21.0	66.9	12.2
Amount of budget accommodations	7.1	65.5	27.5	5.9	65.3	28.8	5.9	63.9	30.2
Quality of accommodations	1.0	56.3	42.7	1.3	57.5	41.1	2.3	63.0	34.7
Natural areas to visit	3.4	53.2	43.4	2.2	42.3	55.5	4.3	55.7	40.0
Road access to all parts of the island	2.9	57.0	40.0	4.5	56.3	39.3	8.2	44.6	47.2
Traffic around the island	22.1	64.3	13.6	40.5	42.6	16.9	28.8	54.1	17.0
Nightlife and entertainment	9.7	73.1	17.2	11.7	67.3	20.9	12.8	62.0	25.3
Amount of food options	3.2	68.0	28.9	1.1	66.0	32.9	4.2	64.6	31.1
Quality of food options	0.7	66.3	33.0	1.1	68.0	30.9	1.6	68.2	30.1
Amount of activities available	2.2	57.8	40.0	2.2	63.6	34.2	4.0	63.6	32.4
Access to traditional culture	0.9	42.5	56.6	2.8	42.5	54.8	3.3	31.8	64.9
Community-based tourism attractions	3.7	41.3	55.1	1.3	42.8	55.9	6.2	39.7	54.1

Most of the survey respondents would like to see most of the tourism aspects stay the same for the future of tourism on Koh Phangan, Koh Samui, and Koh Tao. However, there are some aspects that visitors to all three islands would like to see improvements (more of): standards of cleanliness, access to traditional cultures, and access to

community-based tourism attractions. Further there is a similar response regarding what visitors would like to see less of all three islands, with many but not most visitors wanting to see less traffic, and about the same amount of tourists. However, on all three islands a high proportion of the samples preferred to see fewer tourists (29.1% for Koh Phangan; 36.4% for Koh Samui; and 30.5% for Koh Tao). Comparisons between island were examined with Sheffe test procedures, which indicated very few significant differences between islands. Koh Phangan and Koh Samui differed in terms of tourist preferences for the standard of cleanliness (KS more), natural areas to visit (KS more), and the traffic around the island (KS less). There were also significant differences between Koh Samui and Koh Tao in terms of tourist preferences for the amount of tourists (KS less) and natural areas to visit (KS more).

2.5. Discussion

The goal of this paper is to compare the tourists visiting three adjacent islands in Thailand in terms of demographic variables (research objective 1), motivations and satisfactions (research objective 2), and preferences for alternative future tourist development paths (research objective 3). Based on the findings, the main issues that need to be discussed are:

1. The need to diverge from the dominating “sun, sea, sand” tourism.
2. There is a need to adopt place-based planning practices.
3. Tourists can play an important role in identifying management priorities which can act as an opportunity for education.

The management and theoretical implications of these findings will be discussed in relation to each of the research objectives, not only for these islands but for tourism in Thailand and island tourism more broadly.

2.5.1. The Need to Diverge from the Dominating "Sun, Sea, Sand" Tourism

On all islands in this study, the two most important factors in selecting the island as a tourist destination were having good weather and spending time on beaches (Research Objective 2 - Table 2.2). Especially on tropical island destinations where the "sun, sea, sand" tourism prevails, good weather and spending time on beaches are important factors that pull tourists towards a particular destination.

2.5.1.1. Sun

While the main motivation across all islands was having good weather, this was also identified as an area of concern on Koh Phangan (table 2.4). In many regions, the climate is a key ingredient of the region's tourism resource base and underpins the success of the industry (de Freitas, 2017). However, as a coastal region, Thailand has been affected by climate change significantly in terms of temperature and rainfall distribution change. It is projected that temperature and rainfall will increase in most seasons, especially during the rainy season which will bring more risk for flood disasters (Wang et al., 2014). This could provide a unique opportunity to diversify tourism activities and invest in other ways to attract visitors outside of the "sun, sand, and sea" tourism that tends to dominate island destinations.

Especially as individuals are hoping to have good weather, it is important to consider that while you cannot change the weather, you can manage visitor expectations which will become crucial if the weather becomes unpredictable with increased storms

and longer rainy seasons. The reaction of tourists depends not only on climatic conditions (such as to temperature) and on which they can act (the generation of artificial environments) but also on the representations they have of climatic items and how they translate such representations into decisions and behaviours (Dubois et al., 2016). A gradual warming may induce tourists to seek different holiday destinations, or travel at different times during the year. Climate change may therefore lead to drastic changes in tourist behavior (Lise & Tol, 2002). In discussing sustainability in tourism, it is important to consider the preservation of natural features for future generations but also the continuation of tourism benefits to local communities and economies, through the continued visitation of tourists and how this will be impacted by climate change. Tourism is an important industry in Thailand but emphasising other aspects such as culture, food, nature, and friendly local people could make the industry more resilient and less susceptible to change on the islands (these opportunities are discussed in more detail in section 5.4. below).

2.5.1.2. Sea

One of the most remarkable features of the western coast of the Gulf of Thailand is the presence of coral reef ecosystems along the west coast of most islands, although KS has virtually none (Dearden, 2020). Thailand has a total of 153 km^2 of coral reefs, consisting of 78 km^2 in the Andaman Sea and 75 km^2 in the Gulf of Thailand (Yeemin et al. 2006). Coral reefs in this region provide important ecosystem services, including income from tourism and food from small-scale fisheries as well as coastal protection against extensive erosion. However, through the IP analysis provided in this study (Research Objective 2 - Table 2.4), experiencing the marine environment was identified

as an area of concern for all islands and seeing marine life was an area of concern for both Koh Phangan and Koh Samui. These island destinations are promoted for their beautiful surrounding ocean and rich marine life with many opportunities to discover life below the water but are becoming increasingly impacted by climate change. For example, the Gulf of Thailand experienced a widespread seawater temperature anomaly in 1998 that produced large-scale coral bleaching and mortality which was repeated in 2010 (Sutthacheep et al., 2013).

Seeing marine life and experiencing the marine environment were important factors for motivating tourists to visit these islands, particularly on Koh Tao, Thailand's most popular diving destination. However, this major attraction that brings tourists to these destinations is exposed to risks both from direct (snorkeling and scuba diving activities, boat anchoring, and marine debris) and indirect causes (wastewater discharge and sediment loads from construction activities) (BIOFIN Thailand, 2018). The current efforts to reduce the pressure on natural coral reefs and work on coral reefs restoration may not be undertaken at a scale that is consistent with the level of threats.

The problems faced by these islands are not unique to Thailand. Other island destinations face the same problems, i.e., inadequate rules and regulations, ineffective enforcement, constraints on technical knowledge, inadequate personnel and insufficient resources to provide the needed protection, and conservation and restoration efforts (BIOFIN Thailand, 2018). Based on these challenges, efforts should be made to enhance the resilience of these ecosystems through appropriate management strategies, which include mitigating the impacts from local anthropogenic stressors such as sedimentation from coastal development, destructive fishing practices, and damage from tourist

activities (Yeemin et al., 2013). This is also consistent with SDG 14 ("life below water") in which tourism should be a part of Integrated Coastal Zone Management to help conserve and preserve fragile marine ecosystems, especially as island tourism relies on healthy marine ecosystems. By focusing on marine environments and visitor expectations, visitor satisfaction can be enhanced, along with the ecological diversity that attracts people to these rich environments in the first place.

2.5.1.3. Sand

An integral aspect of the "sun, sea, sand" tourism model is the ability to spend time on beaches (see Table 2.2). However, just like on many island destinations, many beaches on these islands do not have a large buffer to accommodate changes in sea level as hotels and restaurants are built right up to the water, with beaches already being covered with high tide. Erosional trends can be adverse for the future development of coastal tourism and accelerated sea-level rise may exacerbate this situation (López-Dóriga et al., 2019). Furthermore, there are also concerns with plastic waste and the level of cleanliness on beaches. Especially when tourists are visiting these islands to spend time on beaches, more efforts and resources should be devoted to tackling pollution. The standard of cleanliness was identified as an area of concern on all islands and also a factor that the majority of tourists on each island would like to see an increase in the future. Specifically, many visitors commented on the lack of cleanliness on beaches and the buildup of waste and plastic. As one explained, "if you're trying to plan what to do for tourism on an island, don't do this. There's a big waste problem on beaches which is interesting because they sell it as a beach destination. Wouldn't come back. There's a lot of work cut out to make it sustainable (KS AP 101)."

2.5.2. There is a Need to Adopt Place-Based Planning Practices

While there were commonalities in the main motivations and areas of concern associated with the "sun, sea, sand" tourism, there were also differences in tourist demographics (Research Objective 1 - Table 2.1), travel characteristics, and social motivation factors. Visitors to Koh Phangan and Koh Tao tend to be predominantly European followed by North American, there tends to be more Asian (in particular, Chinese tourists) and Oceanian (Australian in particular) tourists visiting Koh Samui. This is likely due to the ease of accessibility with direct or convenient flights to Koh Samui airport from many of these countries. In general, Koh Samui respondents were older, likely due to the ease, time, and effort spent on traveling to Koh Samui via airplane compared to a ferry to the other two islands, whereas almost half of the respondents to Koh Tao were under 26. This can be an indication of the emphasis on short-stay, scuba diving and backpacking adventures often advertised for tourism on the island. Koh Samui respondents also had the highest percentage of tourists traveling with family and the least number of tourists traveling with friends or alone, compared to Koh Phangan and Koh Tao. Koh Samui has more facilities and family-friendly attractions including amusement parks, water parks, safaris, and an overall greater variety of organized tours. Since tourists often seek out destinations that provide the experience they are looking for, having more facilities and infrastructure for families available on Koh Samui has resulted in a greater proportion of families choosing to visit Koh Samui as their tourist destination. This was also identified through the motivations of tourists visiting this island. For tourists visiting Koh Samui, it was more important to be with family and friends, visit a safe place, heal the body and calm the mind, and engage with tour

operators and instructors. Additionally, logistical factors were more important for tourists to Koh Samui compared to the other two islands, suggesting that Koh Samui is more of a mass tourism destination compared to the neighbouring islands. However, 'reasonable prices' and 'visiting a safe place' were identified as areas of concern for Koh Samui. With more facilities, luxury, and comfort often comes the cost as well as increased concerns with safety due to the larger amounts of people and traffic on the island.

Tourist length of stay is also an important factor in influencing tourists to select a particular mode of transport (Koo et al., 2017) to a particular destination. When comparing the islands, most visitors to Koh Samui tend to spend less time in Thailand but more time on the island itself compared to the other two islands. Since it is more expensive but potentially easier or more convenient to travel via airplane, many Samui airport respondents are making Koh Samui their destination for travel and spending more time on the island itself. Visitors to Koh Tao spend the least amount of time on the Island itself compared to the other two islands. This can be due to the emphasis on scuba diving which attracts more short-stay tourists hoping to experience the marine environment before moving on to another destination. While respondents vising Koh Phangan and Koh Tao may spend less time on the respective islands, they tend to spend more time in Thailand, having visited more than one island or destination during their visit. Different islands provide different opportunities and thus the incentive to go visit multiple destinations, rather than multiple destinations that offer the same opportunities. This can distribute the revenue and provide alternative opportunities that may have not otherwise been realized. By providing different settings and opportunities to tourists, there is greater opportunity to fulfill motivations and realize benefits in unique settings, as outlined in the

behavioural approach. By ensuring that compatible settings and opportunities are available, managers can increase the chances that visitors are satisfied and that the feedback loop in the behavioural approach may result in seeking similar experiences in the future. If the experience was not as expected, benefits may not be realized, resulting in a lower probability that similar experiences would be sought (Needham *et al.,* 2016). Additionally, by distributing the revenue across several islands, the economic benefits can funnel into multiple local businesses and communities which make up a large portion of the tourism industry on all islands but Koh Phangan and Koh Tao in particular.

These findings suggest that the tourists that visit these islands are quite different and each group provides different opportunities for the sustainability of the industry. For example, while visitors to Koh Samui tend to seek more of a mass tourism experience compared to the other two islands, visitors to Koh Phangan seek adventure and an opportunity to be closer to nature. Thus, rather than trying to attract the "ideal passenger" (Koo et al., 2017; Plog, 1974), it is important to provide the space and experience for a multitude of types of visitors and manage expectations to ensure the environmental, social, and economic sustainability of the industry. In any given destination, it is not possible to provide all activities, services, and facilities as this may result in loss of natural character and conversion of natural areas into developed landscapes (Needham et al., 2016). By understanding visitors, managers can provide quality visitor experiences while protecting natural environments and ensuring the sustainability of the industry. This is consistent with Clark and Stankey (1979) who noted that people vary in preferences for settings and conditions, presumably because of different motivations

and/or activity preferences. Given these findings, they reasoned that managers should provide various opportunities instead of uniform standardized settings.

In planning for the future (Research Objective 3 – Table 2.5), it's important to take a place-based approach to examine the challenges on each island to allow managers to diversify attractions to provide different opportunities to enhance resilience and destination competitiveness. Each island is unique in terms of the opportunities and experiences available for tourists. While Koh Samui is the most "modern" out of these three islands and adopts more of a "mass tourism" approach, making the tourism on the neighbouring islands the same would not only displace other types of travelers but make the industries more susceptible to changes in the future. On Koh Phangan and Koh Samui, 'visiting a unique place' was identified as an area of concern which further supports the need to provide unique opportunities and experiences on each island by adopting place-based planning practices that take into account the opportunities available in nearby areas. Thus, there is an opportunity to distribute the economic benefits across all three islands and to enhance the unique beauty of each island as a tourist moves from one island to the next. This can apply to other island destinations outside of Thailand that face similar challenges associated with sustainable tourism development. Rather than focusing on tourist numbers as a way to increase revenue, it is important to consider the unique environmental, social, and economic opportunities and limitations within a particular tourism site.

2.5.3. Tourists can play an Important Role in Identifying Management Priorities, Which can be an Opportunity for Education

Through the IP analysis provided in this study (Research Objective 2, Table 2.4), areas of concern were identified which can act as barriers to sustainable tourism on these islands but can also be opportunities for education and stakeholder engagement. On all three islands, tourists would like to see an increase in the amount of community-based tourism attractions, access to traditional culture, and standard of cleanliness. On Koh Samui, tourists would also like to see an increase in the natural areas to visit while on Koh Tao, tourists would like to also see an increase in road access to all parts of the island. This is interesting because these aspects are all things that management can address as they relate to the social, facility, and ecological opportunities and impacts at these particular destinations.

There is a need for educational opportunities to allow tourists to learn about, and engage in, conservation as well as learning about local cultures. On all three islands, the majority of respondents were dissatisfied with 'learning about conservation', and 'learning about local cultures' was identified as an area of concern. As several tourists stated, they "would enjoy seeing more Thai culture, rather than things catering to the perceived nationalities of tourists. Being on an island in Thailand is great and the culture should be highlighted more (KT 89)" and "above all, we would like to discover and know more about their culture and their history, their habits. As a whole, we need to learn more about the country itself (KP 222)."

Similarly, on Koh Phangan and Koh Tao, being close to nature was an area of concern and on Koh Samui, 'learning about conservation' was identified as an area of management priority. Koh Phangan is over 60% primary forest, surrounded by its

beaches and coral reefs. Not only is there a demand to experience and explore the natural areas on these islands and attract tourists, but these natural areas can provide educational opportunities to learn about the local ecology and how to conserve it. For example, as one tourist commented, "we had a great trip however it is important to emphasize to tourists the importance of marine conservation. "So much dead coral was heartbreaking and we were never told at any point how we could help stop it or assist with any marine work. Just little tips when on trips about what to do/not do would make a big impact" (KT 238)." The tourist demand for education exists for these islands and can act as an opportunity to engage with tourists, tourism managers, and local communities on how to work together to conserve the cultural and ecological integrity of these destinations. This is consistent with Cheng and Wu (2015) who argue that it is urgent to inform tourists about the concept of sustainability in order to mitigate serious damage to precious ecological and cultural resources. When tourists are highly sensitive to the attraction, they are more likely to exhibit environmentally responsible behavior. Tourism managers should create environments that allow contact with nature (e.g. public access to parks) and encourage bottom-up initiatives, preferably by local actors (e.g. by promoting already engaged individuals or organisations) (Kiessling et al., 2017) in collaboration with managers and tourists.

2.6. Conclusion

Tourist destinations differ as do the tourists visiting them. Identifying these different market segments is an important consideration in tourism management, suggesting that some areas, particularly islands, should consider somewhat differing management regimes that align with each market segment. As outlined in the behavioural approach, a crucial step is to understand tourists to see who they are, their travel characteristics, motivations, satisfactions, and their preferences for the future (Needham *et al.,* 2016). Understanding tourist motivations is important to ensure that the factors attracting tourists to these destinations are protected, while satisfaction informs managers how to enhance visitor experiences so that the negative aspects of tourism are minimized and the social, economic, and environmental benefits are enhanced. When motivations and satisfactions are compared, common concerns emerge which can act as barriers to sustainable tourism on these islands but can also be opportunities for education and stakeholder engagement. These areas of concern can inform planners what the management priorities are to ensure a more efficient allocation of limited resources, improve tourist satisfaction and destination competitiveness, and ensure the sustainability of a tourist destination, from economic, cultural, and environmental perspectives. The findings suggest that tourists can play an important role in identifying management priorities to establish a more sustainable tourism industry and that there is a need to diverge from the dominating "sun, sea, sand" tourism, adopt place-based planning practices, and create educational opportunities to ensure that the benefits from tourism are not outweighed by the costs. Although this case study focused on island tourism in Thailand, the findings can help inform sustainable tourism development in other destinations.

2.7. References

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3 Paper 2: Acceptable Changes in the Eyes of Tourists: Managing for Heterogeneity in Tourists and Tourism Opportunities.

3.1. Introduction

Tourism can be a key driver of socio-economic development, but it can also create undesirable impacts that threaten the future sustainability of the industry, especially in small tropical islands. A large part of the tourist industry exists chiefly because of the attractiveness and quality of the environment and it is therefore vital that tourism does not impair the very thing that the industry needs for its future success (Stabler, 1997). However, the long-term economic viability of the industry itself is at risk from destination degradation such as beach erosion, deforestation, and population displacement (Tip, 2009). Concerns for the sustainability of tourism have spawned a significant literature measuring tourism impacts and how to minimize the negative impacts of the industry. These insights have contributed to management techniques such as the Recreation Opportunity Spectrum (ROS), Tourism Opportunity Spectrum (TOS), and Limits of Acceptable Change (LAC), which will be discussed below.

The tourism system consists of several interrelated parts working together to achieve a common purpose: destination (planning, developing, and controlling tourism), marketing (strategy, planning, promotion, and distribution), demand (factors influencing the market), and travel (the characteristics of travel) (Mill & Morrison, 1998). Participants within this system influence outcomes. Participants include tourists (domestic and foreign); tourist businesses (investors, developers, operators; shareholders, management, employees; public and private); and the host community and their governments (Liu, 2003). However, these groups often have conflicting interests in, and different perceptions of, tourism development. Additionally, relatively little attention has

been paid to the influence of the tourists themselves particularly in relation to decision-making, planning, and management of sustainable tourism. However, tourists can be both the main barriers and primary facilitators in determining destination sustainability. For example, tourists can be sustainable consumers by buying responsible tourism products, choosing environmentally friendly transportation or behaving responsibly towards destination communities or tourists can select destinations, transportation, and accommodations that can lead to increased energy consumption, air and water pollution, congestion, waste, and social disruptions in local communities (Budeanu, 2007).

Although tourists influence the sustainability of a destination, research indicates that tourists to most destinations are not homogenous, and vary considerably in motivations, preferences for activities and settings, experiences, and attitudes toward conditions and management (Needham *et al.,* 2016). This diversity suggests that experiences may be enhanced through management strategies that provide opportunities for serving different market niches. These niches or subgroups of visitors can be described using concepts such as specialization, which places recreationists onto a spectrum of groups ranging from "specialists" to "generalists based on differing motivations, skills, attitudes, knowledge, and behaviours (Bryan 1977) and market segmentation which segments tourists based on their demographic, geographic, psychological, and behavioral factors (Moscardo *et al.,* 2001). Among such factors, the psychological variables are particularly important due to their stability and their predictive ability for the behavior of tourists (Hsu *et al.,* 2002; Juvan & Dolnicar, 2017; Srihadi *et al.,* 2016). The psychological variables commonly used in segmenting tourists

include motivations, values, attitudes, perceived benefits, and personality (Moscardo et al., 2001).

Understanding the motivational factors that influence tourists to travel can influence marketing and management of the industry to conserve the resources on which the industry is based. Tourist satisfactions are created when experiences meet or exceed expectations. By ensuring that compatible settings and opportunities are available, managers can increase the chances that visitors are satisfied. If the experience turned out as expected, the individual would be satisfied and this may result in them seeking similar experiences in the future, and supporting the sustainability of the destination. If the experience was not as expected, benefits may not be realized, resulting in a lower probability that similar experiences would be sought and less support for sustainability (Needham *et al.,* 2016). These insights have contributed to management approaches such as the Recreation Opportunity Spectrum (ROS), Tourism Opportunity Spectrum (TOS), and Limits of Acceptable Change (LAC), which are discussed below. By understanding tourists, we can identify management priorities and determine how to manage visitor expectations to minimize the gaps between visitor expectations and actual experiences. This paper examines the motivations and satisfactions of tourists visiting three adjacent islands in Thailand to help understand how tourists may differ among the sites and the implications for developing more sustainable tourist products in the future. In particular, the study examines the following objectives:

(1) To identify tourist subgroups based on tourist motivations for desired environmental, social, economic and logistic factors

(2) To compare the demographic and travel characteristics of tourists within each subgroup.

(3) To compare tourist subgroups in terms of gaps between visitor motivations and satisfactions across environmental, social, economic and logistical domains

(4) To compare tourist subgroups based on participation in the Full Moon Party in terms of gaps between motivations and satisfactions across environmental, social, economic and logistical domains.

The next section provides the background for the study including an introduction to the study sites and a review of the relevant tourism literature.

3.2. Background

3.2.1. Study Site

Tourism is a significant and rapidly growing industry in Thailand. In 2001, Thailand received 10.13 million visitors which increased to 35.4 million international tourists, generating $USD 57.5 billion, in 2018 (UNWTO, 2018). Koh Phangan, Koh Samui, and Koh Tao are three islands located in the Chumphon Archipelago in the Gulf of Thailand and part of Surat Thani province. The islands differ in size and have differing tourist attractions, levels of tourism development, markets, and levels of current and potential future sustainability. Koh Phangan is located between the larger Koh Samui to the south and the smaller Koh Tao to the north (Figure 1.1) and has an area of 125 km^2 and a population of 11,846. Koh Samui is Thailand's second-largest island, after Phuket,

with an area of 228.7 km^2 and a population of 62,500. Koh Tao has an area of 21 km^2, a population of 1,382, and an economy that is almost exclusively centred on tourism, especially scuba diving. Koh Phangan is well known for its Full Moon Party which can attract up to 30,000 tourists each month.

3.3. Review of Literature

This section will outline concerns for tourism impacts on the environment, social, and economic characteristics of a tourism destination, and how these concerns have generated approaches to tourism management including carrying capacity, visitor segmentation, the Recreation Opportunity Spectrum (ROS), and Limits of Acceptable Change (LAC).

3.3.1. Tourism Impacts and Carrying Capacity

Kurniawan et al (2016) argue that small islands are popular destinations due to their beauty, exoticism, aesthetics, and diversity of natural habitats including warm, clear, and attractive water. However, while their geographical, cultural, ecological, and economic features attract visitors, the fragility and limitations of these same elements make the island environment and communities more vulnerable to the pressures of tourism (Kokkranikal *et al.,* 2003). In the absence of management, growing tourism will have increasingly negative impacts on the desired environmental, social, and managerial conditions (Higham, 1998, Ziegler et al., 2012). For example, uncontrolled growth in tourist numbers combined with social and political tensions on Easter Island has led to development that has neglected the institutional, environmental, social, and economic sustainability and resulted in waste disposal and management issues, problems with

sewage systems, threats to water quality, and biodiversity loss (Figueroa & Rotarou, 2016). Development such as condominium and hotel construction on steep hillsides or the construction of marinas and resorts along delicate coasts has damaged, depleted, and polluted forests, watersheds, wetlands, lagoons, mangrove forests, salt ponds, reef systems, and endemic species in the Dominican Republic (Padilla & McElroy, 2008). Similarly, the mass tourism on Barbados has led to beach erosion, water pollution and coral reef damage due to inadequate infrastructure, weak public participation, and the fact that environmental impact assessments for potentially damaging tourism projects were not required (Mycoo, 2006).

In particular, with limited resources and environmental vulnerability, large numbers of tourists could have a serious impact on the sustainable development of island tourism. Sahli *et al.* (2007) assert that in the long run, the maximum number of tourists to a destination is restricted by a carrying capacity constraint and that if this carrying capacity is exceeded, there will be a negative impact in future visitation and a loss of profits to operators. Tourism Carrying Capacity (TCC) is defined as the maximum number of people that may visit a tourist destination at a particular time without negatively impacting the physical, economic, and socio-cultural environment as well as the quality of visitors' satisfaction (UNWTO, 1981).

Early applications of carrying capacities sought to establish numerical capacities across setting dimensions (social, environmental, facility) (Shelby and Heberlein 1986). Managers and researchers sought to determine the number of people a park could sustain before unacceptable impacts occurred on park features (environmental capacity) or visitor experiences (social capacity) (Needham et al., 2016). However, researchers were

concerned that this approach may not address the complexity of use related issues while maintaining resources, experiences, and facilities (Manning 2007). Such complexities include variability in visitor motivations and preferences for setting conditions, which is not considered in carrying capacities. This issue is explored below in the discussion of Limits of Acceptable Change and related concepts.

3.3.2. Market Segmentation and Specialization

Visitors vary considerably in motivations, preferences for activities and settings, experiences, and attitudes toward conditions and management. In tourism market segmentation, tourists grouped in the same segment are similar to each other and differ from those in other segments based on how they react to an internal stimulus (e.g. desires, emotions, motivations) or external stimulus (e.g. promotions or advertising) (D'Urso et al., 2013). By understanding subgroups, managers can cater to the needs of different market segments, and visitors can have satisfactory experiences (Needham et al., 2016). Many tourism market segmentation studies advocate the use of both sociodemographic variables (e.g. gender, age, income, level of education) and psychographic factors (lifestyles, activities, interests, opinions) (Hsu *et al.,* 2002; Moscardo *et al.,* 2001; Plog, 2002). Segmentation has been used in a variety of applications such as to detect meaningful tourism-related market segments using smartphone geo-localized data (Rodríguez *et al.,* 2018); assist in public forest recreation management (Wang *et al.,* 2016); improve economic performance in rural destinations (Fernández-Hernández *et al.,* 2016); investigate the potential importance that constraints may have on preference and behavioural intentions to visit wine regions (Cho *et al.,* 2017); and identify a core

segment of US tourists for leveraging revitalization of China's inbound tourism (Qu et al., 2018).

Similarly, recreation specialization is a way to categorize heterogeneous recreationists onto a spectrum of groups ranging from "specialists" to "generalists", based on differing motivations, skills, attitudes, knowledge, and behaviours (Bryan 1977). It has been applied to numerous case studies to understand divers (Bentz et al., 2016a), hikers (Kim and Song, 2017), whale shark tour participants (Catlin et al., 2010; Catlin & Jones, 2010; Jones et al., 2009), polar bear viewers (Lemelin et al., 2008), whale watchers (Malcolm & Duffus, 2008), and wildlife viewers (Manfredo & Larson, 1993). In the early stages of tourism development, a tourism site often starts with small numbers of specialists, who are highly skilled, knowledgeable about the ecosystem they are visiting, will pay more to access the conditions they desire, and travel to remote locations to access pristine sites (Augustine et al., 2015; Bryan 1977; Pabel & Coghlan 2011). Due to their increased awareness of the environment and their smaller numbers, they generally have a minimal impact on the environment (Bryan, 1977; Needham et al., 2007; Scott & Shafer, 2001).

As a tourism site grows, specialists become displaced or outnumbered by a growing proportion of generalists who are more easily satisfied than specialists (Dearden et al. 2006; Meisel-Lusby & Cottrell 2008). Generalists often place more emphasis on the social and managerial settings of their experience, have a greater interest in a wide range of services, and are more reliant on infrastructure (Catlin et al. 2010). They often require greater facility development and more interpretation; and without adequate management interventions, they place greater pressure on both the social and the natural environments,

in large part because of their greater numbers (Duffus and Dearden, 1990). Highly specialized recreationists can differ from their less specialized counterpart on attributes such as motivations, management and setting preferences, perceptions of environmental impacts, and crowding evaluations (Scott and Shafer, 2001; Manning, 2011). Specialists are more likely to support the protection of natural values over increases in the built environment. Thus, according to Duffus and Dearden (1990), increased specialization leads to increased awareness of the environment and therefore to a smaller impact on the environment and focal species.

Market segmentation and specialization can provide important insights into the relationship between an activity and the environment it takes place in and, ultimately, the sustainability of the activity (Dearden et al., 2006). However, the applications of market segmentation and specialization have focused on one destination, whereas this study examines how these segments may differ across a region containing several destinations (in this case, an island archipelago). Identification of different tourist types can be beneficial for planning, managing, and marketing of tourism. This is consistent with Clark and Stankey (1979) who noted that people vary in preferences for settings and conditions, presumably because of different motivations and/or activity preferences. Given these findings, they reasoned that managers should provide various opportunities instead of uniform standardized settings, leading to the development of the Recreation Opportunity Spectrum (ROS). Zoning (using approaches similar to ROS) can allow managers to match opportunities with visitor needs, disperse use to minimize crowding, and mitigate conflict among incompatible groups (Needham et al., 2016).

3.3.3. Recreation Opportunity Spectrum

The ROS is a land planning and allocation framework where opportunities are based on outcomes, activities, and settings preferred by visitors. The ROS divides a landscape into zones along a continuum from primitive (e.g. wilderness) to developed (e.g. urban) based on setting modification, access, management, and social interaction (Driver et al., 1987). Variation among these factors determines the nature of settings where activities occur, and settings can be managed to produce desired results by manipulating these factors. The supply of opportunities identified in this way compares visitor demands, allowing managers to match supply and demand, where possible and permissible under policy and legislation.

Since its development in the late 1970s, ROS has been widely accepted as the most-used recreation planning and management tool among U.S. Forest Service managers (Cerveny et al., 2011). ROS has also been used in a variety of other non-forest-dominated settings such as Wilderness (Kliskey, 1998), water-based recreation areas (Haas et al., 2004), coastal ranges (Rogan, 2000), and suburban mountainous areas (Xiao et al., 2012). Furthermore, ROS has inspired the creation and development of several other recreation/tourism planning frameworks, including the Tourism Opportunity Spectrum (TOS) (Butler & Waldbrook, 1991; Huang & Confer, 2009); the Ecotourism Opportunity Spectrum (ECOS) (Boyd & Butler, 1996); Water Recreation Opportunity Spectrum (WROS) (Haas et al., 2004); Dive Opportunity Spectrum (DOS) (Dearden et al., 2006); Water and Land Recreation Opportunity Spectrum (WALROS) (Aukerman et al., 2011); and recently, the Forest Recreation Opportunity Spectrum (FROS) (Xiao et al., 2012). Often, however, the ROS is only employed to describe the supply of opportunities

and does not include indicators, standards, monitoring, and management actions (Needham et al., 2016) which were included in the Limits of Acceptable Change approach (LAC) as a response to these limitations.

3.3.4. Limits of Acceptable Change

LAC has been used to determine social and environmental indicators and standards in protected areas such as national parks, where both recreational and conservation goals must be fulfilled, and has been a preferred alternative to carrying capacity approaches (McCool & Lime 2001). Whereas carrying capacity focused on "how much use is too much", LAC focuses on "how much use or impact is acceptable and should be allowed" (Manning, 2011). This approach involves subjective judgements in the context of objectives in an area, which is central to frameworks guiding contemporary planning and management. Establishing 'limits of acceptable change' (LAC) (Stankey et al. 1984) requires that managers identify the level of resource protection, and social conditions desired at a tourism site so that appropriate management interventions can be enacted. This involves the identification of the indicators that can be monitored, to ensure the site remains within the determined LACs. This differs from the earlier approach of managing a site to its ecological or social carrying capacity, which maximizes the number of users that visit a site without causing permanent damage to ecological or social conditions.

The LAC framework outlines a series of steps that can be used to define a set of desired conditions for some areas where change is imminent, as well as the various management actions required to help maintain or restore these conditions. The steps of the LAC lead managers and researchers through the process so that desired baseline

conditions of a resource area can be determined and necessary indicators and standards may be put in place to understand how much use or impact is acceptable and should be allowed (Stankey et al. 1984).

Of particular interest in this study are the first four steps of the LAC process. In the first step, main issues and concerns are identified, such as features needing special attention or managerial problems that have to be dealt with. In this step, the opinion of stakeholders and the public is usually gathered. The second step implies the definition and description of the (recreation) activity with its conditions and resources according to opportunity classes (zones). In the third step, indicators are selected that represent specific elements of the biophysical and social setting conditions that can be measured and are deemed to be appropriate and acceptable in each opportunity class. The fourth step requires an inventory of resources and social conditions, through the measurement of indicators identified in the previous step.

This study contributes to this literature through an examination of visitor motivations to visit three islands in Thailand, how these motivations vary as identified through cluster analysis, and how visitor motivations compare with visitor satisfaction. This analysis is framed within the LAC concept, suggesting how tourism sustainability can be managed more effectively through monitoring of tourism motivations and satisfactions. Within the LAC model, motivations are a way of understanding the preferences of visitors (indicators in the LAC model), and satisfaction is a measure of standards in LAC.

3.4. Methods

3.4.1. Questionnaire Design

A structured questionnaire, which took approximately 10 minutes to complete, was used to collect data. The questionnaire was prepared in English and included questions measuring the importance of environmental, social, economic, and logistical factors for visiting the island, and the satisfaction with those factors. Other aspects of the questionnaire included measures of overall satisfaction with their tourism experience and how that relates to their expectations; and various demographic and travel characteristic questions (age, education, gender, nationality, length of trip, who they are traveling with, number of previous trips).

3.4.2. Sampling Methods

The target population for this research was tourists visiting the islands of Koh Phangan, Koh Samui, and/or Koh Tao. Survey participants (tourists) were recruited through random sampling, with purposefully selected survey sites, during the peak tourism season (January to March) of 2018. Each tourist over the age of 18 and waiting at one of the sample sites had an equal chance of being selected and were selected randomly. On Koh Phangan, Koh Samui, and Koh Tao, tourists were sampled at the ferry ports on the islands, waiting to leave the island at the end of their trip. However, since visitors to Koh Samui can arrive by ferry or airplane, tourists were also surveyed while waiting inside Samui International Airport. On Koh Phangan, 412 surveys were completed inside the Thong Sala Pier waiting Area, Lomprayah waiting area, and on Thong Sala Pier (Raja, Seatran, Lomprayah, and Songserm waiting areas). On Koh Samui, 293 surveys were completed in the Samui International Airport in association

with Walailak University and 251 surveys were completed at ferry ports: Nathon Pier (Lomprayah, Songserm, and Seatran waiting areas) and Lipa Noi Pier (Raja waiting area). Lastly, 305 surveys were completed on Koh Tao at Mae Haad Pier at the Lomprayah, Seatran, and Songserm ferry waiting areas.

3.4.3. Pilot Testing and Revisions

The questionnaire was pilot-tested at Thong Sala Pier on Koh Phangan from January 3-10 to examine variation, meaning, redundancy, scalability, non-response, flow, question skips, timing, and respondent interest and attention. From the pilot testing, it became clear that it was important to ask a few questions prior to administering the questionnaire to assess ferry/airport departure times, whether visitors had in fact spent time on the island as a tourist, and the level of English proficiency of the individual to increase the accuracy of the results. Based on the pilot testing, data were collected on Koh Phangan (January 10-February 16), Koh Samui (Feb 18 – March 7), and Koh Tao (March 7 – March 29).

3.4.4. Data Analysis

For the analysis of the data, 1261 cases were entered, coded, and statistically analyzed using SPSS software. Tourists were segmented using a two-step cluster analysis, where three clusters were created based on responses to the 30 motivations that are common among the participants on all islands. A two-step cluster analysis was selected due to the large sample size and the ability to specify the number of clusters or let the algorithm decide based on the preselected criteria to explore a range of solutions with different numbers of clusters. Importance was compared to satisfaction with a gap analysis.

3.5. Results

3.5.1. Results for Objective 1

Identify tourist subgroups based on tourist motivations for desired environmental, social, economic and logistic factors

Respondents were asked to rate the importance of a set of environmental, social, economic, and logistical factors for visiting each of the islands for their tourism experience. Importance was measured on a 5-point Likert scale with scores of 1 corresponding to 'not at all important', 2 to 'low importance', 3 to 'moderate importance', 4 to 'high importance', and a score of 5 to 'very high importance'. Table 3.1 shows the distribution of responses across all islands (1261 cases).

Overall, environmental factors had the highest mean motivation score followed by economic, social, and logistical factors. Within the environmental factors, 'having good weather' had the highest mean score and the largest percentage of "very high importance" respondents, whereas 'learning about conservation' was the lowest. For the economic factors, 'reasonable prices' had the highest overall mean and 'bringing new income to local communities' had the lowest mean. For the social factors, 'visiting a safe place' had the highest mean, whereas 'expertise of tour operators/instructors' had the lowest mean for the importance of influencing visitors' decisions to visit the islands. For the logistical factors, 'quality of food options' had the highest importance score for influencing tourists' decisions to visit the islands whereas 'home ownership' had the lowest.

Table 3.1 *Distribution of responses for the motivation factors across all islands*

	Response (%)					
	Not at all important (1)	*Low Importance (2)*	*Moderate Importance (3)*	*High Importance (4)*	*Very High Importance (5)*	*Mean*
Environmental (mean = 3.7907)						
Having good weather	.6	1.7	11.8	29.9	56.0	4.4
Spending time on beaches	1.2	3.4	13.5	33.4	48.5	4.3
Being close to nature	2.0	5.5	20.8	35.6	36.2	4.0
Being in a clean place	1.8	5.4	21.1	36.3	35.4	4.0
Seeing interesting landscapes	1.9	4.2	20.1	42.0	31.8	4.0
Seeing marine life	6.0	13.9	25.5	27.8	26.7	3.6
Being in a remote place	3.6	11.5	32.6	32.6	19.7	3.5
Experiencing the marine environment	6.3	13.7	26.3	28.9	24.7	3.5
Learning about conservation	12.1	23.5	33.1	21.1	10.2	2.9
Economic (mean = 3.6252)						
Reasonable prices	1.4	4.0	22.1	43.4	29.0	3.9
Supporting local businesses	5.9	10.3	26.1	38.2	19.5	3.6
Bringing new income to local communities	6.7	13.4	31.0	33.0	15.9	3.4
Social (mean = 3.5507)						
Visiting a safe place	3.0	5.8	19.3	35.1	36.9	4.0
Visiting a unique place	2.0	5.8	20.0	41.4	30.8	3.9
Meeting friendly local people	2.8	6.0	21.9	37.7	31.6	3.9
Seeking adventure	4.3	9.1	25.9	36.1	24.7	3.7
Being with family and friends	11.7	8.6	18.2	27.7	33.9	3.6
Learning about local cultures	3.8	10.5	28.1	36.0	21.6	3.6
Healing the body & calming the mind	6.4	13.2	23.6	28.7	28.1	3.6
Meeting new people	7.2	14.4	26.4	29.1	22.9	3.5
Experiencing nightlife and entertainment	14.4	20.9	27.4	22.8	14.4	3.0
Expertise of tour operators/instructors	21.0	23.1	27.8	19.2	9.0	2.7
Logistical (mean = 3.5018)						
Quality of food options	1.1	2.9	16.7	43.0	36.3	4.1
Variety of food options	1.4	5.2	21.2	40.9	31.3	4.0
Good access to the island	1.3	5.2	20.1	43.9	29.4	3.9
Quality of accommodations	1.3	3.8	24.1	42.1	28.6	3.9
Variety of accommodations	2.1	7.4	29.5	39.3	21.6	3.7
Amount of tourist attractions	5.1	15.2	34.1	33.7	11.9	3.3
Shopping opportunities	15.3	24.3	32.0	19.4	9.0	2.8
Home ownership	40.5	19.2	23.2	11.8	5.2	2.2

As shown in table 3.1, there is variability amongst respondent motivations. To determine if meaningful tourist subgroups existed, tourists were clustered based on the 30 environmental, social, economic, and logistical motivation factors described in Table 3.1.

Within SPSS, there are three methods to cluster data: hierarchical cluster analysis, *k*-means cluster, and a two-step cluster. For large cluster sizes (e.g. over 1000 cases) or a mixture of continuous and categorical variables, a two-step procedure is used. A two-step cluster analysis was selected for this research due to the large dataset (1261 cases). Three clusters were selected as there were not too many small clusters or excluded cases as well as a higher cluster quality based on the silhouette measure of cohesion and separation compared to other cluster solutions. The mean scores for each cluster are shown in table 3.2 below, as well as the ANOVA and Scheffe findings (asterisk indicates significant differences between groups). The eta values indicate the strength of each ANOVA test, as outlined at the bottom of the table.

Overall, the tourists in these three clusters vary in terms of the importance scores for the motivation factors and most tourists tend to rank most of the environmental, social, economic, and logistic factors with moderate, high, or very high importance for influencing their decision to visit these three islands. The most important factors in creating the clusters were the variety of accommodations, bringing new income to local communities, quality of food options and accommodations, supporting local businesses, meeting friendly local people, variety of food options, and learning about local cultures and conservation. This means that these factors had the most variability in terms of visitor responses among the three clusters. In all groups, most visitors rated experiencing nightlife and entertainment, spending time on beaches, having good weather, being close to nature, and visiting a unique place as being either important or very important, hence these variables do not differ strongly amongst the tourist groups. Inspection of the eta

values in Table 3.2 suggests that the most important factors for creating the different clusters were predominantly logistical factors.

Table 3.2 *Comparison of significant differences amongst the mean motivation scores of the three cluster groups created (very high importance generalists, high importance generalists, and mixed importance).*

Motivation Factor	*Group 1: Very High Importance Generalists (n=408)*	*Group 2: High Importance Generalists (n=467)*	*Group 3: Mixed Importance (n=386)*	ANOVA[a] F	Scheffe Test[b] *1-2*	Scheffe Test *1-3*	*Sheffe Test 2-3*	Eta[c] (η)
Environmental								
Being close to nature	4.40	3.91	3.64	67.009	*	*	*	.310
Spending time on beaches	4.49	4.15	4.11	23.723	*	*	NS	.191
Having good weather	4.69	4.25	4.24	45.206	*	*	NS	.259
Seeing marine life	3.97	3.56	3.10	58.222	*	*	*	.291
Seeing interesting landscapes	4.42	3.92	3.57	98.923	*	*	*	.369
Being in a remote place	4.00	3.45	3.14	76.962	*	*	*	.330
Being in a clean place	4.49	3.92	3.52	119.517	*	*	*	.400
Experiencing the marine environment	4.01	3.50	3.03	76.588	*	*	*	.329
Learning about conservation	3.55	3.02	2.18	184.171	*	*	*	.476
Social								
Experiencing nightlife and entertainment	3.19	3.10	2.74	14.282	NS	*	*	.149
Visiting a unique place	4.29	3.90	3.59	59.460	*	*	*	.294
Learning about local cultures	4.18	3.72	2.88	205.388	*	*	*	.496
Meeting friendly local people	4.48	3.94	3.22	209.130	*	*	*	.500
Being with family and friends	4.10	3.66	3.11	59.415	*	*	*	.294
Visiting a safe place	4.51	3.98	3.39	146.084	*	*	*	.434
Seeking adventure	4.10	3.69	3.21	76.497	*	*	*	.329
Healing the body & calming the mind	4.09	3.54	3.12	72.275	*	*	*	.321
Expertise of tour operators/instructors	3.23	2.90	1.96	134.717	*	*	*	.420
Meeting new people	3.97	3.52	2.84	104.114	*	*	*	.377
Economic								
Reasonable prices	4.42	3.85	3.55	113.910	*	*	*	.392
Supporting local businesses	4.07	3.46	2.54	277.382	*	*	*	.553
Bringing new income to local communities	4.19	3.63	2.79	222.213	*	*	*	.511
Logistical								
Good access to the island	4.47	3.85	3.51	140.486	*	*	*	.427
Amount of tourist attractions	3.74	3.39	2.80	97.274	*	*	*	.366
Quality of food options	4.70	3.98	3.63	214.695	*	*	*	.504
Variety of food options	4.51	3.89	3.45	167.116	*	*	*	.458
Quality of accommodations	4.51	3.83	3.44	192.410	*	*	*	.484
Variety of accommodations	4.34	3.65	3.11	225.600	*	*	*	.514
Shopping opportunities	3.34	2.97	2.10	142.624	*	*	*	.430
Home ownership	2.64	2.36	1.62	80.858	*	*	*	.338

[a]All motivation factors had a significant F value of 0.000 based on the one-way ANOVA

[b]Sheffe test indicates the differences between 1 (Cluster 1), 2 (cluster 2), and 3 (Cluster 3. * represents a significance of 0.000 and NS = not significant

[c]Effect size was determined using an eta (η) value of .10 for a minimal relationship, .243 for a typical relationship, and .371 for a substantial relationship (Vaske, 2008).

The differences between each cluster tend to be strong, as indicated by the eta values in the final column (Vaske, 2008). Cluster 1 was labelled "very high importance generalists" because this group had the greatest mean importance scores for all factors. While this cluster had predominately "very high" importance scores for most factors, there was some variation. Most individuals in this cluster stated very high importance for all factors except for the following: learning about conservation (high), experiencing nightlife and entertainment (moderate), expertise of tour operators/instructors (moderate), amount of tourist attractions (high), shopping opportunities (moderate), and home ownership (Not at all).

Cluster 2 was labelled "high importance generalists" because this group had high importance for all factors except for the following which were of "moderate" importance: learning about conservation, experiencing nightlife and entertainment, expertise of tour operators/instructors, shopping opportunities, and home ownership.

Cluster 3 was labelled as "mixed importance" because this group had the greatest variability in terms of the importance scores but had the lowest mean importance score for all factors. While some factors had predominantly high importance scores (spending time on beaches, having good weather), other factors had low importance (learning about conservation, experiencing nightlife/entertainment, learning about local cultures, expertise of tour operators, meeting new people, supporting local businesses, bringing new income to local communities, amount of tourist attractions, shopping opportunities, home ownership).

3.5.2. Results for Objective 2

To compare the demographic and travel characteristics of tourists within each subgroup

The three cluster groups were compared by demographic characteristics, travel characteristics, overall trip satisfaction, and island visited. A Pearson Chi-square Test with a level of $p < 0.05$ was used to indicate significant differences between the three clusters. Based on the analysis, there were no significant differences among the clusters in terms of respondents' length of trip to Thailand, age, highest level of education, the number of previous trips made to the island on which they were surveyed on, and whether they would recommend the island as a good tropical island tourist destination. However, there were significant differences among the clusters in terms of respondents' gender, overall satisfaction with their experience, how they would compare their tourism experience to their expectations, nationality, and what island respondents were surveyed on (Table 3.3).

Cluster 1 (Very High Importance Generalists) makes up 32.4% of respondents and consists of more female (58.1%) than male tourists. Tourists in this cluster were overall very satisfied with their experience (64.2%) and stated that their experience is about the same as their expectations (42.6%). Overall, tourists in this cluster were more satisfied with their experience compared to the other two clusters. There were 49 nationalities identified in this cluster but predominantly comprised of German, British, Russian, and Northern European. This cluster had the largest percentage of British, Russian, South American, Asian, and Oceanian tourists compared to clusters 2 and 3. Lastly, this cluster had the largest proportion of tourists that were surveyed on Koh Phangan (34.7%).

Cluster 2 (High Importance Generalists) is the largest group (37.0%) and comprises tourists with a predominantly high importance score for the various factors. This cluster consists of more female (52.7%) than male tourists. Tourists in this cluster were overall very satisfied with their experience (52.7%) and stated that their experience is about the same as their expectations (48.4%). There were 44 nationalities identified in this cluster but predominantly comprised of German, British, French, North American, Northern European, and other European. This cluster had the largest percentage of French, North American, other European, and African tourists compared to the other two clusters. Lastly, this cluster had the largest proportion of tourists that were surveyed on Koh Samui (41.7%).

Cluster 3 (Mixed Importance) makes up 30.6% of respondents and consists of more male (58.1%) than female tourists. This cluster had the largest proportion of tourists that were surveyed on Koh Tao (38.0%). Tourists in this cluster were mostly either very satisfied (47.9%) or somewhat satisfied (43.3%) with their experience and stated that their experience is about the same as their expectations (56.0%). There were 42 nationalities identified in this cluster but predominantly comprised of German, British, French, and North American (Canadian, American, Mexican). This cluster had the largest percentage of German and Northern European tourists compared to clusters 1 and 3. Lastly, this cluster had the largest proportion of tourists that were surveyed on Koh Tao (38.0%).

Table 3.3 *Comparison of the three clusters based on demographic characteristics, overall trip satisfaction, and island visited.*

Demographic Characteristic		*Response (%)*			*P*[a]
		Group 1: Very High Importance Generalists	*Group 2: High Importance Generalists*	*Group 3: Mixed Importance*	
Gender	Female	58.1	52.7	48.2	0.018
	Male	41.9	47.3	51.8	
Overall satisfaction with experience	Very satisfied	64.2	52.7	47.9	0.000
	Somewhat satisfied	28.9	41.1	43.3	
	Neither satisfied nor unsatisfied	4.4	3.9	6.0	
	Somewhat unsatisfied	1.0	1.1	2.1	
	Very unsatisfied	1.5	1.3	0.8	
Current tourism experience compared to expectations	Much worse	1.2	2.1	1.3	0.000
	Somewhat worse	5.4	9.9	10.9	
	About the same	42.6	48.4	56.0	
	Somewhat better	29.7	30.6	22.5	
	Much better	21.1	9.0	9.3	
Nationality	German	14.2	19.9	24.6	0.013
	Other European	57.2	53.9	51.8	
	North American	8.8	10	8.8	
	Asian	9.3	7.8	8.4	
	Oceanian	6.6	5.5	4.1	
	South American	2.9	2	2.7	
	African	0.2	0.6	0	
Island	Koh Phangan	34.7	33.7	31.6	0.002
	Koh Samui	32.5	41.7	25.7	
	Koh Tao	28.9	33.1	38.0	

[a]Based on a Pearson Chi Square Test, significance of $P < 0.05$

3.5.3. Results for Objective 3

Compare tourist subgroups in terms of gaps between visitor motivations and satisfactions across environmental, social, economic and logistical domains

It is important to understand tourist motivations and why people are traveling to these destinations. However, it is also important to see how well the industry can meet visitor expectations to ensure visitor satisfaction. By comparing visitor motivations and satisfactions, management priorities can be identified. Additionally, comparing these gaps across various tourist subgroups can provide insight into managing for heterogeneity that exists within the stakeholder group of tourists. This is consistent with the first step of LAC

in which main issues and concerns are identified, such as features needing special attention or managerial problems that have to be dealt with.

The mean motivation and satisfaction values were calculated for each of the environmental, social, economic, and logistical factors. Respondents were asked to rate 30 environmental, social, economic, and logistical features according to their importance for the decision to visit KP, KS, or KT on a five-point Likert scale (between 1=not at all important and 5=very important). Respondents were then asked to rate their satisfaction with the same features on a five-point Likert scale (between 1=very unsatisfied to 5=very satisfied). A gap analysis was used to identify features with different importance and satisfaction mean scores through subtraction of mean satisfaction mean scores from mean importance scores. A positive value (Performance > Importance) represents a feature that was found to be satisfactory (performance satisfactory), whereas a negative value (Performance < Importance) represents a feature in which visitor expectations were not met and identified as an area of concern. This analysis was completed for a variety of environmental, social, economic, and logistical factors (Table 3.4).

Cluster 1 (very high importance generalists) had the highest importance scores but the most “areas of concern” identified (negative gap scores), whereas cluster 3 (mixed importance) had the lowest mean importance for all factors and the most areas with “performance satisfactory” (positive gaps) identified. Cluster 2 (high importance generalists) had similar factors identified as areas of concern as cluster 1, except for the logistical factors which all had “performance satisfactory” for cluster 2. In particular,

cluster 1 identified most of the environmental, social, economic, and logistical factors as areas of concern. Cluster 2 identified 4/9 environmental factors, 7/11 social factors, all the economic factors, and one logistical factor as areas of concern. Lastly, cluster 3 identified the same environmental areas of concern as cluster 2 as well as 3/11 social factors, none of the economic, and one logistical factor as areas of concern.

Among the areas of concern identified for cluster 1, the largest gaps between the motivation and satisfaction scores (highest areas of concern) were seen for learning about conservation, home ownership, being in a clean place, learning about local cultures, and experiencing the marine environment. The factor with the highest "performance satisfactory" score was the amount of tourist attractions available.

For cluster 2, the factors with the highest scores for the "areas of concern" identified were home ownership, learning about local cultures, learning about conservation, seeing marine life, and being in a clean place. The factors with the highest "performance satisfactory" scores were shopping opportunities, amount of tourist attractions, and variety of food options.

Lastly, the factors with the highest scores for the "areas of concerns" identified for cluster 3 were home ownership, experiencing the marine environment, learning about local cultures, learning about conservation, and seeing marine life. The factors with the highest "performance satisfactory" scores were shopping opportunities, variety of

accommodations, variety of food options, visiting a safe place, and amount of tourist attractions.

Table 3.4. *Importance-Performance Gap Analysis for each cluster.*

Factor	*Very High Importance Generalists*			*High Importance Generalists*			*Mixed Importance*		
	I	*P*	*Gap Value (P-I)*[a]	*I*	*P*	*Gap Value (P-I)*	*I*	*P*	*Gap Value (I-P)*
ENVIRONMENTAL									
Being close to nature	4.40	4.35	-.051	3.91	3.92	.015	3.64	3.73	.083
Spending time on beaches	4.49	4.48	-.012	4.15	4.15	.004	4.11	4.09	-.021
Having good weather	4.69	4.49	**-.201***	4.25	4.24	-.015	4.24	4.22	-.021
Seeing marine life	3.97	3.58	**-.390***	3.56	3.16	**-.400***	3.10	2.76	**-.334***
Seeing interesting landscapes	4.42	4.32	**-.103***	3.92	3.86	-.056	3.57	3.58	.010
Being in a remote place	4.00	3.89	-.105	3.45	3.48	.028	3.14	3.22	.080
Being in a clean place	4.49	3.85	**-.640***	3.92	3.52	**-.396***	3.52	3.32	**-.199***
Experiencing the marine environment	4.01	3.50	**-.512***	3.5	3.12	**-.379***	3.03	2.60	**-.425***
Learning about conservation	3.55	2.69	**-.868***	3.02	2.51	**-.518***	2.18	1.82	**-.358***
SOCIAL									
Experiencing nightlife and entertainment	3.19	3.07	-.115	3.10	3.01	-.090	2.74	2.71	-.031
Visiting a unique place	4.29	4.03	**-.262***	3.90	3.65	**-.253***	3.59	3.44	**-.150***
Learning about local cultures	4.18	3.56	**-.618***	3.72	3.13	**-.591***	2.88	2.49	**-.389***
Meeting friendly local people	4.48	4.23	**-.252***	3.94	3.76	**-.186***	3.22	3.34	.124
Being with family and friends	4.10	3.92	**-.181***	3.66	3.58	-.084	3.11	3.11	-.005
Visiting a safe place	4.51	4.26	**-.250***	3.98	3.90	-.077	3.39	3.70	.316*
Seeking adventure	4.10	3.73	**-.373***	3.69	3.34	**-.353***	3.21	2.89	**-.324***
Healing the body & calming the mind	4.09	3.71	**-.380***	3.54	3.42	**-.124***	3.12	3.06	-.060
Expertise of tour operators/instructors	3.23	2.86	**-.365***	2.90	2.67	**-.238***	1.96	1.95	-.016
Meeting new people	3.97	3.79	**-.179***	3.52	3.42	**-.109***	2.84	2.93	.085
ECONOMIC									
Reasonable prices	4.42	3.97	**-.453***	3.85	3.66	**-.193***	3.55	3.53	-.026
Supporting local businesses	4.07	3.68	**-.392***	3.46	3.27	**-.193***	2.54	2.58	.036
Bringing new income to local communities	4.19	3.82	**-.370***	3.63	3.50	**-.131***	2.79	2.74	-.052
LOGISTICAL									
Good access to the island	4.47	4.24	**-.228***	3.85	3.93	.071	3.51	3.77	.256*
Amount of tourist attractions	3.74	3.88	.142*	3.39	3.51	.113*	2.80	3.09	.290*
Quality of food options	4.70	4.35	**-.343***	3.98	4.03	.049	3.63	3.85	.218*
Variety of food options	4.51	4.22	**-.289***	3.89	4.00	.109*	3.45	3.82	.368*
Quality of accommodations	4.51	4.22	**-.287***	3.83	3.85	.017	3.44	3.67	.238*
Variety of accommodations	4.34	4.16	**-.186***	3.65	3.73	.079	3.11	3.49	.379*
Shopping opportunities	3.34	3.43	.091	2.97	3.15	.182*	2.10	2.59	.484*
Home ownership	2.64	1.91	**-.730***	2.36	1.68	**-.679***	1.62	1.08	**-.534***

[a] Bold items are areas of concern that are statistically significant

*Significant difference at $\alpha = 0.05$, based on a paired sample t-test.

3.5.4. Results for Objective 4

To compare tourist subgroups based on participation in the Full Moon Party in terms of gaps between motivations and satisfactions across environmental, social, economic and logistical domains

In addition to tourist segmentation based on the motivation factors that influence their decision to visit a particular destination, tourists can also be segmented based on their participation in a particular activity. For example, the Full Moon Party on Koh Phangan attracts up to 30,000 people each month during the peak season of December to March. During this time, the island is crowded to capacity. Accommodation is full, roads are full, services are stretched and there is no room for further visitors without significant investment. However, for the rest of the time, tourism on KP is characterised by small-scale, local-owned, long-stay tourists that come to enjoy the unspoiled nature of most of the Island (Dearden, 2020). When comparing the three clusters, there were no significant differences in the participation in the Full Moon Party as the party attracts a wide range of tourists in terms of gender, age, education, and how long they're on the island. Tourists were asked whether or not they had participated in the full moon party while they were on Koh Phangan and to rate 34 environmental, social, economic, and logistical features according to their importance for the decision to visit Koh Phangan and their satisfaction with those features. A gap analysis was used to identify features with different importance and satisfaction mean scores. A positive value represents a feature that was found to be satisfactory, whereas a negative value represents a feature in which visitor expectations were not met and identified as an area of concern (Table 3.5).

Table 3.5 *Importance-Performance Gap analysis for Full Moon Party (FMP) attendants and ones that did not attend the FMP (non-FMP).*

	FMP			***Non-FMP***		
	I	*P*	*Gap Value[a] (P-I)*	*I*	*P*	*Gap Value (P-I)*
ENVIRONMENTAL						
Being close to nature	3.89	4.03	0.146	4.29	4.20	-.094
Spending time on beaches	4.22	4.2	-.014	4.35	4.26	-.090
Having good weather	4.30	4.22	-.076	4.35	3.86	**-.493***
Seeing marine life	3.26	3.23	-.024	3.64	3.41	**-.225***
Seeing interesting landscapes	3.82	3.99	.163	4.11	4.10	-.011
Being in a remote place	3.51	3.69	.179	3.73	3.89	.156*
Being in a clean place	3.93	3.64	**-.294***	4.10	3.68	**-.414***
Experiencing the marine environment	3.24	3.15	-.097	3.62	3.53	-.083
Learning about conservation	2.94	2.88	-.064	3.18	3.02	-.162
Location of Yoga retreat	1.99	2.22	.228	2.54	2.84	.299*
SOCIAL						
Experiencing nightlife and entertainment	3.89	4.21	.312*	3.10	3.44	.342*
Visiting a unique place	4.26	4.09	**-.169***	4.00	3.97	-.035
Experiencing the Full Moon Party	4.13	4.05	-.076	1.93	2.32	.398*
Learning about local cultures	3.69	3.37	**-.317***	3.81	3.51	**-.304***
Meeting friendly local people	3.98	4.01	.029	4.06	4.05	-.005
Being with family and friends	3.81	4.00	.188	3.96	4.19	.235*
Visiting a safe place	3.83	4.12	.288*	4.03	4.20	.170*
Seeking adventure	4.06	3.96	-.094	3.82	3.83	.009
Healing the body & calming the mind	3.59	3.63	.040	3.80	3.94	.140
Expertise of tour operators/instructors	2.93	3.36	.439*	2.66	3.27	.608*
Meeting new people	4.01	4.06	.051	3.60	3.82	.213*
ECONOMIC						
Reasonable prices	3.99	3.82	-.169	4.01	3.82	**-.190***
Bringing new income to local communities	3.46	3.73	.266*	3.64	3.73	.089
Supporting local businesses	3.64	3.72	.085	3.83	3.81	-.025
Cost of Yoga Retreat	1.95	2.35	.400*	2.49	2.70	.209
LOGISTICAL						
Good access to the island	3.88	3.89	.007	3.93	4.04	.112
Amount of tourist attractions	3.53	3.71	.180*	3.24	3.71	.475*
Quality of food options	3.95	3.95	-.000	4.19	4.10	-.090
Variety of food options	3.85	3.96	.111	4.01	4.07	.056
Quality of accommodations	3.75	3.85	.098	3.98	3.99	.004
Variety of accommodations	3.66	3.78	.120	3.80	4.04	.244*
Shopping opportunities	2.79	3.07	.282*	2.72	3.00	.280*
Amount of Yoga Schools Available	1.90	1.42	**-.481***	2.07	1.77	**-.304***

[a] Bold items are areas of concern that are statistically significant

*Significant difference at $\alpha = 0.05$, based on a paired sample t-test.

Tourists in all clusters that participated in the Full Moon Party identified fewer areas of concern than those that did not attend the party. The highest areas of concern for those that attended the full moon party (the highest gap between P and I; the lowest values on table 3.5) were the amount of yoga schools available, learning about local cultures, being in a clean place, reasonable prices, and visiting a unique place. The highest areas with performance satisfactory (highest positive values for the gap analysis) were the expertise of tour operators/instructors, cost of yoga retreat, experiencing nightlife and entertainment, visiting a safe place, and shopping opportunities. For those that did **not** attend the FMP, the highest areas of concern were having good weather, being in a clean place, amount of yoga schools available, learning about local cultures, and seeing marine life. The highest areas with performance satisfactory were the expertise of tour operators/instructors, amount of tourist attractions, experiencing the full moon party, experiencing nightlife and entertainment, and location of yoga retreats.

Specifically, there were noticeable differences in terms of the environmental and social factors which attracted tourists to Koh Phangan which differed between the Full Moon Partygoers and the Non-Full Moon Party goers. For example, participants that attended the full moon party had greater mean importance for the following factors: experiencing nightlife and entertainment, visiting a unique place, experiencing the full moon party, being with family and friends, seeking adventure, expertise of tour operators/instructors, meeting new people, amount of tourist attractions, and shopping opportunities. Participants that did **not** attend the full moon party had greater mean importance for the following factors: all environmental and economic factors, learning about local cultures,

meeting friendly local people, visiting a safe place, healing the body & calming the mind, good access to the island, quality of food options, variety of food options, quality of accommodations, variety of accommodations, amount of yoga schools available, and home ownership.

Tourists that **did** attend the FMP had higher satisfaction for having good weather, experiencing nightlife and entertainment, visiting a unique place, experiencing the full moon party, seeking adventure, expertise of tour operators/instructors, meeting new people, and shopping opportunities. Tourists that **did not** attend the FMP had higher satisfaction for all of the environmental factors (except for having good weather), learning about local cultures, meeting friendly local people, being with family and friends, visiting a safe place, healing the body & calming the mind, all of the economic factors except for reasonable prices and bringing new income to local communities (both of which were the same as FMP attendants), and all of the logistical factors except for the amount of tourist attractions (same as FMP attendants) and shopping opportunities.

3.6. Discussion

The purpose of this study was to examine the motivations and satisfactions of tourists visiting three adjacent islands in Thailand to help understand how tourists may differ among the sites and the implications for developing more sustainable tourist products in the future. In particular, the paper focused on the following objectives:

(1) To identify tourist subgroups based on tourist motivations for desired environmental, social, economic and logistic factors

(2) To compare the demographic and travel characteristics of tourists within each subgroup

(3) To compare tourist subgroups in terms of gaps between visitor motivations and satisfactions across environmental, social, economic and logistical domains

(4) To compare tourist subgroups based on participation in the Full Moon Party in terms of gaps between motivations and satisfactions across environmental, social, economic and logistical domains.

This section discusses the main findings and implications of these objectives.

3.6.1. Discussion for Objective 1

To identify tourist subgroups based on tourist motivations for desired environmental, social, economic and logistic factors

Many tourism market segmentation studies advocate the use of both sociodemographic variables (e.g. gender, age, income, level of education) and psychographic factors (lifestyles, activities, interests, opinions) (Hsu *et al.,* 2002; Moscardo *et al.,* 2001; Plog, 2002). However, this study identified three clusters that were fairly similar in terms of the activities participated in and tourism expectations and experiences. This is likely due to the marketing of the industry on these islands and the limited scale of opportunities available to tourists. For example, in many tropical island destinations, “sun, sea, sand” attributes play an important role as determining factors in tourist motivations to visit a destination (Alipour et al., 2020). This includes spending time on beaches, which most of the tourists engaged in as an important activity but also an important motivation factor for visiting these islands. By understanding the factors influencing tourists’ decisions to visit a destination, managers can ensure that they provide opportunities and advertising to capture diverse travel motives to target pro-sustainable tourists (Jani, 2018).

Cluster analysis has been used mainly to segment destinations, but several studies have also conducted a cluster analysis to segment tourists based on the physiographic variables, particularly motivation. For example, Jani (2018) used travel motives and also sustainability values to segment tourists into three clusters: pro-sustainable tourist, moderate-sustainable tourist, and minimum-sustainable tourist. Ramires et al (2018) examined the tourists visiting a tourist destination based on the importance values and created three clusters where each cluster valued "culture and leisure" and "value for money" differently (Ramires et al., 2018). Similarly, Mehmetoglu (2005) used motivation to classify tourist respondents into specialists and generalists, the former of which travelled mainly for nature reasons, whereas the latter had reasons other than only nature for travelling. However, unlike these studies, this study found that the three clusters created were based on tourists that indicated different levels of importance for all the tourism factors, rather than ranking either the environmental, social, economic, or logistical factors with greater importance. For example, rather than having segments where each cluster ranked a particular and different tourism aspect (ie. environmental, social, economic, or logistical) with high importance, it was found that the cluster of tourists that ranked the environmental factors with very high importance also ranked all the other factors with the same level of importance.

This suggests that the tourists visiting these islands in this study tend to be generalists with lower levels of specialization as they place more emphasis on the social and managerial settings of their experience, have greater interest in a wide range of services, and are more reliant on infrastructure (Catlin et al., 2010). This relates to the Duffus Dearden Model and the specialization concept imbedded within this model, in

that as the number of visitors rises over time, more specialized tourists may be displaced or outnumbered by generalists. The specialist visitors in the initial phase of development of a tourism destination tend to be low in numbers, do not require much infrastructure development, and are willing to pay more for a higher quality experience. As the destination evolves and becomes dominated by generalists, there is increasing demand leading to unsustainable environmental and socioeconomic dynamics (Mancini et al., 2020). Since the tourists in the clusters identified in this study had a broad range of factors that were important to them rather than a narrow or specialized interest in particular tourism aspects as well as the emphasis on logistical factors, as discussed below, these tourists are thus more generalist or novices as outlined in the Duffus-Dearden model (1990). This outcome would raise concerns about sustainability, requiring Limits of Acceptable Change (LAC) to be set to reflect site objectives.

The most important factors in creating the clusters were predominantly logistical factors, particularly the variety and quality of accommodations and food options. The factors that were not logistical but were important in creating the clusters were bringing new income to local communities, supporting local businesses, meeting friendly local people, and learning about local cultures and conservation. This is important as these factors are ones that can be easily managed and improved to enhance the experience of tourists. Resources can be oriented and directed towards enhancing education opportunities to learn about conservation and local cultures, enhance the variety of accommodations and food options, improve the quality of food options and accommodations, increase the opportunities of meeting friendly local people, and financially support local communities and businesses. This is consistent with Bhalla and

Bhattacharya (2019) who suggest that service providers managing ecotourism functioning prioritize attributes such as user facilities, nature guiding, signage and information, food quality, and accommodation facility. Similar to this study, they also suggest that more managerial attention by key ecotourism players is required to provide diverse educational programs that act as important determinants of overall satisfaction of visitors to protected areas.

3.6.2. Discussion for Objective 2

To compare the demographic and travel characteristics of tourists within each subgroup

In a similar motivation-based cluster analysis study of international tourists visiting a world heritage site, it was found that age, gender, education, and the number of previous trips made led to significant differences in the importance given to attributes (Ramires et al., 2018). However, in this study, it was found that there were no significant differences among the clusters in terms of respondents' length of trip to Thailand, age, the highest level of education, the number of previous trips made to the island on which they were surveyed on, and whether they would recommend the island as a good tropical island tourist destination. There were significant differences among the clusters in terms of respondents' gender, overall satisfaction with their experience, how they would compare their tourism experience to their expectations, nationality, and what island respondents were surveyed on. This is consistent with Mehmetoglu (2005) that found that generalists and specialists differed significantly in terms of nationality, trip purpose, trip length, and travel motives. While most tourists in all three clusters in this study were German and other European, cluster 3 (mixed importance) had the highest proportion of German tourists. Tourists in all clusters were overall very satisfied with their tourism

experience and rated their experience as about the same as their expectations. Cluster 1 (very high importance generalists) had the largest gap between female and male tourists, with more female respondents and the largest percentage of tourists that were surveyed on Koh Phangan. Cluster 2 (high importance generalists) also had more female tourists but was the cluster that had the smallest gap between the genders, and the largest percentage of tourists surveyed on Koh Samui. Lastly, Cluster 3 (mixed importance) had more male tourists and the largest percentage of tourists surveyed on Koh Tao.

On each island, there are areas where more nightlife and facilities are found and quieter areas that provide greater opportunities to be in nature. However, another management approach would be to provide more distinction between islands as each island provides opportunities for different types of tourists, as discussed below. Providing different opportunities allows for a wide range of visitors to engage in tourism on the island. Whether it's attracting the generalist tourist hoping to engage in the "sun, sea, sand" tourism that has dominated the market for island tourism in Thailand and throughout the world, managers can also provide opportunities to learn about local cultures, expand scuba diving skills and knowledge, and knowledge of local flora and fauna, conservation, and hiking. Additionally, tourists surveyed on one island were not mutually exclusive to those on other islands. Due to the close proximity of the islands to one another, the ease of access/longer duration of time to visit these islands, and the different opportunities available on each island, many tourists (approximately 44%) visited more than one island during their visit. This allows for economic diversification (distributing the revenue to not one area but across the region) and a variety of tourism opportunities. This can be done through ROS in which a basic assumption is that most

people seek diversity in recreational opportunities; that is, they seek a variety of setting attributes (Kaltenborn & Emmelin, 1993). It also allows visitors to experience more of what Thailand has to offer. For example, on Koh Tao, many have visited for scuba diving or snorkeling but there is less emphasis on local Thai culture. By visiting several islands, tourists can expand their overall experience, and increase the chances that they will recommend to friends or have return visits. Thus, by having the differences in the neighbouring islands, there is greater opportunity for tourism diversification and ultimately destination competition.

3.6.3. Discussion for Objective 3

To compare tourist subgroups in terms of gaps between visitor motivations and satisfactions across environmental, social, economic and logistical domains

In terms of sustainability, it is important to maintain ecological integrity as well as the economic and social benefits to local communities, especially in small tropical islands with tourism-based economies. One way of doing this is to maintain visitor satisfaction to ensure that visitors will continue to visit these destinations. However, tourists are often not included in the application of the LAC framework or to help identify management priorities (e.g. Babu et al., 2018; Cupul-Magaña & Rodríguez-Troncoso, 2017; Komsary et al., 2018; Lopes et al., 2019). Ones that do include tourists tend to focus on marketing or destination image to increase development without consideration of the implications for conservation or environmental and social sustainability (e.g. Jang et al., 2020; Jeng et al., 2019; Lascu et al., 2018; Lin & Kuo, 2018). However, by understanding tourists and their perceptions, tourism managers can seek new and intriguing strategies to market a destination to appeal to various population segments (Jeng et al., 2019) while ensuring the long-term environmental, social, and economic sustainability of the industry.

Through the gap analysis, areas of concern were identified for each cluster. All clusters identified the following factors as areas of concern: seeing marine life, being in a clean place, experiencing the marine environment, learning about conservation, visiting a unique place, learning about local cultures, seeking adventure, and home ownership. These areas of concern can act as barriers to achieving sustainable tourism in these destinations and can thus be used to help guide management priorities. This is similar to Aydin and Alvarez (2016) that suggested that tourists primarily evaluate a destination's sustainability in connection to those aspects that are more likely to affect their own experience. In addition to the common areas of concern among all three clusters, tourists in cluster 2 had also identified the following factors as areas that may require management: meeting friendly local people, healing the body and calming the mind, expertise of tour operator/instructors, meeting new people, and all economic factors. Lastly, in addition to the areas of concern identified by the other two clusters, tourists in cluster 1 also identified the following areas of concern: having good weather, seeing interesting landscapes, being with family and friends, good access to the island, quality and variety of food options, and quality and variety of accommodations.

Research suggests that as a tourism site grows, specialists become displaced by a growing proportion of generalists who are more easily satisfied than specialists (Dearden et al. 2006; Meisel-Lusby & Cottrell 2008). In this study, the clusters identified were on the generalist end of the spectrum. In particular, cluster 1 (very high importance generalists) had the most areas of concern identified which has implications for the economic and social sustainability of the industry. This could be an indication of managing visitor expectations as those individuals with high expectations (stating very

high importance for all values) were the ones that identified the most priorities for tourism management. Cluster 1 also had the highest percentage of tourists surveyed on Koh Phangan, which has a tourism industry that tends to shift in terms of the number of visitors, accessibility, the feeling of being close to nature in a remote place, and cleanliness as a result of the monthly full moon party, which is discussed in section 6.4 below. It is therefore important to not manage each island in the same way but to manage different segments to enhance visitor satisfaction. As Ahn et al (2002) describe, once a level of consensus is reached in terms of identifying development zones and "acceptable" limits, planners can then develop baseline data to monitor change and use in later steps of the LAC process. By including tourists in the discussion of what can be considered "acceptable", it creates an opportunity for education among stakeholders to ensure that both tourists and managers are in line with sustainability and work together to enhance the sustainability of the industry and the satisfaction in experiences. Thus, it is important to understand who the tourists are and their expectations to be able to provide satisfactory experiences that are consistent with management objectives for sustainability.

3.6.4. Discussion for Objective 4

To compare tourist subgroups based on participation in the Full Moon Party in terms of gaps between motivations and satisfactions across environmental, social, economic and logistical domains.

Many studies have examined the acceptable changes of tourism development by focusing on the negative impacts of physical changes associated with tourism to an area (e.g.; Bentz et al., 2016b; Frauman & Banks, 2011; Komsary et al., 2018; Roman et al., 2007). However, the limits identified are temporally fixed, focusing on spatial aspects to identify management priorities to achieve desired futures. While many applications of

LAC assume a static timeline and examine spatial differences, the Full Moon Party on the island of Koh Phangan provided a unique opportunity to explore temporal differences in the areas of concern identified which may influence management objectives. When examining the indicators on Koh Phangan to determine potential limits of acceptable change, it is important to take into account not only different islands and zoning but also how limits of acceptable change may change temporally, during the full moon party and outside of the full moon party.

As shown in this study, the areas of concern may be dynamic, shifting with seasons and different tourist populations, and thus can be set based on geographical boundaries or temporal limits. For example, while many tourists visit Koh Phangan for the full moon party, many tourists surveyed specifically visited during the off FMP time to avoid the larger number of visitors. Based on the participation in the full moon party, there were differences in terms of the areas of concern identified. Tourists in all clusters that participated in the Full Moon Party identified fewer areas of concern than those that did not attend the party. In this case, the LAC might be different during the FMP and during the other times, as what might be acceptable during the full moon party may not be acceptable throughout other times of each month. Tourists participating in the FMP tend to have greater importance for the social factors such as experiencing nightlife and entertainment and meeting new people, and thus can be more satisfied with the greater number of tourists on the island during the FMP compared to those that did not attend the party and are instead motivated by the environmental, economic, and logistical factors. Since many FMP participants tend to stay on Koh Phangan for shorter periods of time (with some only visiting the island for the night of the party, embarking to a new

destination on the morning after), they tend to place less importance on all of the factors but also are quite satisfied with their overall experience which in some cases is centred around the FMP. Thus, while it's important to consider different stakeholders and also heterogeneity within a stakeholder group (e.g. different types of tourists), rather than trying to manage tourism on the island consistently throughout the year, it may be more effective to create different management priorities that shift with changing activities, events, and ultimately the types of tourists that are visiting. This can be achieved through zoning linked with LAC to improve tourism management and separate development and activity types related to tourism (Ahn et al., 2002). This is particularly important in island tourist destinations since the access to an island is easier to control than to land areas, favouring a differentiated approach with different management zones among different islands (Bentz et al., 2016b) but also within the same island such the case of the Full Moon Party on Koh Phangan.

By comparing visitor motivation and satisfactions, main issues and concerns can be identified, such as features needing special attention or managerial problems that have to be dealt with, as outlined in the first step of LAC. In this step, the opinion of stakeholders and public is usually gathered; however, tourists are often not included in the application of the LAC framework or to help identify management priorities. However, by including tourists, managers can ensure that tourists can act as sustainable consumers, ultimately acting as drivers of sustainable tourism rather than barriers to it.

3.7. Conclusion

Tourism can provide important livelihood support for communities in small tropical islands and can also benefit conservation. However, it is essential that activities are managed effectively. The results of this study show the importance of understanding the tourist market to help understand how tourists may differ in terms of motivation, satisfaction, demographics, and travel characteristics, and the implications for developing more sustainable tourist products in the future.

In particular, this study has implications for the understanding of two concepts: specialization and LAC. Understanding the level of specialization of tourists allows for managers to understand and provide the social and managerial settings to enhance visitor satisfaction but the specialization of tourists can also influence the environmental, social, and economic sustainability of a destination. This indicates how an industry has developed based on the Duffus-Dearden model and whether the destination has become characterised by the generalist tourist hoping to engage in the "sun, sea, sand" tourism that has dominated the market for island tourism in Thailand and throughout the world. This outcome would raise concerns about sustainability, requiring Limits of Acceptable Change (LAC) to be set to reflect site objectives.

By comparing visitor motivation and satisfactions, main issues and concerns can be identified, such as features needing special attention or managerial problems that have to be dealt with, as outlined in the first step of LAC. In this step, the opinion of stakeholders and public is usually gathered; however, tourists are often not included in the application of the LAC framework or to help identify management priorities. Not only are tourists an important stakeholder to be included in tourism management, but they can also help

identify features needing special attention or managerial problems that have to be dealt with and provide further insight for community and tourism officials responsible for future planning and development choices. Additionally, the application of the LAC framework can provide useful input for sustainable management practices of tourist activities when taking into account both spatial and temporal dimensions.

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4 Paper 3: Scenario Planning to Identify Tourism Opportunities

4.1. Introduction

Tourism is one of the fastest-growing industries in the world and bears significant weight in global economic terms. According to the World Tourism Organization (WTO), international tourist arrivals grew 5% in 2018 with a total of 1.4 billion international tourist arrivals, generating $USD 1.7 trillion (UNWTO, 2019) and making 2018 the ninth consecutive year of sustained tourism growth. Among the 5 regions identified by WTO, Asia and the Pacific had the highest growth in arrivals with 348 million arrivals, generating US$435 billion. Thailand, the focus of this study, was ranked as one of the world's top ten international tourism destinations, with 38 million international tourists (8% more than in 2017) and the fourth-highest earner, generating $USD 63 billion (UNWTO, 2018).

However, significant literature has emerged that criticizes the environmental, economic, and social impacts that tourism has brought to many regions of the world. The economic aspects of tourism are often cited as the primary driver for tourism development in host communities, in many cases to the detriment of the region socially and environmentally. For example, Chakrabarty (2016) examined the negative social aspects of West Bengal tourism and identified various negative aspects including the exploitation of tourists, overpricing, commercialization of the country's culture/customs, water pollution, litter, and theft. Similarly, tourist trekking among the hill tribes in Northern Thailand has contributed to deforestation and soil erosion (Dearden, 1991). Development such as condominium and hotel construction on steep hillsides or the construction of marinas and resorts along coasts in the Dominican Republic has damaged,

depleted, and polluted forests, watersheds, wetlands, lagoons, mangrove forests, salt ponds, reef systems, and endemic species (Padilla & McElroy, 2008); and land clearing and construction activity in Tobago's Bucco Reef Marine Park, strained the sewage treatment system, and led to pollution and other degenerative pressures on the Reef (Hassanali, 2013). There is also concern about tourism's impacts on climate change attributed to the rapid growth of many tourist markets and the burgeoning low-cost airline industry (Bramwell & Lane, 2008). Negative impacts can be especially severe in small tropical islands where the land base is small, resources scarce, and local populations have low incomes and limited opportunities for livelihood diversification (Kokkranikal *et al.,* 2003). The tendency to promote tourism development on islands has brought questions as to how to manage island tourism use in ways that protect natural resources and also provide satisfactory visitor experiences.

Concerns for how island tourism is developed can be understood in part through the use of various conceptual frameworks such as the Tourism Area Life Cycle (TALC) model, the Tourism Opportunity Spectrum (TOS), and the Ecotourism Opportunity Spectrum (ECOS) which are discussed below. Scenario planning, used in this study, is an approach that links opportunity models with visitor preferences and management actions. In tourism, scenarios have been used for destination planning for at least 30 years, beginning with the advocacy of "alternative" tourism in the late 1970s and early 1980s and the emergence of "futures research" (Gössling & Scott, 2012). By understanding how tourist destinations evolve and change over time as well as the environmental, social, managerial, and components, policies and practices can be developed to achieve sustainability in tourism destinations such as Thailand.

Tourists, as final consumers of tourism products, are central to ensuring the environmental, social, and economic sustainability of a tourist site but are often not included in the discussion of sustainability (Budenau, 2007). By understanding the tourists, managers can determine how to implement policies to engage and inform tourists on how to create an industry that conserves cultural and natural resources for current and future generations. Additionally, identifying the optimal futures for tourists can allow managers to identify the gaps between what the visitors would like to see and tourism sustainability to determine how to implement sustainable tourism policies and practices.

The purpose of this study is to explore scenario planning as a vehicle for sustainable tourism planning in an island environment through the following research objectives:

1. To identify the preferred future scenarios for sustainable tourism on Koh Phangan (KP) as defined by visitors.
2. To identify the preferred tourism setting characteristics for KP as defined by visitors.
3. To compare the motivations of visitors preferring each scenario.
4. To compare the demographic and travel characteristics of visitors preferring each scenario.

4.2. Literature Review

This chapter provides a critical analysis of the literature in four areas related to sustainable tourism: the Tourism Area Life Cycle (TALC), Tourism Opportunity Spectrum (TOS), Ecotourism Opportunity Spectrum (EOS), and Scenario Planning as a strategy to incorporate elements of these models.

4.2.1. Tourism Area Life Cycle

Tourism is one of the most influential industries in the world and is a key driver of socio-economic progress. However, it can also create undesirable impacts that threaten the future sustainability of the industry. Butler's (1980) model of tourism area life cycle (TALC) suggests that tourist destinations are dynamic as they evolve and change over time, moving through sequential stages described as exploration, involvement, development, consolidation through to stagnation and possibly decline or conversely rejuvenation as reference points (figure 4.1). Each stage is characterised by differing numbers of tourists, tourism facilities, levels of marketing, levels of interaction between visitors and local communities, impacts on the natural environment, impacts on the local social environment, impacts on the economic environment, and levels of local control of tourism development.

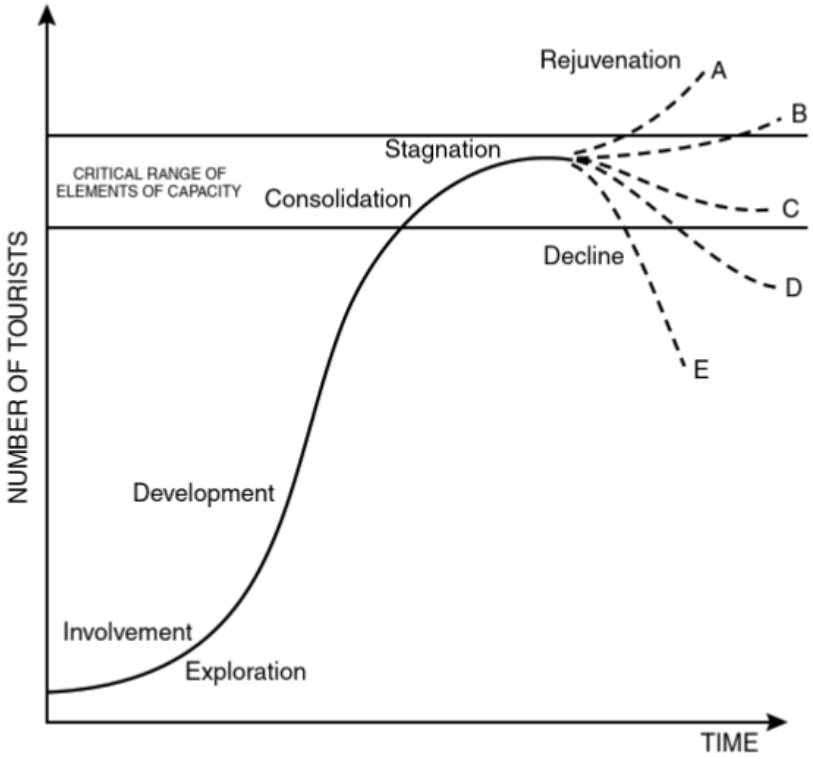

Figure 4.1. *The Butler tourism lifecycle model (Butler, 1980).*

As described by Butler (1980), tourism sites enter an initial phase of limited growth where few tourists know and visit the site. This exploration phase is characterised by a small number of tourists, no facilities designed specifically for tourists, little information or marketing, high and positive interaction with local communities, little impact on the natural, social, or economic environments, and high control of development by local communities. As the site enters the involvement stage, local communities will begin to provide facilities for the emerging tourism traffic, contact between residents will remain high, some marketing for tourism will begin to emerge, and some changes in local social patterns may be apparent in response to greater numbers of visitors. As popularity grows, the destination enters the development stage with rapid growth until it becomes heavily used to the extent that the attractiveness of the site decreases. At this point, tourism in the site may decline, stagnate, or continue to grow depending on the characteristics of the site, the potential for accessing new markets, characteristics of the site, and management actions. Appropriate tourism planning can avoid a trajectory toward stagnation and allow for a more sustainable tourism industry, referred to as rejuvenation in the TALC model.

Critical to TALC is a recognition of the stagnation stage, the negative tourism impacts that lead to stagnation, and how these negative impacts can be addressed. An area may reach a stagnation stage in which peak numbers of visitors and capacity levels have been reached or exceeded as a result of a variety of factors, including a degraded natural environment, lack of support from local communities, or a natural or cultural attraction that has lost its market and which was responsible for the initial popularity of the area. Over time, a lack of response to stagnation can lead to the decline of the local

tourism industry, which moves on to more preferred locations in the globally competitive industry. This is important as declines in resource quality are difficult to reverse, and a declining resource base is likely to impact the associated tourism industry (Rollins et al., 2016).

At each stage of the TALC model, the destination appeals to a different psychographic group of travelers, who determine the destination's character and success. As the character of most destinations changes due to the growth and development of tourist-oriented facilities, they may lose the audience that made them popular and appeal instead to a different group of travelers. Plog (1974) arranges these travelers and personality types on a continuum that includes dependable, near-dependable, centri-dependable, centric-venturer, near-venturer, and venture. While dependables are more likely to visit safe and predictable destinations, Venturers are more likely to visit less developed destinations. Similarly, Cohen (1972) described a sociological spectrum of tourist types to include drifters, explorers, individual mass tourists, and organized mass tourists. Organized mass tourists are least likely to take risks in their travel experience, typically purchasing package tours as the safest form of travel. Individual mass tourists are less "organized", leaving certain elements of their trip unplanned but are still likely to book their trip through an agency. The explorer is more independent but will seek an experience that combines relatively comfortable accommodation and at least partial immersion in the host culture. Lastly, the drifter tends to venture off the beaten track, seeking out unfamiliar authentic experiences and destinations than the previously described tourists. As a tourism destination evolves into the development stage, more

"individual mass tourists" may be evident and more "organized mass tourists" as it moves into the consolidation stage.

Butler suggests that the stagnation phase is precipitated by a "carrying capacity" issue, by which he refers to undesirable levels of environmental impacts (e.g. impacts on water, vegetation, or wildlife), undesirable social impacts (impacts on other visitors in terms of crowding, or resentment by local communities), or stress placed on the physical plant (including problems with transportation, accommodation, or other aspects of the tourism delivery system). The "carrying capacity model" was proposed to reduce the negative impacts of nature tourism (Manning, 2011, Needham, et al, 2016) and is defined as "… the limit of visitor use beyond which unacceptable impacts occur" (Needham et al, 2016). In the long run, the maximum number of tourists to a destination is restricted by a carrying capacity constraint and if it is exceeded, there will be a negative impact in future visitation and a loss of profits to operators (Sahli *et al*. 2007).

Carrying capacity has some intuitive appeal because managers can theoretically balance visitation with ecosystem protection and visitor satisfaction in a scientifically supported construct that specifies an optimal number of visitors to a site at a given time (Needham et al, 2016; Manning, 2011). However, the TALC model has been challenged because the concept of carrying capacity as a formula to calculate (and therefore plan) the finite visitor capacity of a given tourism destination is unrealistic, as little consensus on visitor numbers can be determined (Buckley, 2002; Getz 1992). Further, considerable research has indicated that it is often not the number of visitors per se that provokes negative impacts; rather it is visitor behavior (Needham, et al, 2016). Hence, the use of carrying capacity in the TALC has been criticized as an inappropriate concept for

determining when the decline stage is imminent. Some levels of change may be acceptable to some people, but not acceptable to others. Hence carrying capacity will vary depending on who benefits (McCool & Lime, 2001).

Additionally, there is a lack of consensus on the measurement of stages in the TALC model, the factors indicated to influence the curve do not operate the same way at each site with the impact of each factor (environmental, social, and human factors) having unique impacts depending on the setting. Some researchers have stressed that the level of government engagement has a much stronger influence on tourism development than Butler envisaged (Petrevska & Collins-Kreiner, 2017).

Governments typically become involved at the development stage of the S-curve and less so during the consolidation stage and, perhaps, involved again if a destination is experiencing stagnation and government intervenes with aggressive marketing strategies (Butler, 2011; Cole, 2012; Cole, 2009; Haywood, 1986; Hovinen, 2002; Lui et al, 2016; Yun & Zhang, 2016; Zhong et al, 2008). There are also external factors beyond tourism management that can impact the sustainability of a tourism destination beyond what the TALC model originally anticipated such as significant geopolitical events (e.g. elections, war, terrorism, pandemics), currency devaluations, fuel price changes, inflation, legislation changes (marijuana decriminalization/legalization), earthquakes, tsunamis, extraordinary weather events, infrastructure changes, water supply issues, and change in destination access (road, water, air access) (Liu et al., 2016).

However, tourism carrying capacity assessment remains a useful tool when measures are taken for the management of coastal areas. Measuring the carrying capacity does not need to lead to a specific number but it can serve as a benchmark that should be

monitored and adjusted to measure changes, ensuring environmental conservation and visitor satisfaction (Corbau et al., 2019). Similarly, the TALC model is still recognized as a useful framework with which to explain the evolution and common lifecycle of tourism destinations (Yun & Zhang, 2016; Petrevska & Collins-Kreiner, 2017). Understanding the impacts that tourism has on the environment can allow managers to establish an industry that is environmentally, socially, and economically sustainable. Specifically, Viñals et al (2019) suggest that the key to managing the carrying capacity of an island is controlling the means of transportation and how visitors access these island destinations.

Many island destinations in Thailand have followed the TALC model starting with exploration, involvement, development, consolidation, and stagnation. Stagnation is often associated with a decline in the natural environment on which the industry relies on. For example, in the late 1970s, tourism on the islands of Phuket and Koh Samui was as yet little developed. Since the 1970s, radical changes have taken place on the beaches of the islands, in terms of quantity, quality, and variety of facilities and amenities (Cohen, 1996, p.154). In the wake of growing tourist development, the young tourists who in the 1970s were the principal visitors on most beaches of Phuket and Koh Samui moved to new island destinations. Thus, new island destinations were continuously created and set en route towards a similar transformation (Cohen, 1996, p.154). However, to sustain natural environments and the social and economic benefits to local communities, it is important to consider how to manage tourism so that rapid growth does not lead to a decrease in the attractiveness of the site.

4.2.2. Opportunity Spectrum Models

The TALC model suggests that tourism destinations tend to evolve or change over time unless specific management plans are developed. This notion of change in a tourism destination has a parallel in the development of opportunity spectrum models discussed below. Over the past decades, visitor management frameworks and procedures have been developed to address issues resulting from tourism and recreation use of areas, one of which is the Recreation Opportunity Spectrum (ROS; Clark and Stankey, 1979; Driver and Brown, 1978). The ROS concept is organized around settings characteristics, which are determined by environmental, social, and managerial factors (Manning, 1999). ROS recognizes a spectrum of recreational opportunities fluctuating from pristine wilderness to high-density urban recreation. Under the ROS system, six characteristics of the settings are examined to define the opportunities: access, management, social interaction with other users, non-recreational resource uses, acceptability of impacts from visitor use, and acceptable levels of control of users (Boyd and Butler, 1996). The basic concept of ROS was adapted by Butler and Waldbrock (1991) to provide a framework for managing tourist activities in natural environments, as described in the Tourism Opportunity Spectrum (TOS) model (Huang & Confer, 2009).

Based on Clarke and Stankey's ROS, the TOS represents a framework for tourism development incorporating factors of accessibility (both transportation and marketing channels), characteristics of tourism infrastructure, degrees of social interaction (host/guest, crowding), other non-adventure uses, and acceptability of regimentation (Butler & Waldbrook, 1991). TOS takes the natural carrying capacity of a setting into account and considers two other perspectives: the human perspective, especially the

interactions among tourists, hosts and the management; and the availability of tourism infrastructure and facilities (Huang & Confer, 2009). TOS is widely applicable in a variety of environmental settings and useful for long-term tourism planning (Butler and Waldbrook, 1991). For example, TOS has been employed to identify differences between tourists and resident users at the Timucuan Ecological and Historic Preserve in North Florida (Huang & Confer, 2009); in research about managing ecotourism and nature-based tourism (Dawson, 2001) and adapted to an Ecotourism Opportunity Spectrum (ECOS) system (Boyd and Butler, 1996).

The Ecotourism Opportunity Spectrum (ECOS) incorporates and modifies ideas from the ROS and TOS to address ecotourism which specifically implies a form of tourism that fosters environmentally responsible principles (Boyd & Butler, 1996). While there have been countless definitions for "ecotourism", it is generally nature-based and includes education and conservation-supporting elements (Rollins et al., 2016). Within ecotourism, the relationship between an activity and the environment in which it takes place is of critical importance. Ecotourism is dependent upon the quality of the environment and extra care needs to be taken by managers and developers of ecotourism destinations to ensure that the negative impacts from an activity and the amount of use are controlled and minimized, while positive impacts are optimized.

Boyd and Butler (1996) identified eight components that comprise ECOS: (1) accessibility, (2) relationship between ecotourism and other resource uses, (3) attractions in a region, (4) presence of existing tourism infrastructure, (5) level of user skill and knowledge required, (6) level of social interaction, (7) degree of acceptance of impacts and control over the level of use, and (8) type of management needed to ensure the

viability of areas on a long-term basis. Of the eight elements that comprise the ECOS framework, the first four can be determined from an on-site study. The remaining factors, excluding the last one concerning an appropriate management regime, require input from ecotourists themselves, preferably from those visitors who have experience in the region under consideration. The eighth element requires dialogue with all the groups and interests involved, both on an individual basis and collectively to reach areas of consensus over how ecotourism could be promoted and who should be responsible for overseeing the management of ecotourism within the region (Butler & Boyd, 1996). ECOS has been used to determine the ecotourism potential of a wide array of sites such as national parks (Açiksöz et al., 2010), dive sites (Bentz et al., 2016), rural areas (Cengiz et al., 2016), and coastal zones and surrounding areas (Salici, 2018). Although the impression is often given that a form of tourism that fosters environmental principles will have limited impact in the areas in which it is promoted, just like other forms of tourism, ecotourism generates impacts that require management. Boyd and Butler (1996) suggest that it is up to decision-makers in these areas to ensure an appropriate management framework is in place before development occurs. Especially since ecotourism development tends to occur in the more remote and marginal areas of the world, often in fragile and endangered ecological and human communities, the need for such appropriate management is all the more critical.

4.2.3. Scenario Planning

Scenario planning provides the opportunity to apply the TALC, ROS, TOS, and ECOS planning models described above. Models have been used to predict possible futures of tourism destinations in the past but have generally been forecasting models, such as time

series models (Burger et al., 2001; Lim & McAleer, 2002; Papatheodorou & Song, 2005), econometric models (Algieri, 2006; Croes & Vanegas, 2005; Li et al., 2005), and neural networks (Kon & Turner, 2005; Pai & Hong, 2005; Palmer et al., 2006). However, these models rely on historical data to predict future trends and thus may be unreliable in understanding what future trends may actually be. More recently, there has been a wide array of methods used to plan for future scenarios including participatory approaches to system dynamic models to assist in the management of the social-natural environment in the Galapagos (Pizzitutti et al., 2017), system dynamic modelling to model alternative tourism development scenarios on Cat Ba Island, Vietnam (Mai & Smith, 2018), and choice modelling using a purpose-designed stated choice experiment to understand the extent to which aviation can influence greater peripheral tourism (Koo et al., 2017).

Scenario planning is a strategic, exploratory, and deliberative process to find innovative and robust solutions to address complex and uncertain futures (Berkhout et al. 2002). It is an approach to determining optimal futures by examining different future possibilities (Bennett et al., 2016). It allows diverse stakeholder groups with different perspectives to make explicit mental models of the future through developing narratives or images to re-orient collective actions (Berkhout et al. 2002; Hamilton et al. 2013). Scenario planning has been used in a variety of contexts and issues but tends to include the following: identifying a problem, describing the system, identifying alternative futures, scenario building, scenario testing, and policy or action screening (Bennett et al., 2016).

Scenario planning has been used to estimate tourists' multiple preferences towards community-based ecotourism in a forest park (Zong et al., 2017), analyze preferences of national and international tourists concerning the development of Barva Volcano Area in Costa Rica (Hearne & Salinas, 2002), and to estimate tourist mode-choice behavior under different transportation-planning scenarios to Whistler, British Columbia (Kelly et al., 2007). However, many of these studies have focused on one specific aspect of tourism (e.g. transportation) or tourism attributes on a small scale (e.g. a particular tour). Thus, this study takes a large scale focus to determine how scenario planning can be used to identify how tourists would like an entire industry to change in the future for a particular island, highlighting the connections between key tourism attributes (such as the scale of tourism, water storage, waste management, traffic, transportation around the island, food and accommodation, development, amount of visitors, and accessibility).

This study contributes to the literature through an examination of visitor preferences for the future to determine alternative futures for a tourism industry and differences in motivations and demographics based on future preferences. This analysis is framed within the TALC to determine how Koh Phangan has evolved and the trajectory of tourism development to ensure sustainability as well as the TOS and ECOS models which build on ROS and provide a framework for assessing tourism aspects and creating scenarios to be examined through scenario planning to suggest how tourism sustainability can be managed more effectively through an understanding of visitor preferences.

4.3. Methods

Data were collected on Koh Phangan during the peak tourism season (January to March) of 2018, using a quantitative survey administered to tourists visiting these islands. The survey included questions that assessed tourist motivations, their perceptions on tourism impacts, preferences for the future, demographics, and travel characteristics. This approach was selected due to its low time requirements, allowing a large proportion of tourists to be surveyed to answer the research questions for this study.

4.3.1. Study Site

Koh Phangan is an island located in the Surat Thani province in the Southern Gulf of Thailand and is part of the group of islands that make up the Samui Archipelago (figure 1.1). The cluster of islands that make up the Samui archipelago include Koh Samui, Koh Phangan, Koh Tao, and the Mu Ko Ang Thong National Marine Park. In 2017, Koh Phangan surpassed over one million visitors for the first time, up from 800,000 in 2014 (C9 Hotelworks, 2019; Chinmaneevong, 2015). Koh Phangan is Thailand's most popular destination for full-moon parties, particularly among foreign tourists, which can attract over 30,000 people each month during the peak season of December to March (Chaolan, 2018). Koh Phangan is currently only accessible by a 30 to 45-minute speedboat ride from Koh Samui or a five-hour journey from the mainland port of Surat Thani, including a 2.5-hour ferry ride. In contrast, Koh Samui is Thailand's second-largest island, after Phuket, with direct air connection both to Bangkok and international destinations. Some members of the hospitality industry in Koh Phangan feel that the Island should have similar connectivity to boost tourism numbers (Dearden, 2020), and, in fact, the construction of an airport had illegally started through the removal of trees on prime

forest land in the national forest reserve, obviously not a move consistent with sustainable island development. The airport is currently on hold but raises important questions about the application of island tourism sustainability principles.

Many questions are raised by the proposed development that are at the heart of the quest for sustainable island tourism. The goal of this paper is to assess tourist preferences for differing future tourism scenarios on Koh Phangan as an input to aid in sustainability planning for the future. By identifying the optimal futures for tourists, we can identify the gaps between what the visitors would like to see and tourism sustainability to determine how to implement sustainable tourism policies and practices. Additionally, since tourists are not homogenous, it was predicted that while some tourists may act as a driver of sustainable tourism, others would prefer a more "mass tourism" future due to the increase in ease of accessibility, luxury, and familiarity often associated with a less sustainable industry.

4.3.2. Sampling Methods

The target population for this research was tourists visiting the island of Koh Phangan. Survey participants (tourists) were recruited through random sampling, with purposefully selected survey sites. Each tourist over the age of 18 and waiting at one of the sample sites had an equal chance of being selected and were selected randomly. Four hundred and twelve surveys were completed inside the Thong Sala Pier waiting Area, Lomprayah waiting area, and on Thong Sala Pier (Raja, Seatran, Lomprayah, and Songserm waiting areas) among tourists waiting to leave the island at the end of their trip.

4.3.3. Questionnaire Design

A structured questionnaire, which took approximately 10 minutes to complete, was completed by visitors during the peak tourism season (January to March) of 2018. The questionnaire was in English and consisted of 20 closed questions that measured: activities they engage in; the importance of environmental, social, economic, and logistical factors for visiting the island; how various tourism aspects should change in the future, preferences for the future of tourism on the island, and demographic and travel characteristics. Scenario planning was used to examine the optimal future for tourism on Koh Phangan, as identified by visitors. Potential scenarios were created to examine what sustainable tourism might look like on Koh Phangan and what the potential barriers might be to their application. Based on the TOS, attributes were selected that can be altered to different levels to reflect a wide range of situations that respondents might expect to experience. Having the scenarios allows visitors to visualize the relationship between different attributes and how they may be different within each scenario.

Three possible future scenarios were created for Koh Phangan: scenario 1 ("green" scenario), scenario 2 ("business-as-usual" scenario), and scenario 3 ("mass tourism" scenario). Table 4.1 shows the characteristics of each of the three scenarios.

In developing the possible future scenarios for tourism on Koh Phangan, the scenarios incorporated several aspects of ECOS: (1) accessibility (to the island and around the island), (2) relationship between ecotourism and other resource uses (water storage), (3) attractions in a region (development), (4) presence of existing tourism infrastructure

(food and accommodation, transportation around the island), (6) level of social interaction (amount of visitors, traffic), and (8) type of management needed to ensure the viability of areas on a long-term basis (waste management, the scale of tourism). While (7) degree of acceptance of impacts and control was not a factor in developing the scenarios, by providing different scenarios for tourists to choose between, individuals were able to select how they would like each factor to change and inherently selecting the impacts that were acceptable and ideal to them. Similarly, TOS was incorporated into the scenario planning by including the carrying capacity of a setting into account (the preferred scenario for each factor, beyond which their experience would decline), the interactions among tourists and hosts, and the availability of tourism infrastructure and facilities.

At the end of the questionnaire, there was an open question where participants had the opportunity to write down any additional information about their experience and views.

Table 4.1. *Three possible future scenarios for tourism on Koh Phangan*

Tourism Aspect	SCENARIO 1 "Green Scenario"	SCENARIO 2 "Business as usual"	SCENARIO 3 "Mass Tourism"
Accessibility	Accessible by ferry	Accessible by ferry	Accessible by ferry and plane
Amount of visitors	Maintaining current amount of tourists and managing growth	Continued steady increase in the number of visitors	Significant increase in the number of tourists
Development	Retain current forest and natural areas	Gradual decrease in forest cover and natural areas for increased development	Significant decrease in forest cover and natural areas for increased development
Food and Accommodation	Small scale food and accommodation managed by local businesses, eco-resorts	Increased tourism infrastructure, larger hotels and restaurants operated by local and international businesses	Chain hotels and restaurants, large variety of budget and luxury accommodations and variety of food options
Transportation around the island	As is	As is with minor road improvements	Larger roads with all current transport plus buses.
Traffic	Managing the number of vehicles on roads, regulated traffic	Steady increase in the number of vehicles on roads, increase in traffic	Large increase in the number of vehicles on roads, increase in traffic
Waste management	Community waste management, recycling programs, and clean ups to reduce waste	Increased waste buildup but efforts to manage garbage and waste	Large increase in waste buildup with large increase of visitors, requiring more resources to manage
Water storage	No surface water storage/reservoirs on land	Removal of some forest to create a dam	Removal of larger amount of forest to create several dams
Scale of Tourism	Tourism is managed and operated on a small scale with focused efforts to implement sustainable community-based tourism and limit tourism growth	Tourism is managed and operating on a moderate scale with efforts to achieve sustainability but no efforts to control growth	Tourism is managed and operated on a large scale with efforts to increase tourism development and numbers of tourists.

4.3.4. Research Objectives These Methods Address

As indicated in the introduction, the research objectives for this paper are:

1. To identify the preferred future scenarios for sustainable tourism on Koh Phangan (KP) as defined by visitors.
2. To identify the preferred tourism setting characteristics for KP as defined by visitors.
3. To compare the motivations of visitors preferring each scenario.
4. To compare the demographic and travel characteristics of visitors preferring each scenario.

Research objective (1) was addressed through the scenario planning where individuals were asked to select their preferred scenario. Research objective (2) was addressed through asking tourists how various tourism aspects should change (decrease, stay the same, increase) for the future of tourism on Koh Phangan. Research objective (3) was addressed by asking respondents to rate the importance of environmental, social, economic, and logistical factors for visiting the island. Lastly, research objective (4) was addressed by asking respondents to indicate their age, gender, nationality, highest level of education, who they are traveling with, length of trip to the island and to Thailand, number of previous trips to the island and their mode of transport to the island.

4.3.5. Pilot Testing and Revisions

The questionnaire was pilot tested at Thong Sala Pier on Koh Phangan (January 3-10, 2018) to examine respondent understanding of questions, interest, and attention. From the pilot testing, it became clear that it was important to ask a few questions prior to administering the questionnaire to assess their departure time and whether they had spent

time on the island as a tourist. This allowed the researcher to gain an understanding about the level of English of the individual to try to increase the accuracy of the results. Based on the pilot testing, data were collected on Koh Phangan from January 10-February 16, 2018.

4.3.6. Data Analysis

For the analysis of the data, 412 cases were entered, coded, and statistically analyzed using SPSS software. Three groups were identified based on the overall preferred future scenario of tourists on Koh Phangan. Mean motivation scores were calculated for each group and compared using ANOVA to determine whether differences were statistically significant. A Sheffe post-hoc test was used to determine where these statistically significant differences occur among the three groups. The three groups were further compared based on how they would like various tourism aspects to change in the future and the travel demographics using a Pearson Chi-Square test. Travel demographic results (length of stay on the island, length of stay in Thailand, number of previous visits, method of travel, and who they're traveling with) were used to profile the visitors.

4.4. Results

4.4.1. Results for Research Objective 1

To identify the preferred future scenarios for sustainable tourism on Koh Phangan (KP) as defined by visitors

Tourists were asked to circle their preferred scenario (scenario 1, 2 or 3) for each of the attributes: scale of tourism, water storage, waste management, traffic, transportation around the island, food and accommodation, development, amount of visitors, and accessibility (Table 4.1). The percentage of tourists that selected each scenario for the attributes is shown in figure 4.2 below.

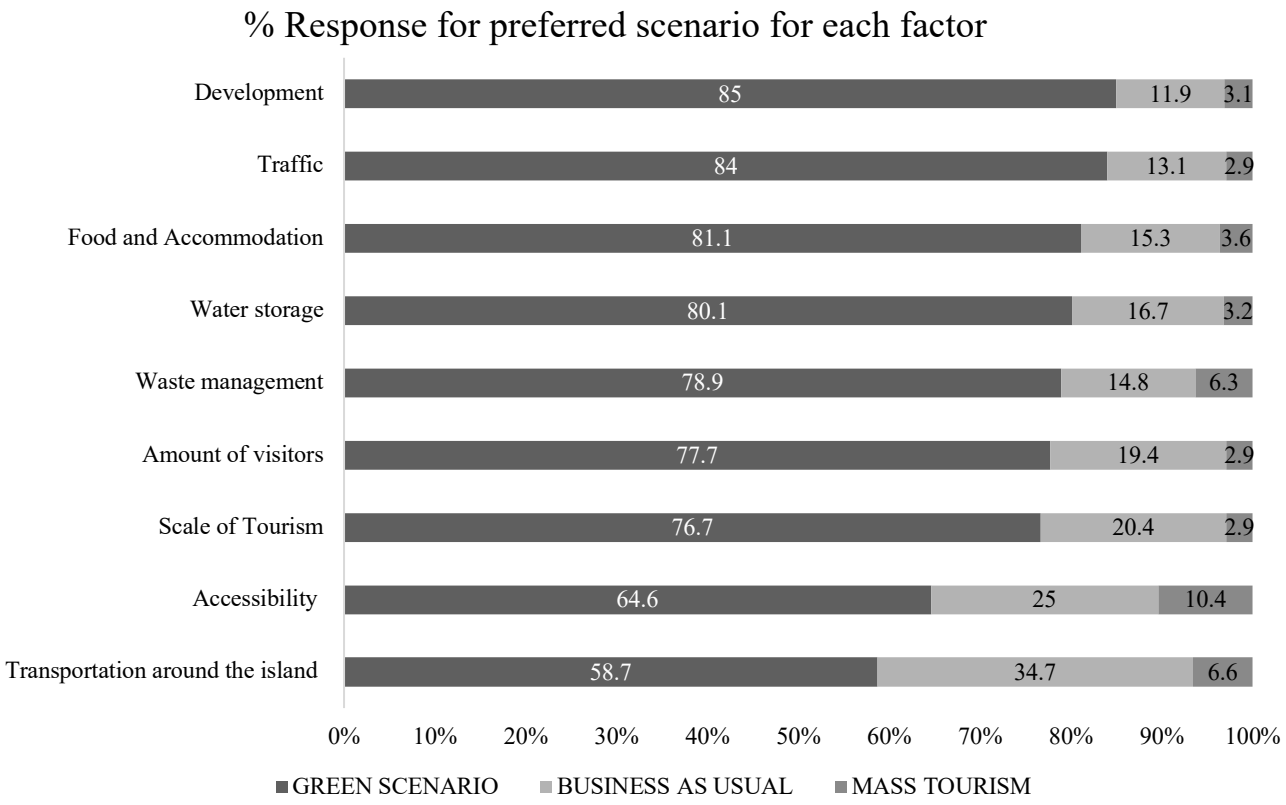

Figure 4.2. *Percentage of tourists that selected Scenario 1, 2, or 3 for the preferred scenario for how the various tourism aspects should change in the future.*

Overall, the majority of respondents selected the green scenario for each tourism aspect, with the least variation in responses for development and the most variation in terms of transportation around the island. It is important to note that while accessibility had quite a bit of variability in terms of preferred scenarios, both the "green" and "business-as-usual" scenarios were the same (accessible via ferry), thus making 89.6% of the respondents surveyed on Koh Phangan not wanting the current access to change.

Tourists were asked to select their overall preferred scenario for the future of tourism on Koh Phangan. The majority of tourists selected the "green" scenario (82.8%, n = 341), followed by the "business as usual" scenario (14.3%, n = 59), and the "mass tourism" scenario (2.9%, n = 12). These three groups form the basis of the analysis for this paper.

Using a Pearson Chi-square Test with a level of $p < 0.05$ to indicate significant differences among the groups, the three groups were compared based on their preferred scenario for each tourism aspect provided in the scenario planning (table 4.2). There were significant differences between the three groups in terms of their preferred scenario for each tourism aspect, suggesting that the scenario options provided for each aspect are in line with the overall preferred scenario. The eta values in Table 4.2. are strong (Vaske, 2008), indicating major differences in each case.

Table 4.2. *Comparison of the preferred scenario for each tourism aspect with the overall preferred scenario groups.*

Tourism aspect		*Response (%) preferred scenario*			P[a]	Eta[b]
		"Green" N=341	*"Business as usual" N = 59*	*"Mass tourism" N = 12*		*(η)*
Accessibility	Accessible by ferry	76.8	6.8	0.0	000	.569
	Accessible by ferry	17.3	71.2	16.7		
	Accessible by ferry and plane	5.9	22.0	83.3		
The amount of visitors	Maintaining current amount of tourists and managing growth	90.6	18.6	0.0	000	.736
	Continued steady increase in the number of visitors	8.8	79.7	25.0		
	Significant increase in the number of tourists	0.6	1.7	75.0		
Development	Retain current forest and natural areas	97.7	23.7	25.0	000	.757
	Gradual decrease in forest cover and natural areas for increased development	1.8	71.2	8.3		
	Significant decrease in forest cover and natural areas for increased development	0.6	5.1	66.7		
Food and accommodation	Small scale food and accommodation managed by local businesses, eco-resorts	95.3	15.3	0.0	000	.798
	Increased tourism infrastructure, larger hotels and restaurants operated by local and international businesses	3.8	79.7	25.0		
	Chain hotels and restaurants, large variety of budget and luxury accommodations and variety of food options	0.9	5.1	75.0		
Transportation around the island	As is	70.1	5.1	0.0	000	.615
	As is with minor road improvements	27.9	78.0	16.7		
	Larger roads with all current transport plus buses	2.1	16.9	83.3		
Traffic	Managing the number of vehicles on roads, regulated traffic	96.8	23.7	16.7	000	.807
	Steady increase in the number of vehicles on roads, increase in traffic	3.2	72.9	0.0		
	Large increase in the number of vehicles on roads, increase in traffic	0.0	3.4	83.3		
Waste management	Community waste management, recycling programs, and clean ups to reduce waste	93.0	10.2	16.7	000	.712
	Increased waste buildup but efforts to manage garbage and waste	4.4	76.3	8.3		
	Large increase in waste buildup with large increase of visitors, requiring more resources to manage	2.6	13.6	75.0		
Water Storage	No surface water storage/reservoirs on land	93.5	16.9	8.3	000	.760
	Removal of some forest to create a dam	6.2	76.3	25.0		
	Removal of larger amount of forest to create several dams	0.3	6.8	66.7		
Scale of tourism	Tourism is managed and operated on a small scale with focused efforts to implement sustainable community-based tourism and limit tourism growth	91.2	5.1	16.7	000	.748
	Tourism is managed and operating on a moderate scale with efforts to achieve sustainability but no efforts to control growth	7.9	94.9	8.3		
	Tourism is managed and operated on a large scale with efforts to increase tourism development and numbers of tourists	0.9	0.0	75.0		

[a]Based on a Pearson Chi Square Test, significance of $P < 0.05$

[b]Effect size determined using an eta (η) value of .10 for a minimal, .243 for a typical, and .371 for a substantial relationship (Vaske, 2008).

4.4.2. Results for Research Objective 2

To identify the preferred tourism setting characteristics for KP as defined by visitors

Respondents were asked to rate how they would like certain tourism aspects to change in the future for the island that they were surveyed on. Preference for the future was measured on a 5-point likert scale (1 = significant decrease, 2 = slight decrease, 3 = stay the same, 4 = slight increase, 5 = significant decrease). Table 4.3 shows the response percentage of how each tourism factor should change in the future (decrease, stay the same, increase) based on the preferred scenario groups (Green, Business-as-usual, Mass tourism). A Pearson Chi-square Test with a level of $p < 0.05$ was used to indicate significant differences between the groups.

Most tourists who preferred the “green” scenario wanted most tourism aspects to stay the same in the future except for the standard of cleanliness, access to traditional culture, and the amount of community-based tourism attractions; all of which the majority of tourists would like to see increase in the future. Similarly, most tourists preferring the “business as usual” scenario wanted to see most tourism aspects stay the same in the future except for an increase in the standard of cleanliness, quality of accommodations, road access to all parts of the island, amount of activities available, and the amount of community-based attractions. Those preferring the “mass tourism” scenario wanted to see an increase in most of the tourism aspects except for the quality of accommodations and natural areas to visit, for which most tourists wanted to see stay the same in the future.

Table 4.3. *Comparing tourist responses by how tourism aspects should change in the future by preferred scenario*

Tourism Aspect	*Overall preferred scenario*	*Response (%)*			P[a]	Eta[b] *(η)*
		Decrease	*Stay the Same*	*Increase*		
Amount of tourists	"Green"	32.50	58.7	8.8	.000*	.265
	"Business as usual"	11.9	72.9	15.3		
	"Mass tourism"	16.7	25.0	58.4		
Safety and security	"Green"	1.2	64.2	34.6	.001*	.156
	"Business as usual"	1.7	66.1	32.2		
	"Mass tourism"	8.3	25.0	66.7		
Standard of cleanliness	"Green"	3.2	29.9	66.9	.185	.126
	"Business as usual"	3.4	25.4	71.1		
	"Mass tourism"	16.6	25.0	58.3		
Ease of access to the island	"Green"	1.8	71.3	26.9	.000*	.254
	"Business as usual"	6.8	49.2	44.1		
	"Mass tourism"	8.3	25.0	66.6		
Amount of development	"Green"	14.3	63.3	22.3	.007*	.221
	"Business as usual"	8.5	52.5	39.0		
	"Mass tourism"	8.3	25.0	66.6		
Cost of accommodation	"Green"	24.0	70.7	5.3	.000*	.331
	"Business as usual"	22.0	61.0	17.0		
	"Mass tourism"	25.0	16.7	58.3		
Amount of luxury accommodations	"Green"	19.4	65.1	15.5	.017*	.185
	"Business as usual"	15.3	55.9	28.8		
	"Mass tourism"	8.3	41.7	50.0		
Amount of budget accommodations	"Green"	6.5	68.6	24.9	.002*	.239
	"Business as usual"	10.2	54.2	35.6		
	"Mass tourism"	8.3	33.3	58.3		
Quality of accommodations	"Green"	0.9	57.8	41.4	.332	.115
	"Business as usual"	1.7	47.5	50.9		
	"Mass tourism"	0.0	58.3	41.7		
Natural areas to visit	"Green"	3.2	53.1	43.7	.178	.118
	"Business as usual"	1.7	55.9	42.4		
	"Mass tourism"	16.6	41.7	41.6		
Road access to all parts of the island	"Green"	2.4	60.1	37.5	.081	.153
	"Business as usual"	5.1	44.1	50.9		
	"Mass tourism"	8.3	33.3	58.4		
Traffic around the island	"Green"	25.2	64.5	10.3	.000*	.305
	"Business as usual"	6.8	69.5	23.7		
	"Mass tourism"	8.3	33.3	58.4		
Nightlife and entertainment	"Green"	11.7	73.9	14.4	.000*	.314
	"Business as usual"	0.0	74.6	25.4		
	"Mass tourism"	0.0	41.7	58.3		
Amount of food options	"Green"	2.9	70.1	27.0	.024*	.159
	"Business as usual"	3.4	66.1	30.5		
	"Mass tourism"	8.3	16.7	75.0		
Quality of food options	"Green"	0.6	68.0	31.4	.001*	.167
	"Business as usual"	0.0	64.4	35.6		
	"Mass tourism"	8.3	25.0	66.6		
Amount of activities available	"Green"	2.7	60.1	37.2	.146	.164
	"Business as usual"	0.0	49.2	50.9		
	"Mass tourism"	0.0	33.3	66.6		
Access to traditional culture	"Green"	0.9	40.2	58.9	.011*	.118
	"Business as usual"	0.0	59.3	40.7		
	"Mass tourism"	8.3	25.0	66.6		
Amount of community-based tourism attractions	"Green"	4.1	40.8	55.2	.595	.100
	"Business as usual"	1.7	47.5	50.9		
	"Mass tourism"	0.0	25.0	75.0		

[a]Based on a Pearson Chi Square Test, * = significance of $P < 0.05$

[b]eta (η) values represent strength of .10 (minimal), .243 (typical), and .371 (substantial) relationship (Vaske, 2008).

There were no significant differences between the three groups in terms of how the standard of cleanliness, quality of accommodations, natural areas, road access to all parts of the island, amount of activities available, and amount of community-based tourism attractions should change in the future. All of these aspects, except for the natural areas to visit, had the majority of tourists in at least two or more scenario groups wanting to see an increase for the future of tourism on Koh Phangan. Most tourists in all three scenario groups wanted the natural areas to visit to stay the same.

4.4.3. Results for Research Objective 3

To compare the motivations of visitors preferring each scenario

Respondents were asked to rate the importance of a given set of environmental, social, economic, and logistical motivations for visiting each of the islands for their tourism experience. These dimensions were selected to incorporate the factors outlined in the TOS and ECOS models: accessibility, infrastructure, social interactions, non-adventure uses, and attractions in a region. Importance was measured on a 5-point Likert scale with scores of 1 corresponding to ‘not at all important’, 2 to ‘low importance’, 3 to ‘moderate importance’, 4 to ‘high importance’, and a score of 5 to ‘very high importance’. Mean scores were calculated for each of the environmental, social, economic, and logistical factors and used to compare responses across the islands using ANOVA and Scheffe tests (Table 4.4). The ANOVA test indicates that there is at least one significant difference between the three islands while the Scheffe test indicates where the differences occur between the specific islands. The eta value shows the strength of the relationships where an eta (η) value of .10 is a minimal relationship, .243 is a typical relationship, and .371 is a substantial relationship (Vaske, 2008).

Table 4.4. *Importance of environmental, social, economic, and logistical factors for visiting each of the 3 islands. Comparing mean responses by island.*

Motivation Factor	*Green (1) N=341*	*Business as usual (2) N = 59*	*Mass tourism (3) N = 12*	*ANOVA (F, P)*	*Scheffe Test[a] 1-2*	*Scheffe Test 1-3*	*Scheffe Test 2-3*	*Eta (η)[b]*
ENVIRONMENTAL								
Being close to nature	4.19	3.75	4.58	F=7.238*	*	NS	*	.185
Spending time on beaches	4.31	4.17	4.42	F=0.752	NS	NS	NS	.061
Having good weather	4.33	4.32	4.42	F=0.060	NS	NS	NS	.017
Seeing marine life	3.39	3.46	3.08	F=0.523	NS	NS	NS	.051
Seeing interesting landscapes	4.02	3.85	3.83	F=1.054	NS	NS	NS	.072
Being in a remote place	3.67	3.51	3.33	F=1.095	NS	NS	NS	.073
Being in a clean place	4.03	4.02	4.08	F=0.026	NS	NS	NS	.011
Experiencing the marine environment	3.38	3.25	2.92	F=1.155	NS	NS	NS	.075
Learning about conservation	2.88	2.69	3.25	F=1.294	NS	NS	NS	.079
Location of yoga retreat	1.94	1.81	2.50	F=1.520	NS	NS	NS	.086
SOCIAL								
Experiencing nightlife and entertainment	3.10	3.41	3.50	F=1.791	NS	NS	NS	.093
Visiting a unique place	4.05	4.15	4.00	F=0.328	NS	NS	NS	.040
Experiencing the Full Moon party	2.35	3.29	3.58	F=12.171*	*	*	NS	.237
Learning about local cultures	3.72	3.53	4.00	F=1.405	NS	NS	NS	.083
Meeting friendly local people	4.02	3.92	3.75	F=0.705	NS	NS	NS	.059
Being with family and friends	3.60	3.61	3.92	F=0.293	NS	NS	NS	.038
Visiting a safe place	3.90	3.92	4.33	F=0.897	NS	NS	NS	.066
Seeking adventure	3.76	4.02	3.67	F=1.571	NS	NS	NS	.087
Healing the body & calming the mind	3.57	3.36	3.67	F=0.741	NS	NS	NS	.060
Expertise of tour operators/instructors	2.49	2.68	2.92	F=1.139	NS	NS	NS	.074
Meeting new people	3.63	3.63	4.08	F=0.850	NS	NS	NS	.064
ECONOMIC								
Reasonable prices	4.00	3.95	4.17	F=0.319	NS	NS	NS	.039
Bringing new income to local communities	3.41	3.47	3.58	F=0.198	NS	NS	NS	.031
Supporting local businesses	3.65	3.46	3.83	F=0.960	NS	NS	NS	.068
Cost of yoga retreat	1.80	1.78	2.50	F=2.177	NS	NS	NS	.103
LOGISTICAL								
Good access to the island	3.89	4.02	3.92	F=0.451	NS	NS	NS	.047
Amount of tourist attractions	3.19	3.54	3.50	F=2.930	NS	NS	NS	.119
Quality of food options	4.12	3.97	4.25	F=1.056	NS	NS	NS	.072
Variety of food options	3.96	3.92	4.08	F=0.175	NS	NS	NS	.029
Quality of accommodations	3.90	3.86	4.00	F=0.114	NS	NS	NS	.024
Variety of accommodations	3.72	3.64	3.75	F=0.182	NS	NS	NS	.030
Shopping opportunities	2.66	2.95	3.58	F=4.858*	NS	*	NS	.152
Amount of yoga schools	1.89	2.05	2.58	F=2.247	NS	NS	NS	.104
Home ownership	1.90	2.19	2.75	F=3.981*	NS	NS	NS	.138

*Significant difference at $\alpha = 0.05$

[a]Sheffe test indicating difference between tourists preferring scenario 1, 2, and 3.

[b]Effect size determined using an eta (η) value of .10 for minimal, .243 for typical, and .371 for a substantial relationship (Vaske, 2008).

Overall, there were no significant differences in the mean scores for the factors influencing tourists' decision to visit Koh Phangan for most of the tourism factors. However, there were significant differences in terms of being close to nature ("Business-as-usual" group and the other two groups), experiencing the full moon party (between the

"Green" group and the other two groups), and shopping opportunities (between the "Green" and "Mass tourism" groups). For being close to nature, Group 2 (Business as Usual) had the lowest mean motivation score whereas Group 3 (mass tourism group) had the highest. For experiencing the full moon party and shopping opportunities, Group 1 (Green) had the lowest score whereas Group 3 had the highest. Similarly, when asked about the activities that they participated in while on the island, there were no significant differences between the three groups except for participating in the full moon party and renting a scooter, both of which had the highest percentage of participation among "Business as usual" respondents.

4.4.4. Results for Research Objective 4

To compare the demographic and travel characteristics of visitors preferring each scenario

This section answers the question whether all three islands have visitors with similar demographic profiles. A Pearson Chi-square Test with a level of $p < 0.05$ was used to test significant differences between the groups. Based on the analysis, there were no significant differences in how they arrived to the island (flying into Koh Samui and then ferry or ferry from Surat Thani, Koh Tao, or Chumporn), main factor influencing their decision on how to travel to the island, length of trip to the island, length of trip to Thailand, who they are traveling with, gender, or age. There were significant differences among the tourists in each scenario in terms of the highest level of education completed, nationality, and the number of previous trips to the island. Table 4.5 shows the similarities and differences in demographics and travel characteristics among tourists in each scenario.

Table 4.5. *Similarities and differences in demographics and travel characteristics among each scenario.*

Demographic and travel characteristic		*Response (%)*			P*	Eta[a]
		"Green" N=341	*"Business as usual" N = 59*	*"Mass tourism" N = 12*		
Highest level of education	Grade school	1.8	0,0	8.3	.000*	.138
	High school	16.4	11.9	58.3		
	Some college or university	21.4	16.9	8.3		
	Bachelor's degree	31.7	49.2	16.7		
	Master's degree	23.5	16.9	8.3		
	Doctoral degree	3.8	3.4	0.0		
Nationality	African	1.2	0.0	0	.000*	.445
	Asian	9.6	15.5	33.3		
	British	13.5	14.0	0		
	French	7.6	14.3	25		
	German	18.3	12.6	0		
	North American	11.2	7.1	0		
	Oceanian	2.4	14.3	0		
	Other European	34.8	20.1	24.9		
	South American	1.6	1.3	16.6		
Number of previous trips	0	64.8	69.5	83.3	.029*	.247
	1-5	31.40	30.60	8.30		
	6+	3.80	0.0	8.30		
Age	Under 26	24.9	28.8	16.7	.625	.030
	26-35	44.6	42.4	50.0		
	36-45	16.1	13.6	16.7		
	46-55	7.3	11.9	0.0		
	56-65	5.3	1.7	16.7		
	Over 65	1.8	1.7	0.0		
Gender	Female	54.0	52.5	58.3	.933	.003
	Male	46.0	47.5	41.7		
Method of transportation to KP	Fly to Koh Samui and ferry to KP	35.5	37.3	41.7	.984	.050
	Ferry to KP from Surat Thani	54.0	52.5	58.3		
	Ferry to KP from Chumporn, KS, or KT	10.6	10.2	0.0		
Main factor influencing decision on how to travel	Cost	42.2	35.6	50.0	.993	.147
	Time	23.8	28.8	33.3		
	Comfort	15.8	18.6	16.7		
	Other	18.2	17.9	0		
Traveling companions	Alone	19.4	6.8	33.3	.336	.119
	Partner	37.2	44.1	25.0		
	Friends	26.4	39.0	25.0		
	Family	10.0	3.4	16.7		
	Other	7.0	6.7	0.0		
Length of trip to Thailand	1-14 days	25.00	35.70	16.60	.176	.363
	15-28 days	44.80	47.60	66.60		
	29+ days	21.30	15.30	8.30		
Length of trip to KP	1-7 days	65.80	79.80	66.60	.964	.260
	8-14 days	18.90	13.60	8.30		
	15+ days	15.80	6.80	25.00		

*Pearson Chi Square Test, significance of $P < 0.05$,

[a]eta (η) values represent strength of .10 (minimal), .243 (typical), and .371 (substantial).

In terms of the factors with significant differences, for both scenario 1 ("Green") and scenario 2 ("Business-as-usual"), the largest proportion of tourists had a bachelor's degree, were European, and had made no previous trips to Koh Phangan. For scenario 3 ("Mass tourism") respondents, the majority had high school as their highest level of education, there was a fairly equal distribution of nationalities among Asian, French and other European, and South American, and for most individuals it was their first time on the island. In terms of the non-significant differences, among all three scenario groups, the majority of tourists were between the ages of 26-35, female, arrived on Koh Phangan on a ferry from Surat Thani, were influenced by cost to make their decision on mode of transportation to the island, traveling with a partner or friends, in Thailand for 15-28 days, and spending 1-7 days on Koh Phangan.

4.5. Discussion

Following the results of the four research objectives of this paper (to examine the 1. preferred future scenarios for sustainable tourism; 2. preferred tourism setting characteristics; 3. motivations of visitors preferring each scenario, and 4. demographic and travel characteristics of visitors preferring each scenario), the main issues that need to be discussed are: (1) tourist preferences for a more sustainable future for tourism on Koh Phangan; (2) the role of airport construction; and (3) the importance of understanding tourist perceptions on future development.

4.5.1. Tourist Preferences for a More Sustainable Future for Tourism on Koh Phangan

The first seven factors of the ECOS model are set against a spectrum of ecotourism opportunities which ranges from eco-specialists to eco-generalists in which

'eco-specialists' tend to participate as individuals or in small groups, immerse themselves in the local natural and cultural environment, require minimal infrastructure, generally have a minimal environmental impact, and may desire and obtain close and lengthy contact with local inhabitants. In contrast, 'eco-generalists' are usually involved in larger groups, often organized in tour packages, prefer a certain level of comfort which requires a certain level of tourism infrastructure and tend to make greater demands on the host culture and environment (Boyd and Butler, 1996). Based on tourists' overall preferred scenarios, it can be suggested that the tourists preferring scenario 1 ("Green") can be labelled as "eco-specialists" and those preferring scenario 3 ("mass tourism") can be labelled as "eco-generalists." Consistent with this spectrum of tourists within the ECOS model is the idea that tourists will prefer the individual tourism aspects from the scenario plan that coincides with their overall scenario. This was shown in table 4.2 where the majority of individuals within each preferred scenario group selected the tourism aspects in their scenario.

When asked about their preferred future scenario for tourism on Koh Phangan, 82.8% of respondents preferred the green scenario in which access is by ferry, the current amount of tourists is maintained and growth is managed, current forest and natural areas are retained, food and accommodations are managed by local businesses, transportation remains as is or with minor road improvements, traffic is regulated and the number of vehicles on roads is managed, the implementation of community waste management, no surface water storage/reservoirs on land, and tourism is managed and operated on a small scale with focused efforts to implement sustainable community-based tourism with limits on tourism growth.

The findings of the scenario planning are consistent with other studies examining tourists' desire for a more sustainable tourism industry (Buffa, 2015; Dodds et al., 2010; Hoppstadius, 2019; Mazhenova et al., 2016). This suggests that not only do tourists want to see a more "green" tourism industry but they can also act as a driver for sustainable tourism development. This is consistent with López-Sánchez and Pulido-Fernández (2016) who stated that one of the most important limitations is considering that the sustainability of destinations could be improved exclusively from the supply perspective whereas tourists play a key role in achieving sustainable tourism. Additionally, while tourists prefer a more environmentally sustainable future, it's important to also consider how this may impact the local community that relies on tourism for the economic benefits that it provides. For example, it has been found that economic benefits and social capital have partially mediating effects on the relationship between community participation and residents' pro-environmental behaviours (Liu et al., 2014).

When thinking about sustainability and how tourism sites may evolve over time (TALC), it is important to consider the rate of change and how it is moving along the curve of the tourism area lifecycle, especially in small tropical island destinations like those seen in Thailand. It can be argued that Koh Phangan is at a critical point as the popularity grows. Rather than promoting rapid growth to the extent that the attractiveness of the island decreases, appropriate tourism planning can avoid a trajectory toward stagnation and allow for a more sustainable tourism industry, referred to as rejuvenation in the TALC model. This is particularly important when considering the fragility of island destinations where declines in the quality of the terrestrial and marine environment

as well as the local culture are difficult to reverse and may impact the entire industry (Chen et al., 2017; Sahli et al., 2007; Stabler, 1997).

However, the desire for sustainability does raise questions for management as it can be difficult to manage expectations when the majority of tourists would like to see less crowding or tourism managed on a small scale. While this may be appealing to a large number of individuals, how do so many tourists experience this sort of green future without compromising their own ability to travel? There are various methods to manage the number of visitors to an area such as price incentives (Mejía & Brandt, 2015), ticket quotas (du Cros, 2008), introducing or increasing entrance fees (Iranah et al., 2018; López-del-Pino & Grisolía, 2018), and zoning to ensure recreational activities are concentrated in certain areas (Eagles et al., 2002; Fennel & Dowling, 2003; Vickery, 1995). Among these measures, accessibility and mobility have been suggested for managing visitor flows through measures such as traffic regulations, signage, limits to free access or to specific activities, concentration or dispersion of tourist flows and pressures, and land use/spatial planning measures (Guilarte & González, 2018).

4.5.2. The Role of Airport Construction

Accessibility is an important factor of the TALC, ROS, TOS, and ECOS models. When asked about their preferred scenario for the various tourism aspects on Koh Phangan, the largest proportion of tourists wanted the accessibility to stay the same as now (accessible only by ferry) compared to the other aspects that had greater variability in responses. In Thailand, tourism is heavily promoted; however, the costs are not always considered in the numeric gains. Destinations change over time and with that change comes the potential for declining tourist interest (Dearden, 1991). This is especially

important in small tropical island destinations such as Koh Phangan, where there is a push to increase accessibility and thus visitation and revenue. However, while increased ease of accessibility to a tourism site may increase some of the social and economic benefits of tourism, there are also negative aspects to consider with increased accessibility which many of the studies on air travel and accessibility do not take into consideration. For example, Esteves et al (2011) evaluated the impact of tourism on the occurrence of wildlife at Anchieta Island State Park by using the concept of human accessibility and found that areas of easier access correspond with those most degraded. They suggest that the use of the park by visitors has to be the primary focus of management planning, presenting the objectives of the protected area, as well as involving the tourists in the conservation strategy.

When it comes to the question of whether or not an airport should be built on Koh Phangan, it is important to consider some of the positive and negative outcomes of this decision. However, rather than taking a reductionist approach and thinking about Koh Phangan on its own, it is important to think about the archipelago in its entirety, examining the infrastructure, facilities, and experiences available for tourists not just on one island but on all of them. For example, Koo et al (2017) examined the extent to which enhanced air service availability to a peripheral destination will translate into a greater number of tourists. They argued that as long as tourism is considered as a developmental objective, there is a rationale for government policy to encourage greater direct access to promote tourism development. However, the authors did not take into account the negative aspects of increasing the number of tourists visiting these areas such as economic constraints for greater infrastructure or stress placed on the natural and

social environments. Additionally, they only examined accessibility via airplane. However, marine transportation and the sea passage to an island is an important aspect of island tourism, providing an almost visceral marker of "otherness" that is part of an island's mystique for visitors (MacDonald & MacEachern, 2016). Similarly, as Martin-Cejas (2015) suggests, "A beautiful natural park cannot be enjoyed, if there is no means of transport to facilitate its access. However, the mass usage of a specific transport route can prevent the enjoyment of this natural resource (p.457)."

In the case of the Samui archipelago, Koh Phangan can be thought of as a peripheral destination that is limited by the mode of transportation as it does not have an airport. Rather than examining this in isolation, we can examine the benefits that Koh Phangan receives from being a mere 25-minute ferry ride from the neighbouring Koh Samui which possesses an airport while also maintaining the characteristics which attract tourists to these destinations in the first place. For example, about 35% of the respondents on Koh Phangan flew into the Koh Samui airport and took a ferry to Koh Phangan. However, rather than trying to modernize and develop new infrastructure, managers can work with the existing infrastructure that doesn't prioritize development over nature. Since access to an island is easier to control than to land areas, this favours a differentiated approach with different management zones among different islands e.g. limiting access to certain islands with more specialized high-quality experiences. Thus, the relative remoteness of an island or archipelago is an advantage where more remote areas can be reserved for ecotourism operators (Bentz et al., 2016).

Especially when considering TALC and TOS, the number of tourists to a site can affect visitor experience and satisfaction (Zhang et al., 2017) as well as the environmental

sustainability of a destination. For example, the closure of Maya Bay, which was made famous by the movie “The Beach”, saw over 3000 tourists visiting each day, far exceeding the carrying capacity of the beach and ultimately leading to environmental degradation. As a result, a tourist ban has been placed until 2021 to allow a full recovery of its corals and wildlife. Since the bay closed in 2018, blacktip reef sharks have returned in large numbers, now making Maya Bay the highest shark population density in the Thai sea, according to Dr. Thamrongnawasawat (Promchertchoo, 2018). With local tourism operators relying on Maya beach, as well as on Koh Phangan and many island tourism destinations, in moving forward it is important to examine the accessibility of the island to determine how many people the local ecosystem can sustain daily and the best ways to regulate the flow of traffic without causing further damage to the environment while this area is open to tourists. This can be done through zoning and applying Limits of Acceptable Change (LAC), which is critical for managing tourism in coastal and marine areas associated with tropical island tourist destinations (Roman et al., 2007).

4.5.3. The Importance of Understanding Tourist Perceptions on Future Development

As destinations change, they may lose the market segments that made them popular and appeal instead to an ever-growing group of travelers (Plog, 1974). Many island destinations in Thailand have followed the TALC model starting with exploration, involvement, development, consolidation, and stagnation (Cohen, 1996). However, many of these sites have experienced a decline in the natural environment on which the industry relies on, such as seen on Maya Bay. In examining future tourism development on Koh Phangan, it is important to consider why these visitors are coming to these areas and how

they would like to see the area change to ensure they come back to the island and are not displaced by a different tourist population.

Plog (1974) and Cohen (1972) suggest that tourists can be categorized and segmented into different personality and travel types which influence management and the overall success of tourism destinations. Similarly, many studies have focused on the demographics of tourists or the characteristics that make a "sustainable tourist" (Dodds et al. 2010; López-Sánchez & Pulido-Fernández, 2016; Passafaro et al., 2016). However, it was found that there were no significant differences in most of the demographic or travel characteristics of tourists based on their preferred future scenario for tourism on Koh Phangan. Similarly, most of the environmental, social, economic, and logistical motivation scores were similar among the three scenario groups.

The similarities among the three scenario groups can be described by the Duffus-Dearden (1990) model which builds on TALC to incorporate the changing character of the type of visitor attracted to an area as the tourism destination changes over time. They suggest that as a tourism site grows, specialists become displaced by a growing proportion of generalists who are more easily satisfied than specialists (Dearden et al. 2006; Duffus & Dearden, 1990). Since the travel and demographic characteristics and the motivations were similar among the three scenario groups, this can suggest that Koh Phangan is currently in the stage of "development" in the TALC and Duffus-Dearden model that is dominated by generalists. Their preferences for the future may be different but the opportunities currently available on Koh Phangan attract a wide variety of individuals that can enjoy the "organized mass tourist", "individual mass tourist", "explorer", or "drifter" options available on the island. While there are differences in

terms of being close to nature, shopping opportunities, or the full moon party for attracting individuals in the different scenarios to these islands, most tourists have similar motivation factors for visiting Koh Phangan, because tourists seek out the destinations that have the facilities and experiences that they are looking for. Generalists often place more emphasis on the social and managerial settings of their experience, have a greater interest in a wide range of services, and are more reliant on infrastructure (Catlin et al. 2010), as seen in the similarities of motivation factors among the three scenario groups on Koh Phangan.

Especially when planning for sustainable tourism, it is important to consider what attracts tourists to a tourism site to understand how to effectively manage the industry without displacing the current tourists. For example, when comparing Koh Phangan and the neighbouring islands, several respondents made comments about why they came to Koh Phangan and how it should change in the future:

- "We came to Koh Phangan to get a break from Koh Samui. There's less trash than Samui. We need to promote with big companies like 7/11 and others to stop giving out plastic bags!" (KP 57)
- I came here because of the low amount of development. The island is super friendly and developed to where it is still nice. No big hotels please! (KP 105)
- For those who love more peace and quiet, Koh Phangan is more suitable than Koh Samui. Koh Samui is more noisy, more crowded, more about partying. Not having an airport on Koh Phangan is the most important thing that shouldn't change. Build an airport, it'll change everything. (KP 165)

- Koh Phangan is much better than Koh Tao – too many tourists, not managed well at all. Noisy and lots of waste. The national park on Koh Phangan is not accessible but we would love to see it. (KP 407)
- "Love Koh Phangan, but hope it doesn't get spoiled by tourism like Koh Samui somewhat has" (KP 287)
- "Koh Phangan is the best because there is peace and only a few people. The complete opposite to Koh Samui" (Koh Samui Ferry #206)

It is also important to take into account the infrastructure and opportunities available beyond the destination to focus on both small and large spatial scales. As outlined in the TOS, it is important to create a spectrum of opportunities for tourists and to guide tourists with different recreational pursuits to different managerial settings (Huang & Confer, 2009). However, since tourists travel and cross boundaries of different tourism sites, it is important to think holistically and consider how a particular destination or site fits into the broader environment, which is often not considered within TOS, ECOS, and TALC. For example, while managers may focus on tourism on Koh Phangan in particular, what are the options available for tourists on neighbouring islands? As a tropical island destination, it incorporates the "sun, sea, sand" tourism but also experiences less visitation due to its accessibility. However, by taking into account the current tourists, their preferences for the future, the unique opportunities available, and the opportunities and infrastructure available in surrounding areas, this can allow managers to move beyond assessing tourism destinations solely based on tourism revenue

and the number of visitors and instead provide an industry that conserves the natural, social, and cultural environments as well.

4.6. Conclusion

Sustainable tourism development requires simultaneously meeting the needs of tourists, tourist businesses, host communities, and the needs for environmental protection (United Nations Environment Programme, 2005). Understanding tourist needs and expectations, as well as their preferences for the future, can help inform management interventions and improve the quality of services offered at a particular tourism destination. Especially as the tourism industry continues to expand, there is often a push to enhance visitation and the economic benefits that tourism provides. However, it is important to consider the environmental, social, economic, and logistical capacities of a site to ensure that the costs of tourism do not outweigh the benefits. By examining the tourism opportunities and tourism evolution of an island, it is clear tourists can play a key role in future sustainable tourism development. While there has been increasing pressure to expand tourism on many island destinations, it is important to think holistically to provide a wide range of experiences to different types of tourists to ensure the sustainability of Thailand's beautiful and unique natural and cultural environments. Thus, when considering tourism development in a particular destination it is important to consider how a tourism site has evolved over time and what it should like in the future through the TALC model, the various opportunities available for a wide range of tourists through the ECOS and TOS models, and how various stakeholders can be involved in the decision making process to ensure the environmental, social, and economic sustainability of the destination.

4.7. References

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5 Sustainable Tourism on Koh Phangan, Koh Samui, and Koh Tao: Synthesis of Key Findings, Recommendations, and Suggestions for Future Research

5.1. Introduction

The overall goal of this study was to examine the role of tourists as important stakeholders in the implementation of sustainability in tourism management and how this can be applied to small tropical islands by using Koh Phangan, Koh Samui, and Koh Tao in Thailand as case studies. Although this case study focused on island tourism in Thailand, the findings can help inform sustainable tourism development in other destinations.

This chapter synthesizes key findings from Papers 1, 2, and 3 to highlight the primary contributions of this research and provide management recommendations based on the results of this work. The following sections provide a discussion on the strengths and limitations of the research methods, and finally, suggestions for areas of future research.

5.2. Paper 1

5.2.1. Synthesis

"Sustainable Tourism Management from a Tourist Perspective: A Case of Three Islands"

This paper compares the motivations, satisfactions, and future tourism preferences of tourists visiting three islands in the Gulf of Thailand (Koh Phangan, Koh Samui, and Koh Tao) to help understand how tourists may differ among the sites and the implications for developing more sustainable tourist products in the future.

The specific objectives are to compare the islands in terms of:

1. Tourist demographic variables
2. Tourist motivations and satisfactions
3. Tourist preferences for alternative future tourist development paths.

This study contributes to this literature through an examination of island tourism and the role of tourists in visioning and implementing tourism on small tropical islands, using visitor motivation and satisfaction to inform planning, as outlined in the behavioural approach. This analysis is framed within the IP framework, suggesting how tourism sustainability can be managed more effectively through monitoring of tourism motivations and satisfaction.

The following are the main findings of this paper:

1. On all three islands, the most important factors in selecting the island as a tourist destination were in line with the "sun, sea, sand" tourism that prevails on many tropical island destinations. However, important aspects of this form of tourism were identified as areas of concern: having good weather, experiencing the marine environment, seeing marine life, and the standard of cleanliness.
2. When comparing the islands, there were differences in tourist demographics, travel characteristics, and social motivation factors. On Koh Samui, there tended to be more Asian (in particular, Chinese tourists) and Oceanian (Australian in particular) tourists, a greater proportion of older tourists and families, greater importance for the logistical factors, and tourists that spent less time in Thailand but more time on the island itself compared to the other two islands. In comparison, visitors to Koh

Phangan and Koh Tao tended to be predominantly European followed by North American, tended to spend more time in Thailand having visited more than one island or destination during their visit, and almost half of the respondents to Koh Tao were under 26. In planning for the future, it is important to take a place-based approach to examine the challenges on each island to allow managers to diversify attractions to provide different opportunities to enhance resilience and destination competitiveness. Each island is unique in terms of the opportunities and experiences available for tourists.

3. On all three islands, tourists would like to see an increase in the amount of community-based tourism attractions, access to traditional culture, and standard of cleanliness. On Koh Samui, tourists would also like to see an increase in the natural areas to visit while on Koh Tao, tourists would like to also see an increase in road access to all parts of the island. These aspects are all things that management can address as they relate to the social, facility, and ecological opportunities and impacts at these particular destinations.
4. On all three islands, the majority of respondents were dissatisfied with ‘learning about conservation’, and ‘learning about local cultures’ was identified as an area of concern. Similarly, on Koh Phangan and Koh Tao, being close to nature was an area of concern and on Koh Samui, ‘learning about conservation’ was identified as an area of management priority. There is a need for educational opportunities to allow tourists to learn about, and engage in, conservation as well as learning about local cultures.

5.2.2. Management Recommendations

Tourist destinations differ as do the tourists visiting them. Identifying these different market segments is an important consideration in tourism management, suggesting that some areas, particularly islands, should consider somewhat differing management regimes that align with each market segment. This is consistent with the behavioural approach, in which a crucial step is to understand tourists to see who they are, their travel characteristics, motivations, satisfactions, and their preferences for the future. Understanding tourist motivations is important to ensure that the factors attracting tourists to these destinations are protected, while satisfaction informs managers how to enhance visitor experiences so that the negative aspects of tourism are minimized and the social, economic, and environmental benefits are enhanced. However, the behavioural approach can be strengthened through the use of a gap analysis to identify management priorities and how in line that is with sustainability, not only ensuring the continuation of the feedback loop in the behavioural approach through continued visitation. When motivations and satisfactions are compared, common concerns emerge which can act as barriers to sustainable tourism on these islands but can also be opportunities for education and stakeholder engagement. These areas of concern can inform planners what the management priorities are to ensure a more efficient allocation of limited resources, improve tourist satisfaction and destination competitiveness, and ensure the sustainability of a tourist destination, from economic, cultural, and environmental perspectives. The findings suggest that tourists can play an important role in identifying management priorities to establish a more sustainable tourism industry and that there is a need to diverge from the dominating “sun, sea, sand” tourism, adopt place-based planning

practices, and create educational opportunities to ensure that the benefits from tourism are not outweighed by the costs.

5.3. Paper 2

5.3.1. Synthesis

"Acceptable Changes in the Eyes of Tourists: Managing for Heterogeneity in Tourists and Tourism Opportunities"

This paper examines visitor motivations to visit the three islands, how these motivations vary as identified through cluster analysis to identify tourist segments based on specialization, and how visitor motivations compare with visitor satisfaction. This analysis is framed within the limits of acceptable change (LAC) concept, suggesting how tourism sustainability can be managed more effectively through monitoring of tourism motivations and satisfaction. The specific objectives are:

1. To identify tourist subgroups based on tourist motivations for desired environmental, social, economic and logistic factors
2. To compare the demographic and travel characteristics of tourists within each subgroup.
3. To compare tourist subgroups in terms of gaps between visitor motivations and satisfaction across environmental, social, economic and logistical domains
4. To compare tourist subgroups based on participation in the Full Moon Party in terms of gaps between motivations and satisfaction across environmental, social, economic, and logistical domains.

The main findings from this paper are:

1. This study found three clusters of tourists based on levels of importance for environmental, social, economic, or logistical factors. Cluster 1 was labelled "very high importance generalists" because this group had the greatest mean importance scores for all factors with predominately "very high" importance scores for most factors. Cluster 2 was labelled "high importance generalists" because this group high importance for all factors. Lastly, Cluster 3 was labelled as "mixed importance" because this group had the greatest variability in terms of the importance scores but had the lowest mean importance score for all factors
2. The most important factors in creating the clusters were predominantly logistical factors, particularly the variety and quality of accommodations and food options. The factors that were not logistical but were important in creating the clusters were bringing new income to local communities, supporting local businesses, meeting friendly local people, and learning about local cultures and conservation. This is important as these factors are ones that can be easily managed and improved to enhance the experience of tourists.
3. There were no significant differences among the clusters in terms of respondents' length of trip to Thailand, age, highest level of education, the number of previous trips made to the island on which they were surveyed on, and whether they would recommend the island as a good tropical island tourist destination. There were significant differences among the clusters in terms of respondents' gender, overall satisfaction with their experience, how they would compare their tourism experience to their expectations, nationality, and what island respondents were

surveyed on. While most tourists in all three clusters in this study were German and other European, cluster 3 (mixed importance) had the highest proportion of German tourists. Cluster 1 (very high importance generalists) had the largest gap between female and male tourists, with more female respondents and the largest percentage of tourists that were surveyed on Koh Phangan. Cluster 2 (high importance generalists) also had more female tourists but was the cluster that had the smallest gap between the genders, and the largest percentage of tourists surveyed on Koh Samui. Lastly, Cluster 3 (mixed importance) had more male tourists and the largest percentage of tourists surveyed on Koh Tao.

4. All clusters identified the following factors as areas of concern: seeing marine life, being in a clean place, experiencing the marine environment, learning about conservation, visiting a unique place, learning about local cultures, seeking adventure, and home ownership. In addition to the common areas of concern among all three clusters, tourists in cluster 2 (high importance generalists) had also identified the following factors as areas that may require management: meeting friendly local people, healing the body and calming the mind, expertise of tour operator/instructors, meeting new people, and all economic factors. Lastly, in addition to the areas of concern identified by the other two clusters, tourists in cluster 1 (very high importance generalists) also identified the following areas of concern: having good weather, seeing interesting landscapes, being with family and friends, good access to the island, quality and variety of food options, and quality and variety of accommodations. In particular, cluster 1 (very high importance generalists) had the most areas of concern identified which has

implications for the economic and social sustainability of the industry. These areas of concern can act as barriers to achieving sustainable tourism in these destinations and can thus be used to help guide management priorities.

5. Tourists in all clusters that participated in the Full Moon Party on Koh Phangan identified fewer areas of concern than those that did not attend the party. In this case, the LAC might be different during the FMP and during the other times, as what might be acceptable during the full moon party may not be acceptable throughout other times of each month.

5.3.2. Management Recommendations

The results of this study show the importance of understanding the tourist market to help understand how tourists may differ in terms of motivation, satisfaction, demographics, and travel characteristics, and the implications for developing more sustainable tourist products in the future. Providing different opportunities allows for a wide range of visitors to engage in tourism on the island. Whether it's attracting the generalist tourist hoping to engage in the "sun, sea, sand" tourism that has dominated the market for island tourism in Thailand and throughout the world, managers can also provide opportunities to learn about local cultures, expand scuba diving skills and knowledge, and knowledge of local flora and fauna, conservation, and hiking. Understanding the level of specialization of tourists allows for managers to understand and provide the social and managerial settings to enhance visitor satisfaction but the specialization of tourists can also influence the environmental, social, and economic sustainability of a destination.

Additionally, the application of the LAC framework can provide useful input for sustainable management practices of tourist activities when taking into account both spatial and temporal dimensions. By comparing visitor motivation and satisfactions, main issues and concerns can be identified, such as features needing special attention or managerial problems that have to be dealt with, as outlined in the first step of LAC. In this step the opinion of stakeholders and the public is usually gathered; however, tourists are often not included in the application of the LAC framework or to help identify management priorities. Not only are tourists an important stakeholder to be included in tourism management, but they can also help identify features needing special attention or managerial problems that have to be dealt with and provide further insight for community and tourism officials responsible for future planning and development choices.

5.4. Paper 3

5.4.1. *Synthesis*

"Scenario Planning to Identify Tourism Opportunities"

The purpose of this study is to explore scenario planning as a vehicle for sustainable tourism planning in an island environment through the following research objectives:

1. To identify the preferred future scenarios for sustainable tourism on Koh Phangan (KP) as defined by visitors.
2. To identify the preferred tourism setting characteristics for KP as defined by visitors.
3. To compare the motivations of visitors preferring each scenario.
4. To compare the demographic and travel characteristics of visitors preferring each scenario.

This study contributes to the literature through an examination of visitor preferences for the future to determine alternative futures for a tourism industry; differences motivations and demographics based on future preferences. This analysis is framed within the Tourism Area Life Cycle (TALC), Tourism Opportunity Spectrum (TOS), and Ecotourism Opportunity Spectrum (ECOS) models, suggesting how tourism sustainability can be managed more effectively through an understanding of visitor preferences.

The main findings of this paper are:

1. When asked about their preferred future scenario for tourism on Koh Phangan, 82.8% of respondents preferred the green scenario in which access is by ferry, the current amount of tourists is maintained and growth is managed, current forest and natural areas are retained, food and accommodations are managed by local businesses, transportation remains as is or with minor road improvements, traffic is regulated and the number of vehicles on roads is managed, the implementation of community waste management, no surface water storage/reservoirs on land, and tourism is managed and operated on a small scale with focused efforts to implement sustainable community-based tourism with limits on tourism growth.
2. When asked about their preferred scenario for the various tourism aspects on Koh Phangan, the largest proportion of tourists wanted the accessibility to stay the same as now (accessible only by ferry) compared to the other aspects that had greater variability in responses. This is especially important in small tropical island

destinations such as Koh Phangan, where there is a push to increase accessibility and thus visitation and revenue.

3. There were no significant differences in the demographics or travel characteristics of tourists based on their preferred future scenario for tourism on Koh Phangan. Similarly, most of the environmental, social, economic, and logistical motivation scores were similar among the three scenario groups.

5.4.2. Management Recommendations

Especially as the tourism industry continues to expand, there is often a push to enhance visitation and the economic benefits that tourism provides, as predicted by TALC. However, it is important to consider the environmental, social, economic, and logistical capacities of a site to ensure that the costs of tourism do not outweigh the benefits. While managers and the tourism industry may focus on one aspect of tourism (the number of visitors and the revenue made), these outcomes may be of short duration, so it is important to broaden the scope of focus to ensure the long-term environmental, social, and economic sustainability of a tourism site. Instead of focusing solely on the revenue and the number of visitors to a destination, managers should try to understand who these visitors are, their motivations for visiting the destination, their satisfaction with their experience, and also their preferences for the future. Attracting more "desired" forms of tourism and tourists would entail taking into account the environmental, social, and economic capacities of a destination to avoid the problems presented by undesirable forms of tourism or tourist behaviours. Managers can then focus on the areas of concern and the challenges that exist on each island before investing resources into the development of additional infrastructure that may create undesirable changes to the

nature of the island (e.g. airport). Understanding tourist needs and expectations, as well as their preferences for the future, can help inform management interventions and improve the quality of services offered at a particular tourism destination. Scenario planning is an effective tool to identify how tourists would like an industry to change in the future for a particular island and highlight the connections between key tourism attributes (the scale of tourism, water storage, waste management, traffic, transportation around the island, food and accommodation, development, amount of visitors, and accessibility). By examining the tourism opportunities and tourism evolution of an island, it is clear tourists can play a key role in future sustainable tourism development. In the case of the airport on Koh Phangan, it is important to take into account the opportunities and existing infrastructure on neighbouring islands. This allows for a greater diversity of opportunities among these three islands, appealing to a wider range of tourists rather than creating three islands that are the same. Thus, when considering tourism development in a particular destination it is important to consider how a tourism site has evolved and what it should like in the future through the TALC model, the various opportunities available for a wide range of tourists through the ECOS and TOS models, and how various stakeholders can be involved in the decision making process to ensure the environmental, social, and economic sustainability of the destination.

When thinking about sustainability and how tourism sites may evolve over time (TALC), it is important to consider the rate of change and how it is moving along the curve of the tourism area lifecycle, especially in small tropical island destinations like those seen in Thailand. It can be argued that Koh Phangan is at a critical point as the popularity grows. Rather than promoting rapid growth to the extent that the attractiveness

of the island decreases, appropriate tourism planning can avoid a trajectory toward stagnation and allow for a more sustainable tourism industry, referred to as rejuvenation in the TALC model. In particular, accessibility is an important factor of the TALC, ROS, TOS, and ECOS models. However, while increased ease of accessibility to a tourism site may increase some of the social and economic benefits of tourism, there are also negative aspects to consider with increased accessibility which many of the studies on air travel and accessibility do not take into consideration. Scenario planning can incorporate the aspects of tourism as identified in the ECOS and TOS models to determine visitor preferences to ensure the sustainability of the site.

5.5. Strengths and Limitations

This section provides a discussion on the strengths and limitations of the research methods used for this study.

5.5.1. Strengths

Survey participants were recruited through random sampling, with purposefully selected survey sites, where each tourist over the age of 18 and waiting at one of the sample sites had an equal chance of being selected. Due to its low time and cost requirements, this method also allowed for a large sample size to be surveyed for this research (412 on Koh Phangan, 293 at the Samui International Airport and 251 at Samui ferry ports, 305 on Koh Tao). With a total sample size of 1261, the margin of error (accuracy) was estimated at + or – 2.8%, at the 95% confidence level (Salant and Dillman, 1994). This large sample size allows for a decreased margin of error and an

increased confidence level. While the response rate can be a limitation, as discussed below, there was a high response rate (82.6%) for this study.

Additionally, in island settings, most studies have focused on sustainable tourism on individual islands (Calgaro & Lloyd, 2008; Calgaro *et al.,* 2014; Chen *et al.,* 2017; Cheng *et al.,* 2013; Dodds, 2010; Hassanali, 2013; Jang *et al.,* 2014; Jitpakdee & Thapa, 2012; Mycoo, 2006; Ng *et al.,* 2017; Padilla & McElroy, 2005). However, few papers address the commonalities and differences in the obstacles to sustainable island tourism across a region or on multiple islands. Studies that have explored tourist preferences on multiple islands have focused on two islands with similar stages of development (Dodds et al., 2010). In this study, tourist demographics, motivations, and satisfactions were examined on Koh Phangan, Koh Samui, and Koh Tao to identify how these factors may influence tourism planning. These islands are part of the same archipelago but differ in size, tourist attractions, levels of tourism development, markets, and levels of current and potential future sustainability.

While some papers have recognized the importance of incorporating tourists as stakeholders and trying to determine what makes a "sustainable tourist" (eg Ballantyne *et al.,* 2009; Budenau, 2007; Cheng & Wu, 2014; Cohen & Higham, 2011; Dubois *et al.,* 2016; Han *et al.,* 2016; Kang & Moscardo, 2006; Lee, 2011; Mejía & Brandt, 2015; Miller *et al.,* 2010; Moyle *et al.,* 2012; Passafaro *et al.,* 2015; Ramkissoon *et al.,* 2012; Scannell & Gifford, 2010; Uyarra *et al.,* 2005), few papers have examined visitor perceptions of how the future of tourism might look, especially in more than one tourism site. Studies that have focused on visitor preferences through scenario planning (Kelly et al., 2007; Hearne & Salinas, 2002; Zong et al., 2017) have focused on one specific aspect

of tourism (e.g. transportation) or tourism attributes on a small scale (e.g. a particular tour). This study takes a large scale focus to determine how scenario planning and visitor preferences can be used to identify how tourists would like an entire industry to change in the future for a particular island, highlighting the connections between key tourism attributes (the scale of tourism, water storage, waste management, traffic, transportation around the island, food and accommodation, development, amount of visitors, and accessibility).

5.5.2. Limitations

There are several ways this research could have been strengthened regarding the research focus and sampling. In terms of the research focus, this research focused on visitor perceptions and responses to determine the areas of concern on these islands. Understanding the perception of tour operators and local communities to changes within the industry, and their responses to such changes could help strengthen the management priorities identified.

There are also potential limitations in this study that relate to respondent bias. The standardized questionnaire used was relatively long and, in some cases, could have caused respondent fatigue, triggering some tourists to not complete it. While the IP analysis provides an easily understandable tool (Bentz *et al.,* 2016), some researchers suggest that data for this analysis should be collected in two steps: importance ratings collected before the activity and the satisfaction rates afterward (e.g. Bennet *et al.,* 2003). However, the two-step approach involves a larger research effort, methodological difficulties, and does not take into account potential differences between an individual's expectations before and after an experience as a result of learning that takes place during

an encounter, especially with inexperienced participants who may not have precise expectations (Yüksel & Rimmington, 1998). Alternatively, collecting both importance and performance ratings at the same time (as was done in this study) may compromise the risk of respondent fatigue and confusion about an apparent repetition of variables or reflective questions leading to a potential bias in responses (Lai & Hitchcock, 2015; Pearce, 2006).

The findings from the IP analysis were made by using data that asked respondents to rate the importance of each tourism factor for influencing their decision to visit a particular island. Although this is a commonly used approach, this method has some limitations (Phadermrod *et al.,* 2019). When interpreting these findings, it is important to note that the results of the IP analysis use mean scores and these values do not reflect the variability present in the sample (Randall & Rollins, 2009). However, the cluster analysis in this study may provide some explanation of variability. A frequent problem with IP analysis is an insufficient variance between importance and performance scores, making it difficult to interpret the outcome with confidence (Azzopardi & Nash, 2013; Lai & Hitchcock, 2015). Another issue is non-normal distributions, which are frequent in studies measuring satisfaction with a scale as self-stated importance and performance tend to consider all attributes as very important, with weak usage of the lower end of the scale (Gustafsson & Johnson, 2004; Noe & Uysal, 1997). These “ceiling effects” (Oh, 2001) can arise from desirability, unawareness, respondent fatigue, self-esteem protection, or the length of the survey (Azzopardi & Nash, 2013; Garver, 2003; Pearce, 2006). However, looking at satisfaction and motivation values separately is ineffective in assessing a particular tourism site’s success in meeting participant needs and achieving

ecological and socioeconomic sustainability as it may not account for differences in motivation and satisfaction for particular site features. For example, when examining visitor satisfaction, site features with lower satisfaction values may suggest that management intervention is required. When comparing those values to the corresponding motivation score, satisfaction may be higher than the importance of that feature suggesting that visitors are satisfied with the feature.

Research has shown that non-response bias can in some cases be explained by respondent values, beliefs, and motivations, masking potential findings (Lankford 1995). Especially when surveying international tourists, this sample may not be representative of the overall population due to language barriers and time constraints associated with departure times on the islands. This limitation was identified at the outset of the field season and surveys were extensively pre-tested and modified in the field to make them as user friendly as possible. The response rate was approximately 86.21% overall, with slightly different values at each study site and thus, non-response bias is unlikely to be a major limitation.

5.6. Future Research Priorities

Sustainable tourism development requires simultaneously meeting the needs of tourists, tourist businesses, host communities, and the needs for environmental protection. However, as mentioned in the introduction, tourists are only one stakeholder when it comes to tourism planning. While they tend to not be included in the decision-making process, future research should incorporate these findings and the preferences of tourists with other stakeholders, particularly the local residents. This would mean not only looking into visitor perceptions but comparing that with the preferences and desires of the

local communities to determine how in line are they with sustainability and with the preferences of the visitors. Additionally, this study makes a static analysis, in the sense that it analyses visitors in a limited period of time. It would be interesting to conduct similar studies during other times of the year, especially to get a better understanding of the spatial as well as the temporal influences of tourism management in these areas.

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Appendix I: Ethics Approval

University of Victoria | Office of Research Services | Human Research Ethics Board
Michael Williams Building Rm B202 PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
T 250-472-4545 | F 250-721-8960 | uvic.ca/research | ethics@uvic.ca

Certificate of Approval

PRINCIPAL INVESTIGATOR:	**Shelly Selivanov**	**ETHICS PROTOCOL NUMBER:** Minimal Risk Review - Delegated	**17-442**
UVic STATUS:	**Master's Student**	ORIGINAL APPROVAL DATE:	18-Dec-17
UVic DEPARTMENT:	**GEOG**	APPROVED ON:	18-Dec-17
SUPERVISOR:	**Dr. Phillip Dearden**	APPROVAL EXPIRY DATE:	17-Dec-18

PROJECT TITLE **Tourists as Stakeholders of Sustainable Tourism in Thailand**

RESEARCH TEAM MEMBERS Philip Dearden, Supervisor/Program PI

DECLARED PROJECT FUNDING: **1. SSHRC (PI - S. Selivanov); 2. SSHRC (P. Dearden-Supervisor)**

CONDITIONS OF APPROVAL

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Modifications
To make any changes to the approved research procedures in your study, please submit a "Request for Modification" form. You must receive ethics approval before proceeding with your modified protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Participants.

Dr. Rachael Scarth
Associate Vice-President Research Operations

Certificate Issued On: 18-Dec-17

17-442 Selivanov, Shelly

Appendix II: Tourist Survey

SUSTAINABLE ISLAND TOURISM ON KOH PHANGAN, THAILAND

A SURVEY OF TOURIST EXPERIENCES

Marine Protected Areas Research Group (MPARG)
University of Victoria, Canada
2018

Social Sciences and Humanities Research Council of Canada

Conseil de recherches en sciences humaines du Canada

Canada

In association with the "Creation of Sustainable Tourism Brand of Koh Phangan, Suratthani Province" Project, Walailak University.

Date _____ Location _____

By completing and submitting this questionnaire, YOUR FREE AND INFORMED CONSENT IS IMPLIED and indicates you understand the conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

Your Tourism Experience

Q-1. While staying on the island, which of the following activities did you participate in? Please circle the numbers beside all the ones that apply.

1 FULL MOON PARTY
2 SCUBA DIVING
3 SNORKELING
4 YOGA/MEDITATION
5 SPA AND WELLNESS
6 WATER-BASED ACTIVITY (BOATING, KAYAKING, JET SKI)
7 VISITING A NATIONAL PARK
8 HIKING, TREKKING
9 VISIT ANG THONG MARINE PARK
10 NIGHTLIFE AND ENTERTAINMENT
11 RELAX ON THE BEACH
12 THAI BOXING
13 RENTING A SCOOTER
14 NIGHT MARKET
15 COOKING CLASS
16 VISIT A TEMPLE
17 VISIT A WATERFALL
18 OTHER _____ (please specify)

Q-2. Of the activities listed above in Q-1, which are you **most** interested in? (Write the number from Q-1 on the line, for example "1" for FULL MOON PARTY)

_____ MOST IMPORTANT ACTIVITY
_____ SECOND MOST IMPORTANT ACTIVITY
_____ THIRD MOST IMPORTANT ACTIVITY

Why Did You Visit Koh Phangan?

Q-3. Please state the **IMPORTANCE** of each of the following possible reasons for visiting this island *(Please circle a number beside each statement)*

	NOT AT ALL IMPORTANT	LOW IMPORTANCE	MODERATE IMPORTANCE	HIGH IMPORTANCE	VERY HIGH IMPORTANCE
ENVIRONMENTAL					
(A) Being close to nature	1	2	3	4	5
(B) Spending time on beaches	1	2	3	4	5
(C) Having good weather	1	2	3	4	5
(D) Seeing marine life	1	2	3	4	5
(E) Seeing interesting landscapes	1	2	3	4	5
(F) Being in a remote place	1	2	3	4	5
(G) Being in a clean place	1	2	3	4	5
(H) Experiencing the marine environment	1	2	3	4	5
(I) Learning about conservation	1	2	3	4	5
(J) Location of yoga retreat	1	2	3	4	5
SOCIAL					
(K) Experiencing nightlife and entertainment	1	2	3	4	5
(L) Visiting a unique place	1	2	3	4	5
(M) Experiencing the Full Moon Party	1	2	3	4	5
(N) Learning about local cultures	1	2	3	4	5
(O) Meeting friendly local people	1	2	3	4	5
(P) Being with family and friends	1	2	3	4	5
(Q) Visiting a safe place	1	2	3	4	5
(R) Seeking adventure	1	2	3	4	5
(S) Healing the body & calming the mind	1	2	3	4	5
(T) Expertise of tour operators/instructors	1	2	3	4	5
(U) Meeting new people	1	2	3	4	5
ECONOMIC					
(V) Reasonable prices	1	2	3	4	5
(W) Bringing new income to local communities	1	2	3	4	5
(X) Supporting local businesses	1	2	3	4	5
(Y) Cost of yoga retreat	1	2	3	4	5
LOGISTICAL					
(Z)Good access to the island	1	2	3	4	5
(AA)Amount of tourist attractions	1	2	3	4	5
(BB)Quality of food options	1	2	3	4	5
(CC)Variety of food options	1	2	3	4	5
(DD)Quality of accommodations	1	2	3	4	5
(EE)Variety of accommodations	1	2	3	4	5
(FF)Shopping opportunities	1	2	3	4	5
(GG)Amount of yoga schools available	1	2	3	4	5
(HH)Home ownership	1	2	3	4	5
(II)Other_____	1	2	3	4	5

Q-4. Of the reasons listed above in Q-3, which 3 are the **most important** reasons motivating you to visit this island? (*write the corresponding letter from Q-3)*

_____ MOST IMPORTANT
_____ SECOND MOST IMPORTANT
_____ THIRD MOST IMPORTANT

Satisfaction With Your Experience

Q-5. Please rate how **SATISFIED** you were with each of the following aspects of your trip? *(Please circle a number beside each statement. If it does not apply to you, please circle "N/A" for Not Applicable.)*

	NOT AT ALL SATISFIED	LOW SATISFACTION	MODERATE SATISFACTION	HIGH SATISFACTION	VERY HIGH SATISFACTION	N/A
ENVIRONMENTAL						
(A) Being close to nature	1	2	3	4	5	N/A
(B) Spending time on beaches	1	2	3	4	5	N/A
(C) Having good weather	1	2	3	4	5	N/A
(D) Seeing marine life	1	2	3	4	5	N/A
(E) Seeing interesting landscapes	1	2	3	4	5	N/A
(F) Being in a remote place	1	2	3	4	5	N/A
(G) Being in a clean place	1	2	3	4	5	N/A
(H) Experiencing the marine environment	1	2	3	4	5	N/A
(I) Learning about conservation	1	2	3	4	5	N/A
(J) Location of yoga retreat	1	2	3	4	5	N/A
SOCIAL						
(K) Experiencing nightlife and entertainment	1	2	3	4	5	N/A
(L) Visiting a unique place	1	2	3	4	5	N/A
(M) Experiencing the Full Moon Party	1	2	3	4	5	N/A
(N) Learning about local cultures	1	2	3	4	5	N/A
(O) Meeting friendly local people	1	2	3	4	5	N/A
(P) Being with family and friends	1	2	3	4	5	N/A
(Q) Visiting a safe place	1	2	3	4	5	N/A
(R) Seeking adventure	1	2	3	4	5	N/A
(S) Healing the body & calming the mind	1	2	3	4	5	N/A
(T) Expertise of tour operators/instructors	1	2	3	4	5	N/A
(U) Meeting new people	1	2	3	4	5	N/A
ECONOMIC						
(V) Reasonable prices	1	2	3	4	5	N/A
(W) Bringing new income to local communities	1	2	3	4	5	N/A
(X) Supporting local businesses	1	2	3	4	5	N/A
(Y) Cost of yoga retreat	1	2	3	4	5	N/A
LOGISTICAL						
(Z)Good access to the island	1	2	3	4	5	N/A
(AA)Amount of tourist attractions	1	2	3	4	5	N/A
(BB)Quality of food options	1	2	3	4	5	N/A
(CC)Variety of food options	1	2	3	4	5	N/A
(DD)Quality of accommodations	1	2	3	4	5	N/A
(EE)Variety of accommodations	1	2	3	4	5	N/A
(FF)Shopping opportunities	1	2	3	4	5	N/A
(GG)Amount of yoga schools available	1	2	3	4	5	N/A
(HH)Home ownership	1	2	3	4	5	N/A
(II)Other_____	1	2	3	4	5	N/A

Q-6 Please indicate how satisfied you are **overall** with your experience on this island (please circle the number that best reflects your feelings).

1 VERY SATISFIED
2 SOMEWHAT SATISFIED
3 NEITHER SATISFIED NOR UNSATISFIED
4 SOMEWHAT UNSATISFIED
5 VERY UNSATISFIED

Q-7. Overall, how would you rate your current tourism experience compared to your expectations?

1 MUCH WORSE
2 SOMEWHAT WORSE
3 ABOUT THE SAME
4 SOMEWHAT BETTER
5 MUCH BETTER

Q-8. Would you recommend Koh Phangan as a good tropical island tourist destination?

1 YES
2 NO

Your Ideas for the Future

We would like to determine what you would like to see for the future of tourism on this island

Q-9. For each of the following aspects of tourism development on Koh Phangan, indicate if it should decrease, increase, or remain the same.

	SIGNIFICANT DECREASE	SLIGHT DECREASE	STAY THE SAME	SLIGHT INCREASE	SIGNIFICANT INCREASE
(A) Amount of tourists	1	2	3	4	5
(B) Safety and security	1	2	3	4	5
(C) Standard of cleanliness	1	2	3	4	5
(D) Ease of access to the island	1	2	3	4	5
(E) Amount of development	1	2	3	4	5
(F) Cost of accommodation	1	2	3	4	5
(G) Amount of luxury accommodations	1	2	3	4	5
(H) Amount of budget accommodations	1	2	3	4	5
(I) Quality of accommodations	1	2	3	4	5
(J) Natural areas to visit	1	2	3	4	5
(K) Road access to all parts of the island	1	2	3	4	5
(L) Traffic around the island	1	2	3	4	5
(M) Nightlife and entertainment	1	2	3	4	5
(N) Amount of food options	1	2	3	4	5
(O) Quality of food options	1	2	3	4	5
(P) Amount of activities available	1	2	3	4	5
(Q) Access to traditional culture	1	2	3	4	5
(R) Amount of community-based tourism attractions (e.g. coconut plantations, trying traditional Thai desserts, visiting temples, squid fishing)	1	2	3	4	5

Q-10. Presented below are some possible future scenarios for Koh Phangan. Please consider each scenario and circle your preferred scenario for each attribute.

	SCENARIO 1 "Green Scenario"	SCENARIO 2 "Same as Now"	SCENARIO 3 "Development Scenario"
Accessibility	Accessible by ferry	Accessible by ferry	Accessible by ferry and plane
Amount of visitors	Maintaining current amount of tourists and managing growth	Continued steady increase in the number of visitors	Significant increase in the number of tourists
Development	Retain current forest and natural areas	Gradual decrease in forest cover and natural areas for increased development	Significant decrease in forest cover and natural areas for increased development
Food and Accommodation	Small scale food and accommodation managed by local businesses, eco-resorts	Increased tourism infrastructure, larger hotels and restaurants operated by local and international businesses	Chain hotels and restaurants, large variety of budget and luxury accommodations and variety of food options
Transportation around the island	As is	As is with minor road improvements	Larger roads with all current transport plus buses.
Traffic	Managing the number of vehicles on roads, regulated traffic	Steady increase in the number of vehicles on roads, increase in traffic	Large increase in the number of vehicles on roads, increase in traffic
Waste management	Community waste management, recycling programs, and clean ups to reduce waste	Increased waste buildup but efforts to manage garbage and waste	Large increase in waste buildup with large increase of visitors, requiring more resources to manage
Water storage	No surface water storage/reservoirs on land	Removal of some forest to create a dam	Removal of larger amount of forest to create several dams
Scale of Tourism	Tourism is managed and operated on a small scale with focused efforts to implement sustainable community-based tourism and limit tourism growth	Tourism is managed and operating on a moderate scale with efforts to achieve sustainability but no efforts to control growth	Tourism is managed and operated on a large scale with efforts to increase tourism development and numbers of tourists.

Please circle your **overall** preferred scenario below:

1 SCENARIO 1
2 SCENARIO 2
3 SCENARIO 3

How is Koh Phangan Compared to Other Islands?

Q-11. We would like to see how you would compare Koh Phangan to Koh Samui or Koh Tao. Have you visited at least one of these islands? (please circle the number beside the island(s) that you have visited. If you have **NOT** visited one of the islands listed below, please skip to "Your Trip")

1 KOH SAMUI
2 KOH TAO

Compared to _____ (the island above **most recently visited**), do you think that **Koh Phangan** is much worse, somewhat worse, about the same, somewhat better, or much better for the following attributes?

Attribute	**MUCH WORSE**	**SOMEWHAT WORSE**	**ABOUT THE SAME**	**SOMEWHAT BETTER**	**MUCH BETTER**
(A) Crowding	1	2	3	4	5
(B) Accessibility	1	2	3	4	5
(C) Development	1	2	3	4	5
(D) Nature	1	2	3	4	5
(E) Waste	1	2	3	4	5
(F) Nightlife/entertainment	1	2	3	4	5
(G) Access to Local Culture	1	2	3	4	5
(H) Beaches	1	2	3	4	5
(I) Accommodations	1	2	3	4	5
(J) Food Options	1	2	3	4	5
(K) Cleanliness	1	2	3	4	5
(L) Cost	1	2	3	4	5

Your Trip

Q-12. About how long is your trip to Thailand? _____ DAYS

Q-13. How long is your trip to this island? _____ DAYS

Q-14. How many previous trips have you made to this island? _____ PREVIOUS TRIPS

Q-15a. How did you arrive on Koh Phangan?

1 FLY TO SAMUI AND FERRY TO KOH PHANGAN
2 FERRY FROM SURAT THANI
3 OTHER _____

Q-15b. What was the main factor influencing your decision on how to travel to Koh Phangan?

1 COST
2 TIME
3 COMFORT
4 OTHER _____

Q-16. Who are you traveling with?

1 ALONE
2 PARTNER
3 FRIEND(S)
4 FAMILY
5 ORGANIZED GROUP

About You

To help us understand your opinions, we are interested in learning a bit about you

Q-17. Are you

1 FEMALE
2 MALE
3 OTHER (please specify) _____

Q-18. What is your nationality? _____

Q-19. What is the highest level of education that you have completed?

1 GRADE SCHOOL
2 HIGH SCHOOL
3 SOME COLLEGE OR UNIVERISTY
4 BACHELOR'S DEGREE
5 MASTER'S DEGREE
6 DOCTORAL DEGREE
7 OTHER _____

Q-20. What is your age?

1 UNDER 26 YEARS
2 26 – 35
3 36 – 45
4 46 – 55
5 56 – 65
6 OVER 65 YEARS

Finally, is there anything else you would like to tell us about your experience? If so, please use the space below to express your views.

THANK YOU FOR YOUR HELP!

If you would like to be contacted when the results of this survey become available, please leave us your email address here. If you have any questions, please feel free to contact MSc candidate, Shelly Selivanov, at shelly95@uvic.ca

Appendix III: Tourist comments

Koh Phangan Comments

- Beautiful place naturally. Too many foreigners on the island (5)
- I found there to be a lack of information about drop-in yoga classes. Also, yoga is as expensive as the U.K. (16)
- Cleaner ferry, too many emissions; less waste/plastic (also on beaches) (18)
- Everything was amazing minus Bottle Beach. It was rather dirty (23)
- Having been to the island 3 times all different experiences – having maturing over time (34)
- I would especially recommend Haad Yuan – much more chilled out than the bigger towns! We have based most of our views on our stay at Haad Yuan where we also visited Haad Tien and Why Nam. We chose to stay at this location because it is much quieter and less hectic/ "Full moon" (41)
- We love Koh Phangan! <3 (47)
- I like what you guys are asking about! (50)
- Take care with the nature of this nice island!!! I'm afraid that this island becomes a just a place for tourists and that the local life disappears. And no destructing the nature, the landscape with buildings or hotel!!! (52)
- We came to Koh Phangan to get a break from Koh Samui. There's less trash than Samui. We need to promote with big companies like 7/11 and others to stop giving out plastic bags! (57)
- Koh Phangan is spoiled (62)
- It's kind of ridiculous, I know, but I say it anyway. If there could be something done to remove mosquitoes from here (& I mean the whole planet) I would enjoy my tropical holidays even a lot more (72)
- In terms of crowding, accessibility, development, waste, and nightlife/entertainment, less is better. What's up with the alternative crew? Are you alternative if everybody else is with you? Wow! Super judgemental. Nice island. Thai people never cease to amaze me! Good luck on your research. Must really be kicking yourself down here in paradise (75)
- This island is amazing. Only thing, prices increased a lot (78)
- We planned staying 2 nights but extended 2 more as we liked it so much. Great experience, will definitely return (when there is no full moon party ;)) (81)
- Haad Rin is an awful place. A lot of trash, it seems a place only for drinking and special kind of tourists. A lot of Russians. It depends a lot where you stay at Koh Phangan. At some places, it is more the original Thailand, but there the "nightlife" is less. (90)
- Beaches need to be clean, they need to think from tourist point of view. Lots of garbage on the beach, bad for families walking by with kids and people who want to see/be on a nice beach. Clean up the beach. In front of my bungalow was clean but part of the beach right beside it is dirty (owners only clean the beach in front of their property) (95)
- If I had more time on the island I would have tried the full moon party, yoga/meditation, visiting a national park, hiking/trekking, and visiting a temple. I

fancied visiting when FMP was not on. Had been to Phi Phi last year, wanted smaller island than Samui, but bigger than Tao. I really enjoyed Koh Phangan but found I was unable to travel around the island as much as I would have liked because I wasn't comfortable hiring a motorbike (heard too many horror stories). Taxis are expensive from where I was staying, would be good if tour agents organized transport to other parts which was reasonably prices without the need for me to hire a scooter. (104)

- I came here because of the low amount of development. The island is super friendly and developed to where it is still nice. No big hotels please! (105)
- Would like to see rubbish collected better. Too much rubbish in water and on beaches (108)
- Thailand is a beautiful country and should be preserved to be so for future generations to enjoy. Must improve its recycling culture though. (117)
- We were on our honeymoon. We weren't interested in the FMP. Good luxury accommodations. I really hope the growth of the island is sustainable in time and well thought of – wildlife/conservation (121)
- Too touristy for me. Would like to go to a more remote and perhaps even more ecofriendly place. Good luck finalising your masters! (126)
- Rubbish improvement on the island: it's a must for the future! (128)
- We went to the full moon party – but never again (129)
- It would be really nice to see some of the pollution on the beaches cleared up, <u>specifically</u> plastic bottles & other tourism related plastics and improve the management of waste sewage water that's running into the sea and on the beaches (139)
- Had very bad experience being cheated by a Thai, lot of money – led to lots of problems and became aware of corruption, lies and cheating here and all over Thailand. Learned not to trust <u>any</u> Thai (sadly) (145)
- Great experience; nice local people if you open up to them; protect the nature because it is amazing (153)
- The experience was much worse than expected just because we had to seek medical help. Hospital was rip off and terrible service. More information about natural healing and ethomedicine would have been nice. (154)
- We missed showers on the beach. Lovely island! (164)
- For those who love more peace and quiet, Koh Phangan is more suitable than Koh Samui. Koh Samui is more noisey, more crowded, more about partying. Also seems like there are about only 5 different trips offered by many companies, wish there were more trips (bicycle and such). Not having an airport on Koh Phangan is the most important thing that shouldn't change. Build an airport, it'll change everything. Good luck! (165)
- Koh Phangan is beautiful. Very nice people. Great island. (169)
- Litter needs to be addressed (171)
- Great island, Love it! (178)
- I will return! This island was the best!!! (179)
- Sad to see massive resorts and foreign owned restaurants where Thai businesses used to be (181)

- Happy to fill out a survey, especially one that has implications for future sustainability, but some advice, try and keep the participant engaged with less questions (184)
- It would be nice if progress wouldn't ruin the nature so that there will remain natural places with simple ways of living, calmness, and not focused on money. Mass tourism destroys the uniqueness, not just in Thailand but in other places. This is sad (192)
- Yes, yes yes I would recommend Koh Phangan! Decrease the amount of tourists on Koh Nang Yuan, they will destroy this place soon. (205)
- We have to do something for the trash (209)
- Too much people European, too fast speed, it's too late for this place (210)
- The Thai people depend on tourism, to achieve a better way of life. Nevertheless, I would like more environmental awareness and less garbage. We have been there for the beautiful beaches and the sea, and must know often the tourism (but also the Thais itself) many things broken (211)
- You can find everything if you're looking. Cleanliness and kindness of people impressed the most (382)
- Die Thai sind auf den Tourismus angewachsen, um einen schönen Lebensslandart zu erraten, trotzdem möchte ich mehr Umweltbewustsein und weniger mull.Wir sind vegen den schonen stranden und dem meer da gewesen, und musskn oft feststellen, das der Tourismus (aber auch die Thais selbst) vieles kaputt madt.
- Had a great stay! (213)
- Beautiful trip! I love!! (215)
- Motorbikes have free exhaust creating awful noises. Noise is a big problem near the roads (218)
- Above all we would like to discover and know more about their culture and their history, their habits. As a whole, we need to learn more about the country itself. (222)
- I hope they can manage their waste better, but the rest can remain as it is (223)
- Too many questions ☹ Good luck with your Msc! (224)
- Good luck! ☺ (231)
- Did not allocate much time to explore island. Only experienced full moon party. Sidewalks would be nice. (233)
- Ferry broke. Can't leave (234)
- I would definitely recommend Koh Phangan for yoga! But it is somewhat dirty on some places. Maybe inform and educate about how plastic isn't good for nature. Boats shouldn't just throw the anchor in the water, instead just use a buoy ☺ - doesn't destroy the corals! <3 (240)
- I really enjoyed Koh Phangan. The beach is beautiful but very crowded during the day. Full moon was OK but it wasn't what I expected. I thought that it was going to be more lights on the beach or something. (256)
- I would definitely recommend Koh Phangan to others but would be nice to have more accessibility options and food options. It was an amazing experience. Our stay was at Pariya Resort and the access to that place was more adventurous than we ever imagined, need to improve the accessibility to that area since the sea was

really rough and ferry was an expensive and unsafe option. Also, Halal food options are limited and people (locals) taxi drivers (etc) have rigid nature and really rude to tourists. Otherwise, it's 10/10. Koh Phangan is amazing ☺ Good luck! (270)

- We rented a moped from Nongrung Salon and she made us pay 700 for a scratch we didn't cause so maybe insurance should be available. Beaches along Baan Tai need cleaning (271)
- It would be nice to make it easier to circulate inside the island (bus) if we don't like scooters (275)
- Tourists leave **a lot** of trash ☹ (276)
- It would be great to have more frequent boats off the island (281)
- People here are friendly but I also think they're sick of dealing with drunk, rude, messy tourists. I feel bad for them (282)
- Love Koh Phangan, but hope it doesn't get spoiled by tourism like Koh Samui somewhat has (287)
- Clean up the beach (293)
- I was such often the jungle experience, would have joined full moon if not. I went to Haad Rin first and then Haad Salad (I was here last year in Baan Tai and preferred this place and Haad Salad more). I travel around and don't just want to party anymore. (297)
- Very nice (307)
- Awesome! (311)
- I was pregnant, my vacation went good. Now I feels myself better and I hope my baby will be better as well (321)
- Beautiful island. Continue to keep it clean and support the locals <3 (325)
- Keep it green! (339)
- Good survey, good luck! (344)
- We love Koh Phangan! (349)
- Do the boat who make visit on other island around Koh Phangan more clean with the environment. They let their oil on sea. More respect for this island ☺ even it was too late (357)
- Koh Phangan has a large population of tourists but also large natural areas. As they add new attractions it would be nice to see that growth managed and the land protected. Traditional sites (small villages, etc.) don't seem to be advertised as much as the party aspect. (364)
- Life is beautiful. Koh Phangan, too <3 (374)
- We loved the island for freedom and chilling time. Beach and landscapes are very awesome. We need bike to go where we want. Unfortunately, the weather wasn't perfect (cloudy and windy) and our resort was a little dirty (B52). (380)
- For us, it was too touristic, we will not come back (386)
- (Maybe shorter surveys) but good questions. "Stay Green" (387)
- Start to think about the environment more – trash everywhere – more trash bins… (390)
- The island is so quiet and relaxing if there is no full moon party (400)
- It was brilliant! (406)

- Koh Phangan is much better than Koh Tao – too many tourists, not managed well at all. Noisey and lots of waste. The national park on Koh Phangan is not accessible but we would love to see it. (407)

Koh Samui Airport Comments

- Disability access is unusually nonexistent. A higher standard is required on resorts. Airport access was brilliant! (3)
- Security and cleanliness must be ameliorated. Too much tourist on the island. ☺ (8)
- Thank you and good luck! ☺ (12)
- Amazing, beat expectations (20)
- Fantastic island with wonderful people. Can't wait to come back! (24)
- Beautiful island. Wonderful people (25)
- Thank you, Samui. We could have a nice time! We will be come back!! (36)
- <u>Negatives:</u>
  1. Not many vegetarian options
  2. Thai food is not very authentic compared to Bangkokg
  3. Prices are comparable to Singapore
  4. Must reduce use of plastic bags

  <u>Positives:</u>
  1. Hotels are environmentally friendly
  2. Staff at hotels are very polite and friendly (39)
- Not very English, mostly German and Chinese tourists. Every local very friendly and helpful. It is the land of smiles ☺ Better information for tourists needed. Food good but you can see the difference between rich and poor. Very good experience. (40)
- Love Thai people, their culture, and food. We also love 5 star service and know we get all here. Good luck (41)
- It feels like American/Caucasian influence overrides the whole experience. I can't even find Thai milk Tea ☹ (45)
- The beach @ Chaweng was very dirty with waste brought from the sea. More time could be spent cleaning this as it will impact on nature and the ecology of the ocean. Cleaner beaches please. (47)
- We went to Ang Thong Marine Park and were disappointed because we had to do snorkeling between speed boats parked there and we didn't see many nice fish, or turtles…dolphins like the travel agency "sold us".. noisy boats and too many tourists in the same spot. Good luck! (49)
- Local people are very friendly, very welcome to tourists. Hate bargaining on taxi fare before the ride (56)
- Change nothing (60)
- Samui is beautiful. Take care of the garbage and the environment otherwise it will be out of control very soon. (61)
- This visit was somewhat tainted by accommodation that was lower than our expectation. In addition, our room, next to the beach, was also next to a drainage

outlet to the sea that smelled like garbage/sewage. We did not enjoy the sea, accommodation as a result. Room was non-refundable and unable to change (62)

- The local people is so king. Wish good luck to them (72)
- Airport need to create the facility for senior citizens. Airport staff is unfriendly, immigration department is a bit slow of action (74)
- It's the best island (75)
- Everything is perfect! (100)
- If you're trying to plan what to do for tourism on an island, don't do this. There's a big waste problem on beaches which is interesting because they sell it as a beach destination. Wouldn't come back. There's a lot of work cut out to make it sustainable. (101)
- We would definitely come back again (103)
- Comfortable. Beautiful. (106)
- Need to clean the beach of garbage!!! Problem with dogs, garbade and pedicure. It's unsanitary! (113)
- Beaches – plastic bottles left everywhere. Significant improvements need to be made to reduce the impact on the environment. More waste bins and cleaning up is required. Especially Chewang. Animals – need to be free from exploitation – they should be respected and treated better. (127)
- To me, the best part of Thailand is Koh Phangan Island. It looks like Koh Samui but it's more quiet and not too much busy. (138)
- Koh Samui is a beautiful island and the people are welcoming! (140)
- Good luck! ☺ (141)
- I came around 15 years ago and my experience today I don't recognize any place. The main street is more crowded, but I liked the Samui I remember 15 years ago. (147)
- Too much development of low-end accommodations as well as too much private residence development (150)
- Koh Samui has always been a pleasure to visit, I just always wished they kept the island cleaner, especially the beaches (151)
- 1. Rubbish removal more often
  2. Some footpath repairs
  3. More local attractions rather than the usual
  4. Decrease stray dog population
  5. More info on local eating places (157)
- Good luck with the masters! (164)
- Wonderful trip! We enjoy it! We'll return in Thailand soon! Kind & friendly people, beautiful beaches, wonderful food (172)
- I love Thai people and love Koh Samui. Will be back for sure (174)
- Good luck! ☺ (178)
- Better waste collection and disposal on both islands (Koh Phangan and Koh Samui) needed (including recycling) (179)
- This was our thirds visit to Thailand, so did not seek out any cultural activities on this trip. We came to relax at beach and pool with family for a few days, it was a lovely holiday for that (191)

- Fantastic trip. Much better Koh Phangan than Koh Samui, too much people in Koh Samui. We will come back for sure. (210)
- Context of holiday, mom and dad visiting first time in Asia! Good location for them as it has everything they need, but having seen Asia very developed… (223)
- This is my first time visit island, it was fabulous experience for me. Samui gave me a really different feeling and nice experience ☺ (224)
- Good! (231)
- LOVED LOVED LOVED Koh Samui (233)
- Visit Wonderland for a life changing experience (238)
- Am on an around-the-world trip. Usually I spend a long time in a country (5+ weeks). As I've never been to Asia I decided to have a "glimpse" @ several countries to decide where I want to spend more time on my next travel. So my experience in Thailand/Koh Samui was not so thorough and maybe my answers would be different if I had spent more time here… (241)
- We prefer Koh Phangan (249)
- I really enjoyed my stay. Thanks for being such a beautiful island with all of your kind inhabitants ☺ (253)
- Too much tourists (255)
- Public transport – taxis overcharge, tuk tuks equivalent are unhelpful in comparison to somewhere like Bangkok as not often enough and carry lots of passengers tp different places. Comparatively more expensive to islands such as Phuket and Krabi for sometimes an average experience (259)
- 10 years we go each year in January and February, 1 week Koh Samui , 3 weeks Koh Phangan. Beaches on Koh Phangan more clean. Chaweng beach is full of garbage. (262)
- Fabulous! (263)
- For me he miss in this island is the recycle (264)
- Hotels are expensive, waves in Lamai beach, security day and night, dangerous traffic (265)
- One thing that puts me off coming again is all the old men with the young Thai girls, makes it all very seady and wrong in my eyes. Getting worse each year. Also too much building work, won't be any green there soon like everywhere else (267)
- KS already one of the most recommendable holiday please in SEA, just keep it as it is and slightly better every year in the future (268)
- I will come back! ☺ (273)
- We love this island! ☺ (280)
- Holiday not long enough, otherwise all great (283)
- Feeling welcomed here! (287)
- I was disappointed with the amount of rubbish, plastic, etc., washed up on the beach with the recognizable governmental or local policy/effort to clean them up. For such a pretty island with such lovely friendly local people, this came as a shock. (287)
- Please do something to the pollution, it is very important for tourism (288)

- We were approached and offered drugs on Chaweng Beach on a night when we were walking back to our resort by two different people. This was a very bad experience that deterred us from evening walks after that time. (191)

Koh Samui Ferry Comments

- Beautiful beaches and friendly people working at our resort. Too much plastic/garbage in the water ☹ (5)
- Thank you for our great holidays! <3 (26)
- Interesting trip. Will come again. Hope access to Koh Samui can be increased a lot in the near future. (28)
- Relaxing on the beach was good until oil spills came to Lamai beach. Water not clean and trash on the beach. I would not recommend Koh Samui as the beaches are full of trash. (29)
- Please close the elephant park near the waterfall 1, they are not well treated and suffer from mental illness being happened all day long. I spotted many oil spills on the east coast yesterday, probably coming from a boat? Too many scooters, cars. Too many unexperienced drivers. Unfortunately all the islands are becoming less and less wild, just concrete buildings… (42)
- I had food poisoning on Koh Phangan a day before coming to Koh Samui, this tainted my experience of the islands a bit. Having said that, I started to enjoy Koh Samui. It is noticeable the difference in price for meals and massages etx here compared to the other island. Samui is more expensive but not necessarily better quality. Would come back for longer next time as only saw ½ of the island (44).
- We like to stay in Koh Samui very much. Would like to visit again next year. (46)
- Third visit – becoming costly (49)
- Overall it was a good experience but considering the amazing nightlife this city has, maybe better security measures are required. Also ……. Is required specifically pharmaceutical products (52) – refer to photo
- Very expensive taxis which put us off exploring more. If it was cheaper we would have stayed longer and enjoyed more (56)
- Good luck xoxo (57)
- Good luck! (60)
- This island is the best for relaxation and be close to nature (63)
- Nice here, come back for sure! (64)
- Very nice and friendly people in Koh Samui (native inhabitants), everything was very good (65)
- We prefer Koh Phangan. I think it's important to distinguish when people are traveling with kids like our case. Good luck on your thesis! ☺ (72)
- I loved the island and enjoyed the nature and weather, I didn't like the food, and some places we visited were not clean, plus the local people will take any opportunity to suck money out of you (73)
- Koh Samui is a nice place. (85)
- Without a bike it seems almost impossible to see the island. The locals are very friendly and welcoming. A lovely island with potential, but not yet harvested. (93)
- I would recommend Koh Samui to the younger traveller. (94)

- It has been 6 years since last here on Samui. The roads somewhat busier. We stayed in tree house on maenam a lovely quiet place extremely well run with all eyes on the environment. On Koh Phangan, a lot more building going on but mainly on coast, coral is still disappearing, and waste water going straight to sea. Villa cha cha in Haad Salad had "grey" water going straight into beach and sea, not good. The islands still have great tranquility. Local people still friendly. ☺ (102)
- Why do tourists get ripped off everywhere we go? Taxis cover meters. Shop do not have prices on items and just make up high prices for tourists. This should NOT happen! (105)
- Didn't expect it to have as much building and people (109)
- Don't change (113)
- Now we are travel with the ferry to the island Koh Tao. Before we were at Koh Samui, Phuket and first in Bangkok. It's so nice in Thailand. We love this country (117)
- We are worried about the environment in Samui: more trash boxes, reusing/recycling (122)
- Only people from Burma employed in tourism, quite sad. Too many stupid tourists. (129)
- The prices for transports (taxi, shuttle, or boat) are too high, It seems that the local people do the prices on their own, so they can take double of the typical amount (130)
- Remove service charges and debit card surcharges. Feels like a bit of a scam. (136)
- My view on safety is somewhat influenced by the shooting that happened on Chaweng beach last week. Marine national park was my favourite activity, it should be conserved and number of tourists (boats) limited. (137)
- We found that taxis were very expensive. The option of a scooter was attractive but I cannot sit in that position well. The island is beautiful. The people were kind and helpful. A little more English would be helpful. Suggestions – hop on/hop off buses. (138)
- Very few vegan options, public transport needs to improve, and taxis from airport are very expensive. Thank you ☺ (141)Sa
- Samui, as other SE Asia locations, has a waste/trash management problem that should be solved by the authorities (142)
- Transportation (taxi) at night is way too expensive (143)
- Stray dogs reduced my experience significantly. They were fine here, but having been bitten in Sai Yok earlier in the trip I didn't enjoy them being everywhere and didn't feel safe at night. Island was "much" more expensive than mainland Thailand. (145)
- Koh Samui is great! I hope to visit again soon (149)
- Very nice. (150)
- Save the nature! (151)
- Smells dirty sewage Chaweng area (155)

- Negative point – the hotels take too much beaches like private one. So, it's rather difficult to find a public access and when we find, the way is dirty, the beach not cleaned. There is not enough bins in the street and on the beach. Not enough information to put plastic things in the bin or cigarettes – respect the beaches. It's why I did not like Koh Tao. It was too dirty. No bins so bottles everywhere. (157)
- Samui has become more crowded, not clean, expensive compared to the other 2 islands – so next time I will spend more time on Koh Phangan and Koh Tao (160)
- I think you need to sort out traffic problems (165)
- Koh Samui is too busy. I would not recommend it but would recommend Koh Phangan, Koh Tao, Koh Lipe. (168)
- More pad thai yo (169)
- Happy!!! Happy!!! Life is good <3 ☺ (171)
- There should be no elephants chained or tigers for photos. Trash in the waterfalls. That's what happens when there are more people and the results of an airport – need to manage garbage (maybe put up signs or more trash bins). (173)
- My dream is to live on Koh Samui (180)
- We stayed at Fisherman's village, which was great! The guesthouse was a superb guesthouse and would highly recommend. My 5th time to Thailand but first in Koh Samui. Very impressed with cleanliness considering the number of tourists here. (182)
- I was here 21 years ago and it was a totally different place. I would not recommend Koh Samui now unless maybe for only a short time (184)
- Best regards ☺ (194)
- Koh Phangan is the best because there is peace and only a few people. The complete opposite to Koh Samui (206)
- 1. Transportation needs to be improved (e.g. motorbike crazy driving, narrow roads…) 2. Food quality in restaurant need improvement (e.g. freshness of seafood, price – supervision of local restaurants) 3. Local English education needs to be improved (211)
- We were here for 3 full days, 2 days of travel. Scuba would have been most interesting, but we didn't have time for training. With a vet as my fiancée, it was disheartening to see (and smell) the male elephants chained up and nervously pacing outside the waterfall we went to. Having gone to Highland Elephant Reserves in Chiang Mai, this at least gave me an indicator for how poorly the Elephants can be treated and justified the extra money we spent on our elephant trip which funds their rescue (212)
- It is a remote space. It's a very good place of holiday. But the traffic is not convenient. It think it is not safe to ride a motorbike for us, though we used it for 2 days. People are all very nice. I and my husband had a good time here. I would like to come back soon. (215)
- Me and my wife both are vegetarian and we did not get many options for veg. Please increase the veg food as well so we can recommend to many people from our friend circle. Other than this, the trip was amazing. Mostly I liked the people, they are so humble and kind to everyone. Thank you. (228)

- I think that Koh Samui was overall a good island but I think that it should develop a better transport system. It was annoying paying 100 baht to go anywhere. Since it is a big island you have to pay for these multiple times a day. The area we stayed in was very expensive and had an older crowd. For people my age I would recommend staying in Chaweng Beach. (230)
- It's unacceptable to have jet skis where people swim. I've been coming for 17 years but this is becoming enough to deter us. Need garbage bins on beach – I walked 2 miles on Lamai beach and saw 1 trash can which is completely unacceptable. Can improve the traffic – it gets worse each year (can make some vertical streets to increase the flow). No sidewalks – see women walking with babies on the road, unacceptable. All of this doesn't happen in America or Europe – they should improve it if they want us to come here. (232)
- Too many tourists. They are so loud and their children too not nice for relaxing. They are mostly drunken. (236)
- I enjoyed the island but was disappointed about how difficult it was to get around and the beaches had a lot of garbage. (244)
- We felt much more comfortable in Bangkok. We had the feeling of being ripped off a little. The prices were much more higher than in Bangkok. There should be a flight connection which is cheaper. (248)
- The island is great. However, the transport should improve. The tuk tuk are really expensive and the locals get advantage from the tourists. In addition, it's quite hard to communicate, even the hotel was few people that would speak English. (249)
- For us it was a bit too much sex tourism on Koh Samui. (251)

Koh Tao Comments

- More preservation of marine life and make the diving centre more responsible of protection of marine life (like "water cleaning" while diving – we saw many divers and many plastic bags around them attached to the coral and nobody "cleaned up" the place while they were diving every day at the same places…). People in Koh Tao are less friendly than elsewhere in Thailand, looks like they are upset and tired of seeing too many tourists (4)
- Viewpoint no access (9)
- Compared to 2 years ago, there is a lot more construction now, hopefully it does not get too overdeveloped and ruin its charm. Focus on the quality of peoples visits rather than how many people you can squeeze on the island. It is beautiful and needs to stay that way! (10)
- We love it here! ;) (16)
- Amazing! (22)
- In my opinion this island is too much of a tourist place. The locals don't seem to be interested in you compared to other places and the people here seem to be mostly working people that try to find an escape from their shitty lives by spending a lot of money for alcohol, food and accommodation and end up influencing this place with their ugly materialistic behaviour. (28)

- Please stop building in Koh Tao – this island must be the same (32)
- We loved it! <3 (37)
- We ferried from the mainland – BAD DECISION (38)
- Stop traffic (no more motorbikes). Stop building new hotels, they are destroying all the coast. More cleaning (50)
- Just to be careful, because some wanna find always something to wring something that you doing (generally speaking) (52)
- It is better to take a local with its longboat to go snorkeling than with a tour, we did both. (55)
- Supporting local business is a better experience in total. Koh Tao is a bit more expensive because it's a diving island, but so beautiful. Horrible to see the reef dying, would love more talk about conservation and appreciation of our ocean. One thing I'd love to see if having places to fill up water bottles so you don't have to buy so many plastic bottles. In other places we stayed at, you could fill up your water at the hostel. So many plastic bottles around and it makes you wonder where they all go. Good luck <3 (56)
- As a western tourist I was very much feeling a discrepance between enjoying the comfort and seeing that this island is so dominated by tourists…I don't think that any more tourism (at least conventional tourism) would be good for Koh Tao. (59)
- I like it how the people help to keep the environment clean!! (61)
- I haven't seen many things on Koh Tao, I was just here for diving and I'm satisfied with this activity. (63)
- Just a great island with a fantastic vibe. (64)
- I think that the cleanliness of the water and beach should significantly increase. I really hope that Thailand's Government will take actions to preserve the wildlife and protect the sea life from pollution. (65)
- Big blue dive <3. Taxi prices are much too high. Beer pong? Food market. (69)
- Good place to dive! Before party to Koh Phangan! (71)
- Koh Tao has delivered by far the best vacation so far. (73)
- Reason for mu unsatisfaction with cost is that you can feel a "mafia" or a family, controlling many people and businesses on the island. (79)
- I think that it is very important to protect and secure the nature on and off land around Koh Tao. Even if it means tourism has to be regulated/decreased. (81)
- Overall experience was nice. But the worst part is the usage of PLASTIC is so much. I have not seen so much plastic use anywhere. Though place is clean, I am scared all this plastic is going somewhere. Even for drinking water – only plastic bottles – no other options to refill. Same goes for packed food. Looking at increasing number of tourists – this is totally bad. (82)
- I would enjoy seeing more Thai culture, rather than things catering to the perceived nationalities of tourists. Being on an island in Thailand is great and the culture should be highlighted more. (89)
- I picked Koh Tao because it seemed more relaxed than Koh Samui and Koh Phangan. Very happy I picked this island. My hostel choice was a reason for me extending my stay. (94)

- Unfortunately, the amount of waste is increasing way too much in the ocean. Plastic should be banned on all islands. (95)
- Dunsit Bunche Resort have no idea of what is client relationship and satisfaction. (97)
- Whale shark! :O (100)
- Too many useless taxi boats around the island (money and benefit is more important to locals than useless boat emission). More transport needed (local bus) (alone – taxi – expensive!!!). Less plastic!!! (105)
- STOP THE WASTE! STOP PLASTIC! START RECYCLING! (106)
- A very good time in Koh Tao. We will go back again. (111)
- Shark bay was good. (112)
- Highly recommend fireshow @ Koh Tao and Muay Thai fight night. Beautiful island – dirt roads need improving – very dangerous on bikes to certain viewpoints. (114)
- No turtles ☹ Good luck! ☺ (119)
- Keep the island clean and simple! Get rid of waste! (125)
- Less rubbish on land and in sea. Surrounding areas at sea should be protected marine park. Can't take any more damage from overfishing, litter and pollution. Better care for all the stray animals on the island. Higher volume of stray dogs and cats on this island than we've seen before. (126)
- Accommodation expensive, some roads need fixing, and more rubbish bins are needed. Less boats/tourists allowed into Nangyuan at a time. Too crowded! Increase in freediving at dive shops (very hard to find because no instructors). Better animal care would be great! (127)
- Most beautiful island, a lot of nice options to do, but a little bit too touristy. Thank you <3 (129)
- Koh Tao is a nice place to visit overall, but I believe it needs better roads, cleaner streets, and more of food options with reasonable prices. (133)
- Good luck with your survey! (134)
- Rainbow fish divers ☺ (135)
- Roads to the beaches are horrible and should be improved. (152)
- Koh Tao is one the more rare islands when you feel good to enjoy of quiet and lively atmosphere. Everyone could find something to enjoy. For me the important thing is it's getting better and better with conscious of ecology and conservation, and more if local people and tourists can share this love and passion for nature. It's really important to open conscience about this. It's a gorgeous place and they should stop building more hotels and other or it's gonna look like Koh Phi Phi, a tourist industry. (156)
- I got sunburned so did not snorkel. I probably would have enjoyed trip more if I didn't burn. (160)
- Do not use Rambo Travel to rent a scooter! I would recommend Koh Tao apart from last bit at Rambo Travel. Makes me not want to come back. Amazing place! Beautiful island and good places to snorkel. But Rambo Travel ruined it as we had to pay 200 English money for nothing – SCAM! (162)

- Too many tourists, I don't like mosquitoes, and Sairee beach is disappointing. If we had known the island, we would have chosen another beach. (165)
- For the taxi cabs to be less "pushy" and lower their rates compared to the main land and Koh Phangan. Good luck! (166)
- We didn't like that resorts own entire beaches and charge fee for entry, but suppose it makes sense if it goes towards maintenance and cleanliness. Bike rentals should not keep passports. All embassies advise against giving them but hard to get a bike without it. Like that taxis are pickup trucks. (172)
- My experience here was really great, and I cannot wait to go back here again. (175)
- Good luck with your research! (179)
- Tourism ruins Thailand, the people here have almost no future except being tourist entertainers. Whether it's fire show, giving massage, or giving "happy ending" to disgusting horny tourist. Something must change here for the future of the Thai children. (181)
- This island is obviously too crowded with regard to its size and would benefit from a specific activity: diving. (186)
- It was a very good experience. (188)
- Compared to other places I have visited in Thailand, I find it more crowded and a little less charming e.g. compared to Koh Lanta. The sea life here is amazing though. I feel there could be more interesting things to see on the island e.g. nature on land, but as a family I find it hard to get around to explore as scooter is not an option and taxis are expensive compared to other Thai locations. (189)
- Should increase the safety and security – dogs. (198)
- In the UK, Koh Tao has been given a bad image, being referred to as "murder island" following recent deaths over the past 5 years. However, we loved our stay here and never felt 'unsafe' during our visit to Koh Tao. We LOVE it here! (200)
- It's my second time here, so I was only here to do my open water dive. I can recommend the Spicy Hostel. Lovely place to stay. Perfect place to meet new people. (207)
- Do not walk to Mago Bay ☺ (213)
- If you want to dive, I would recommend Koh Tao, otherwise no. (214)
- Nice island, actually want to stay longer. Fish Bowl best bar ever, had a volleyball field :D (216)
- Although only on the island for 2 nights, it gave off a very positive, progressive vibe towards new ecotourism upcoming on the island. Koh Tao is the perfect balance of tourism and new ideas not affecting the environmental integrity of the island. In other words, we loved the experience and plan to return soon! (220)
- Need a better control on stray dogs. (223)
- Really loved this island! <3 Shame that in Sairee beach you have 3 night clubs one next to each other (and almost the same music). Should have a place with another style of music, not only house-electro. (228)
- Unfortunately, there was no good snorkeling place. The corals are dead. It's a lovely place but saving the environment is very important! (232)

- We had a great trip however I think it's important to emphasize to tourists the importance of marine conservation. So much dead coral was heart breaking and we were never told at any point how we could help stop it or assist with any marine work. Just little tips when on trips about what to do/not do would make a big impact ☺ (238)
- Overall it was a good experience but overcrowded. (241)
- This is my 4th year on the island and the quality of dive sites has decreased due to fishing and an increase in nightlife, so I fear for the island's wellbeing. (242)
- Couldn't get to Mango Bay because of the roads ☹ (243)
- Very much enjoyed our time on Koh Tao, we felt it was a pleasant alternative to the busier nearby islands! (244)
- Mopeds are dangerous. (245)
- As we did not use the island to go scuba diving we missed out on the whole Koh Tao experience. But it was so easily accessible to find a reasonably priced place that we would recommend this island to tourists we meet that want to scuba. (246)
- I dive around the island and that was really nice and nature sea life preserved. But all along the beach I was really horrified to see all this dead corals. I think it's important to talk with tourist snorkeling about the good attitude they need to have to practice snorkeling and preserve marine life at the same time. (250)
- Improve roads in mountains (e.g. to Mango Bay). Pay for viewpoints – nonsense! Please do something with greedy people on viewpoints and beaches that want to charge you unreasonable prices, because this is their "private property". (253)
- I hope it will help you for your masters degree! I'm in the same case! Good luck ☺ (254)
- I would recommend Koh Tao for diving but Koh Phangan is better for literally everything else. (261)
- Terrible to see how they burn their garbage! ☹ (265)
- Decrease plastic in the ocean! (266)
- I experienced a lot of trash around the beach and in the ocean. (270)
- Very disappointed about beaches, all of them are dirty (water). (271)
- There is way too much pollution in the marine areas even on both Nang Yuan (the viewpoint) where they stop people from bringing plastic. (276)
- There should be fees for damaging the coral. There should be punishment for leaving waste or damaging the nature, e.g. on Koh Nang yuan. (277)
- Save the underwater world!!! (280)
- Too hot :/ Looks like Koh Tao attracts people who want to relax. It would always be nice to have a clean pearl for yourself but what NOT how things is in 2018. All over Thailand garbage lying around, at least the places I have seen. This is not the case here, keep it UP! (281)
- Very nice island… too much plastic/waste on beaches. Cannot compare to Koh Samui as was on a resort. (287)
- The amount of trash on the beach and in the water ruins the beauty of the island. Copious amounts of cigarette butts, plastic straws, plastic bags etc are littered everywhere. There should be more harsh penalties toward inconsiderate and lazy

tourists. Also they (locals) should start charging for plastic bags or just get rid of them altogether. This place is too beautiful to let travelers trash the place!!! (298)

- I would maybe recommend Koh Tao – as a way to get inexpensive certificate. Koh Tao needs to clean up and get rid of all the uncompleted and ruined infrastructure on the beaches. Especially in Mae Haad where the ferry comes in. Many beach hotel/bars are run down and unsightly. Upgrading all infrastructure would make it a more pleasing place to visit – raise prices to get rid of low spending backpackers. An all over paint job and clean up of piles of garbage, cement, bottles! Too many dogs. (300)
- For us it appeared as if there is not really another option to explore the island than doing an organized trip and/or rent a scooter. We would have liked to explore the island by feet/bus but that didn't seem possible for us. Additionally, we heard beforehand that there are some serious crimes going on in Koh Tao, therefore decided to not go for a hike in the woods. (301)
- Emphasis on partying is Phangan is a turn-off. Koh Tao was perfect, best part of the trip was spent there. (305)