



Study of potential ecotourism resources: Ban Hua Thang, Muang District, Satun Province, Thailand

Patchakul Treephan
Faculty of Environmental Management
Prince of Songkla University
Hat Yai, Songkhla 90112, Thailand
ORCID ID: <https://orcid.org/0000-0002-7779-2136>
E-mail: ptreephan299@gmail.com

Parichart Visuthismajarn
Faculty of Environmental Management
Prince of Songkla University
Hat Yai, Songkhla 90112, Thailand
ORCID ID: <https://orcid.org/0000-0002-9933-0944>

Sang-Arun Isaramalai
Assistant Professor, Faculty of Nursing
Prince of Songkla University, Songkhla, Thailand
ORCID ID: <https://orcid.org/0000-0001-5614-5952>

Abstract

This investigation aimed to study potential ecotourism resources in order to develop the community-based tourism practices of Ban Hua Thang, Satun Province, Thailand. This was a qualitative investigation. Data were gathered from structured interviews, observations, focus-group discussions and documentary analysis. The research sample for this investigation was composed of 80 households and all gathered data were subject to content analysis. The results reveal that Ban Hua Thang has a variety of potential ecotourism resources, especially a fertile mangrove forest, which is home to a wide array of natural wildlife. The residents of Ban Hua Thang form close relationships and have a strong cultural identity, which enables easy cooperation in community initiatives. This investigation recommends the promotion of potential tourism development among community members to present the possible benefits for local people. The investigation also encourages the participation of external organisations to help fund and support community-based tourism initiatives in Ban Hua Thang. The local mangrove forest is an obvious selling point of the area and there is considerable potential to develop the site as a knowledge centre and ecotourism attraction. The tangible links between community lifestyle and the local environment could become the basis for tourist activities, which may include shellfish collection, crab hunting, canoeing, swimming, herb gathering and cookery. In order for any tourism initiatives in Ban Hua Thang to become a success, the locals must buy into the premise, must cooperate and must all contribute to the marketing image of Ban Hua Thang as a traditional and eco-friendly tourist destination.

Keywords: Tourism resources, ecotourism, community-based tourism

Introduction

Tourism is a financially significant industry that is the highest source of income in over sixty nations around the world. The World Tourism Organisation (UNWTO) estimates that by 2020 there will be over 1,600 million tourists worldwide. The most popular global tourist destinations are East Asia, Asia Pacific and Southeast Asia (Ministry of Tourism and Sports, 2011). Being one of the nations in the Southeast Asian community, Thailand benefits considerably from the vast popularity of the region and is considered one of the world's foremost tourist destinations.

Despite the obvious financial benefits of a thriving tourist industry that contributes immeasurably to the development of infrastructure and wealth, there is a negative side. Perhaps the most pressing global issue at the moment is the scale of climate change. Due to the necessary travel



and carbon footprint involved, tourism contributes to the quantity of greenhouse gases in the atmosphere (Michailidou, Vlachokostas & Moussiopoulos, 2016). This in turn has a negative effect on the environment and causes natural disasters, such as flooding and typhoons. Thus, the more successful a tourist destination is in attracting visitors, the more it contributes to the problems that could cause the industry to suffer.

The Ban Hua Thang community in the southerly Satun province is situated within the jurisdiction of the city municipality but borders a fertile mangrove forest. The forest is a valuable resource to local residents, providing wood, food and herbal medicine for their daily lives. Moreover, the forest is a wonderful natural absorbent of carbon dioxide and producer of oxygen, ensuring that the air in the area remains fresh and clean. Given the importance of the forest, its function as a tourist attraction is extremely sensitive. The forest must be managed properly so that the vital service it provides to the community is not harmed. However, if the mangroves can be harnessed in the right way for tourist activities, the local economy will gain a considerable boost. Given this delicate balance, the research team was interested in studying the potential of ecotourism resources in Ban Hua Thang and devise a strategy for future management.

Research Objectives

This investigation aims to study the potential tourism resources within the mangrove forest surrounding Ban Hua Thang, Satun Province, Thailand and their management.

Literature Review

There are considerable economic incentives for conserving biodiversity across the world, not least in Thailand, a country whose rich and abundant environment is one of the primary reasons for its pace in the upper echelons of the tourism market (Bennett, Dearden & Peredo, 2015). However, there is a fine balance between harnessing environmental resources and their exploitation. As many rural and coastal communities in Thailand depend on tourism as a major source of income, there is a significant risk that they will be irreparably harmed by a degradation of the local environment, and its consequent loss of appeal to the tourism market. International research has shown that these communities have a low adaptive capacity to major changes, including climate change, that are often triggered by a poorly managed increase in local tourism (Bennett, Dearden, Murray & Kadfak, 2014).

Actually, the primary reason for the intensification of mangrove conservation in Thailand has been tourism. Overuse by the shrimp farming industry has caused the disappearance of thousands of hectares of coastal mangrove forest in Thailand. Mangrove areas were once converted without restriction to provide area for the booming global shrimp market (Barbier & Cox, 2004). Whilst generating great wealth for the Thai economy, the effect on natural mangrove forests was irreversible. Areas converted into shrimp farms were unable to fully regenerate naturally. To compensate for some of this destruction, environmental groups harnessed the international trend of ecotourism at the turn of the twenty-first century to 'recruit' tourists into their reforestation projects.

The planting of mangrove trees to reclaim some of the forest became a tourist activity. Indeed, research has shown that, in some areas, mangrove restoration is solely practiced by tourists, as opposed to local villagers (Dolezal, 2011). Mangrove forests have been estimated to provide an additional annual income of \$27,264-\$35,921 per hectare to the surrounding communities (Sathirathai & Barbier, 2001). This estimate considers the value of farming, fishing and foraging businesses, as well as the extraction of wood and other plant materials. In actual fact, the benefit is likely to be considerably greater once the additional draw of ecotourism is accounted for (Seenprachawong, 2016).

Despite the great benefit brought to mangrove restoration by international tourism, there has also been a negative impact. Growth of the tourism industry in areas with mangrove forest has not



been properly planned or managed. While tourists are planting more trees to restore the forests, the impact of their stay is placing great strain on underprepared local resources. More wood is required to construct facilities, more food is needed to feed the visitors, more waste is generated and more transport is used. So, while more trees are being planted, the increase in visitors has had a wider impact on the whole ecosystem (Englong, Punwong, Selby, Marchant, Traiperm & Pumijumnong, 2019). It has been argued that tourism provides a 'high-value, low-impact' use of mangrove forests, but this is only true in areas that are equipped and supported to welcome an influx of visitors (Spalding & Parrett, 2019). It has been acknowledged that "reconciling the long-term conservation of highly-vulnerable wetlands with a fast-growing tourism sector remains a difficult task" (Brenner, Engelbauer & Job, 2018:755).

Consensus suggests that the whole community should be involved in the planning and management of local tourism but there must be support from government institutions and the entire community must understand and cooperate with the project (Sangchumnong, 2018). Nicolaidis (2015) has stated shown the essentiality of engaging all stakeholders in projects including the local community first and foremost. Additionally, it is necessary to augment the economic benefits of local stakeholders which would inspire natural conservation and the contribution of local communities in community-based ecotourism management (Pornprasit & Rurkkhum, 2019). With this in mind, the research team was keen to learn more about the situation of Ban Hua Thang and develop a strategy for the management of the mangrove forest as an ecotourism resource.

Research Methodology

This investigation adopted a qualitative research method. Primary data were gathered from field research and secondary data were gathered from documentary analysis of related academic literature. The research area was purposively selected as Ban Hua Thang, Mueang District, Satun Province, Thailand because of its proximity to both the city and the mangrove forest. The 3200km² mangrove forest is home to an extremely diverse variety of natural life and was designated as a mangrove forest conservation area in 2007. The area is managed by the 34th Mangrove Forest Resource Development Station. The research population for this investigation was composed of individuals from households in Ban Hua Thang, including local community leaders, Islamic religious leaders and local officials. The research sample was purposively selected as heads or representatives of each household within the Ban Hua Thang catchment area. There were a total of 114 households. Of these, 80 households were willing to take part in structured interviews with the research team.

Following structured interviews, the researchers organised a focus group discussion with local leaders of religion, politics, culture and tourism in order to brainstorm about strengths, weaknesses, opportunities and threats to the development of the mangrove forest as a tourist attraction in Ban Hua Thang. The results from these discussions were compiled as a SWOT analysis and concept map. Further observations of the mangrove forest were carried out by the researchers in collaboration with the 34th Mangrove Forest Resource Development Station, Mangrove Forest Resources Development and Learning Promotion Center 5 (Satun) and the community Mangrove Forest Conservation Group. Results from interviews were recorded in note and audio form and analysed retrospectively by the method of content analysis.

Results

Local context

The Ban Hua Thang community is situated in Piman Sub-District, Mueang District, Satun Province, Thailand. The area is divided into a living space and a mangrove forest. The name of the community means 'the end of the road' but it is also the origin of the word 'port' in Malay. There are two water channels cutting inland to the south and west of the community from the Andaman Sea. In the east, there are hills and the mangrove forest. There is a main road connecting the

community with Satun city. Homes within the area are built alongside the road and there is a total of 114 households.

Figure 1. Satellite image of the Ban Hua Thang Community, Satun Province



©Google Maps

56% of residents in Ban Hua Thang are female and 99% of the population follows the Islamic faith. The majority of people living in the area completed their primary education but did not study beyond. The average household is home to 4-5 individuals, often family members, and most people in the community know one another. There are a number of groups within the area, including the Soft Shell Crab, Fish and Shrimp Culture Group, the Mangrove Conservation Group, the Community Savings Group, the Tour Boat Group, the Local Fishing Group and the Housewives Group. Local cultural activities are mostly based on religious beliefs, such as birth ceremonies, ablution ceremonies, weddings, funerals and annual Islamic festivals. On these occasions, the community will come together for group activities, usually in the mosque or community hall.

The basic income of each household is between 15,000 and 30,000 baht per month, with monthly expenses totalling an average of 3,000-8,000 baht per household. The main economy is traditional fishing, including catching crabs, shellfish and shrimp. The other main professions are general labour and shop-keeping. Approximately 50% of the land area is covered by title deed, the remainder is mangrove forest.

The community is in the mangrove forest area, which is under the jurisdiction of the 34th Mangrove Forest Resource Development Station. There is a single main road connecting the community with Satun city. Ratchakit Prakan Sports Stadium is located within the community area, which is frequented by people from Satun city. The mangrove forest and canal lie at the end of the main road. Waste water from Satun city is piped into the canal, which has a negative impact on the surrounding environment. There is no rubbish collection service within the community,



which means that the area is heavily littered, especially around the canal and mangrove areas. There is no landscaping around the houses to make the community more attractive.

The residents of Ban Hua Thang have a close relationship with the mangrove forest and use it as a site for their fisheries and crab or shellfish collection. However, the profitable fishing area within the forest has been reduced by a combination of recent government restrictions and declining environmental conditions. Due to the deteriorating environment, members of the community founded a conservation group to replant trees within the forest. The entire area of the mangrove forest is approximately 3,200km². In order to manage the mangroves more effectively, the 34th Mangrove Forest Resource Development Station has divided the site into three areas. The first area is the usable space that is designated for community members to use the resources provided by the forest, including wood. However, residents may not cut wood for sale and any chopping must be at the discretion of the forest committee and residents must plant trees to replace those cut down.

The second area is for conservation. Trees within this area may not be cut down, although locals may search for food provided they have not dug to place bait. The third area is for conservation of both flora and fauna. Trees in this area may not be cut and animals may not be harmed. The community conservation group has set up a conservation plan for reforestation and laying artificial reefs. The group works in partnership with government organisations and acts as a community watch programme to catch offenders. Their objective is to restore the quality of the forest and environment, thus having a positive impact on people's livelihoods and the local economy.

The community has developed a vision for tourism in the area: "A strong community, a tourist attraction and a single economy where every life is valued." All members of the community have the necessary basic understanding of the tourist industry and understand that tourists are attracted to the natural tourism offered by the mangrove forest and the surrounding environment. There is potential to develop tourist activities related to the local lifestyle and relationship with the forest, including learning about soft-shell crab culture, fabric dyeing from the bark of mangrove plants and environmental conservation. There is also the potential to develop tourist activities that relate to the everyday lives of residents, such as swimming, fishing, canoeing and creating herbal remedies. For the most part, there is a high level of community participation in tourism initiatives, which includes providing catering services and accommodation. Simple attitude changes, like smiling at visitors or providing recommendations and advice, have been adopted by the local people to create a tourist-friendly atmosphere.

The development of tourism will considerably improve the local income and, consequently, the financial prospects of residents. However, the negative impact includes increased waste and degradation of natural resources. The areas in most pressing need of development in Ban Hua Thang are waste management, accommodation management, widening of the main road and the increase of facilities for tourists. The community can only do so much to improve these aspects of its tourist industry. To develop further, the locals require external institutional support from the government.

Table 1. Resources found in the Ban Hua Thang Mangrove Forest

Herbal plants	Use
Nipa Palm	The leaves have an astringent taste to expel phlegm and eliminate all kinds of poison. Sugar from the plant is used to heal hemorrhoids.
Cedar Mangrove	Eating seeds can cure diarrhea and dysentery. Boiling and eating bark and fruit can cure cholera.
Indian Mangrove	Often used with the heartwood of <i>cassia garrettiana</i> as a blood loss drug for women during menstruation.
Rhizophora apiculata	Bark is boiled and eaten as an astringent to prevent



	nausea and vomiting. It is also used to cure chronic external dysentery and to wash chronic wounds.
Holly Mangrove	Roots are boiled to cure fever. The top is used to treat rashes and other skin diseases. Poisonous if eaten.
Cycadales	Rubber from the trunk is used to treat wounds or abscesses by extracting the pus poison.
Plants found in the mangrove forest	
<ol style="list-style-type: none"> 1. Rhizophora apiculata 2. Rhizophora mucronata 3. Avicennia alba 4. Avicennia officinalis 5. Bruguiera cylindrical 6. Bruguiera parviflora 7. Acrostichum aureum L. 8. Phoenix paludosa Roxb 9. Xylocarpus granatum 10. Xylocarpus moluccensis 11. Sonneratia caseolaris 12. Sonneratia ovata 13. Excoecaria agallocha 14. Nipa Palm 15. Ceriops tagal 16. Acanthus illicifotius 17. Pluchea indica 18. Derris trifoliata Lour 19. Bruguiera sexangula 20. Acrostichum speciosum willd 21. Sesuvium portulacastrum 	
Animals found in the mangrove forest	
Water animals	Land animals
Asian tiger shrimp Krill Whiteleg shrimp 'Tae' shrimp Mantis shrimp Barramundi Batoidea Dolphin Sagor catfish 'Lama fish'	Asian golden cats Fishing cats Panthers Boars Asian palm civets Monkeys Pangolins Colobinae Bees Red junglefowl



Grey reef shark	Collared kingfishers
Mullet	Hornbills
Ponyfish	Woodpeckers
Plotosus	Green pigeons
Sciaenidae	White-breasted waterhens
Anguilla bicolor	Falcons
Marlin	Owls
Parapocryptes	Anatidae
Tetraodontiformes	Quails
Two-spot catfish	Hérons
Tilapia	Starlings
'Jong mong' fish	Eagles
Ray-finned fish	Swallows
Mudskipper	
Threadfin	
Black crab	
Rock crab	
'Po' crab	
Fiddler crab	
White clam	
Oyster	
Needle clam	
'Da daeng' clam	
'Lo kan' clam	
Buffalo clam	
'Ka bong' clam	
Mussels	
Pacific razor clam	

Focus group discussions with community leaders in Ban Hua Thang led to the development of a SWOT analysis for tourism potential in Ban Hua Thang community. The SWOT analysis results are given below in Table 2.

Table 2. SWOT analysis of tourism potential in Ban Hua Thang community

Strengths	Weaknesses
<ul style="list-style-type: none"> There is a local mangrove ecosystem with a high level of biodiversity. There are important water sources that provide homes to an abundance of fish and marine creatures. The location is suitable as a tourist attraction. 	<ul style="list-style-type: none"> There is a problem with adolescent narcotic abuse within the community. There is a waste management problem within the community.



<ul style="list-style-type: none"> • The community is easily accessible from the city, making it suitable for further development. • The community spirit is strong and there is an established community conservation group. • There are family links throughout the area and news spreads quickly through the community. • The lifestyle, customs and religious culture are all stable. • Religious and political leaders were elected by their constituents. • The community realises the importance of the mangrove forest and there are external agencies willing to support tourism and conservation initiatives in the area. 	<ul style="list-style-type: none"> • Sewage is piped from the city into the local water sources, causing damage to the environment and a reduction in marine life. • The economy has been negatively affected by environmental degradation. • Almost all households are in debt. • Most households do not own title deeds to their workplaces because these are situated on forest land, causing a low level of personal assets. • Some locals do not realise the importance of forest conservation and continue a destructive lifestyle, such as by allowing their goats to feed on newly planted mangrove saplings. • Some locals do not trust the government organisations entrusted with the management of the mangrove forest and believe that the government will take the land once it is fertile.
Opportunities	Threats
<ul style="list-style-type: none"> • There are institutions prepared to support the community, allowing the people to declare the mangrove forest a community conservation area. • Tourists and interested parties visit the area to study the forest and aquaculture businesses. • Government institutions provide training support to teach locals more about management, homestay accommodation, food production and fabric dyeing techniques. 	<ul style="list-style-type: none"> • The worsening economic situation has caused fewer tourists to travel to Ban Hua Thang in recent times. • This in turn has caused local people to lose income. • There is no continuity in tourism management and no public relations strategy.

From analysis of data collected during field research, the research team was able to develop a four-point strategy for tourism management in Ban Hua Thang as follows:

1. There must be full community participation in tourism management and the management of the mangrove forest. This is to be achieved by ensuring all community members realise the importance of tourism and the forest to the local economy and by creating stronger ties with government institutions.
2. The local community of Ban Hua Thang should use the mangrove forest as its primary selling point. Local activities can be developed as ecotourism activities and there is ample opportunity to create learning centres for traditional lifestyle related to the forest, especially herbal remedies, cuisine, foraging and aquaculture.
3. All community members must work together to provide a good tourism service, including the provision of refreshments, accommodation, guides and safety features. Importantly, all community members must try to be upstanding citizens and present a positive image of Ban Hua Thang.
4. There must be an increase in public relations to raise awareness of the tourism opportunities in Ban Hua Thang outside of the community. This will help attract more visitors and generate more income for locals.



Conclusion

Tourism management of mangrove forests can include a variety of different activities depending on their suitability in each local context. There are a variety of different mangrove ecosystems suitable for ecotourism and their development must consider the area, management strategy, activities and community participation (Basyuni, Bimantara, Siagian, Walti, Slamet, Siulistiyo, Nuryawan & Leidonad, 2018). Usually, tourist activities evolve from aspects of community life that have been adapted and restored for visitors. The main ecotourism activity associated with mangrove forests is reforestation (Kongkaew, Kittitornkool, Vandergeest & Kittiwatanawong, 2019). The Ban Hua Thang community takes a great interest in reforestation projects because it has a direct impact upon local income generation. Tourism generally follows as visitors are keen to learn about the importance of the surrounding environment and help with its maintenance and conservation. Tourists also enjoy the opportunity to exchange knowledge and culture concerning the people and lifestyle in a new place. Regarding communities near to mangrove forests, such activities include aquaculture, foraging and learning about the ecosystem of the mangroves. One further type of activity enjoyed by tourists is relaxation or entertainment linked to the local environment, such as swimming or canoeing. Therefore, a model of community participation in mangrove forest ecotourism activities should have the following components:

1 - Programme

Tourist activities should emphasise biodiversity within the mangrove forest and its importance to the community by employing knowledgeable guides to inform visitors about the biological and physical characteristics of the environment. This should include discussions about the lifestyle of various mangrove creatures and the properties of the forest flora. Additionally, there should be a variety of natural activities, such as bird-watching, nocturnal animal spotting, foraging, fishing and raising aquaculture in the wild. The tourist programme must be planned according to the tides and seasonal calendar and local people must be invited to participate by presenting information about their own traditional lifestyles related to the mangrove forest. This could include the creation of fishing baskets from nipa palm leaves, making snacks from mangrove plants and production of natural dyes. Moreover, the programme must provide tourists with an opportunity to taste sustainable locally produced cuisine. Indeed, sustainability must be a theme for the entire programme: using canoes or rowing boats instead of motor boats and using bicycles instead of cars. Finally, there must be an element of conservation about the programme and tourists should be asked to plant trees to restore the mangrove forest.

2 - Services

Services provided by the local community for visiting tourists must include knowledgeable local guides who are familiar with the forest ecosystem and management. Informative signs should be inserted at appropriate points to help educate visitors. Local food should be provided in the form of a picnic that can be eaten during the tour. The transport used for the trip should be eco-friendly, with the most suitable options being bicycle or canoe. Birdwatching hides should be constructed at certain points within the forest and there should be a small number of souvenir stalls to sell traditional and locally made products.

3 - Amenities

Tourists must be made to feel comfortable and safe during their visit, and all tourist activities must be sustainable, without a negative impact upon the surrounding environment. Shelters should be constructed at suitable points and sustainable toilets should be built. Sewage must not be dumped into the local environment. Restaurants should all adopt an environmentally-conscious approach and must not discard waste into the surrounding natural environment. Signs and should be posted and maps should be distributed to help tourists navigate the area.

4 - Management



Management of the mangrove forest and ecotourism activities must emphasise community participation and delegate a variety of roles to community members. A formal structure should be designed that assigns responsibilities fairly, clearly and thoroughly. This also includes the fair distribution of benefits. Work should be standardised and transparent. A set of regulations should be developed for local tourism to ensure that the environment takes priority and is respected. Conservation must be promoted as the main objective of tourist initiatives. There should be periodic evaluation of the tourism programme and tourists should be given questionnaires to provide feedback about their experience. Furthermore, data should be collected about tourist numbers and income to aid the future development of the programme.

Suggestions

The community of Ban Hua Thang can use the results of this investigation to develop the tourism provisions within the area. There is currently a lack of appropriate tourism services. This may be a result of insufficient local knowledge in the field, so training should be provided by local and external institutions to raise the level of understanding about tourism and to encourage all residents to pull together in the same direction regarding the development of services in the community. Training would also be beneficial in marketing, public relations and the development of souvenirs from mangrove forest resources. Community members must be encouraged to realise the importance of conserving and restoring the forest and the impact a healthy ecosystem will have on the success of tourism initiatives and, consequently, the local economy. The local lifestyle should be promoted as the basis of tourism activities and there should be a greater public relations drive to attract more tourists to Ban Hua Thang. There should also be a greater emphasis on the religious culture of the community and its role in traditional lifestyle.

Acknowledgement

The success of this research project was made possible with the expertise and kindness of the community members of Ban Hua Thang, the 34th Mangrove Forest Resource Development Station, Mangrove Forest Resources Development and Learning Promotion Center 5 (Satun), Satun Community College, Satun Provincial Tourism and Sports Office, and Satun Municipality.

References

- Barbier, E. B. & Cox, M. (2004). An economic analysis of shrimp farm expansion and mangrove conversion in Thailand. *Land Economics*, 80(3): pp.389-407.
- Basyuni, M., Bimantara, Y., Siagian, M., Wati, R., Slamet, B., Sulistiyono, N., Nuryawan, A. & Leidonad, R. (2018). Developing community-based mangrove management through eco-tourism in North Sumatra, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 126(1), 1-7.
- Bennett, N., Dearden, P., Murray, G. & Kadfak, A. (2014). The capacity to adapt?: communities in a changing climate, environment, and economy on the northern Andaman coast of Thailand. *Ecology and Society*, 19(2), 5.
- Bennett, N. J., Dearden, P. & Peredo, A. M. (2015). Vulnerability to multiple stressors in coastal communities: a study of the Andaman Coast of Thailand. *Climate and Development*, 7(2), 124-141.
- Brenner, L., Engelbauer, M. & Job, H. (2018). Mitigating tourism-driven impacts on mangroves in Cancún and the Riviera Maya, Mexico: an evaluation of conservation policy strategies and environmental planning instruments. *Journal of Coastal Conservation*, 22(4), 755-767.



Dolezal, C. (2011). Community-Based Tourism in Thailand:(Dis-) Illusions of Authenticity and the Necessity for Dynamic Concepts of Culture and Power. *Austrian Journal of South-East Asian Studies*, 4(1), 129-138.

Englong, A., Punwong, P., Selby, K., Marchant, R., Traiperm, P. & Pumijumnong, N. (2019). Mangrove dynamics and environmental changes on Koh Chang, Thailand during the last millennium. *Quaternary International*, 500(1), 128-138.

Kongkeaw, C., Kittitornkool, J., Vandergeest, P. & Kittiwatanawong, K. (2019). Explaining success in community based mangrove management: Four coastal communities along the Andaman Sea, Thailand. *Ocean & Coastal Management*, 178. In Press.

Michailidou, A. V., Vlachokostas, C. & Moussiopoulos, N. (2016). Interactions between climate change and the tourism sector: Multiple-criteria decision analysis to assess mitigation and adaptation options in tourism areas. *Tourism Management*, 55, 1-12.

Ministry of Tourism and Sport. (2011). *National tourism development plan, 2012-2016*. Bangkok: Ministry of Tourism and Sport.

Nicolaidis, A. (2015). Tourism Stakeholder Theory in practice: instrumental business grounds, fundamental normative demands or a descriptive application?. *African Journal of Hospitality, Tourism and Leisure*, 4(2).

Pornprasit, P. & Rurkkhum, S. (2019). Performance evaluation of community-based ecotourism: a case study in Satun province, Thailand. *Journal of Ecotourism*, 18(1), 42-59.

Sangchumnong, A. (2018). Development of a sustainable tourist destination based on the creative economy: A case study of Klong Kone Mangrove Community, Thailand. *Kasetsart Journal of Social Sciences*. In Press.

Sathirathai, S. & Barbier, E. B. (2001). Valuing mangrove conservation in southern Thailand. *Contemporary Economic Policy*, 19(2), 109-122.

Seenprachawong, U. (2016). An Economic Valuation of Coastal Ecosystems in Phang Nga Bay, Thailand. In N. Olewiler, H.A. Francisco and A.J.G. Ferrer (Eds.), *Marine and Coastal Ecosystem Valuation, Institutions, and Policy in Southeast Asia (pp. 71-91)*. Springer, Singapore.

Spalding, M. & Parrett, C. L. (2019). Global patterns in mangrove recreation and tourism. *Marine Policy*. In Press.