JOPAG
JOURNAL OF POLITICS AND GOVERNANCE

Journal of Politics and Governance
14(2), May – August 2024

Revisiting Multi-Level Stakeholders Management to Retain Green Tourism Destination in Koh Mak, Trat Province, Thailand

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Article history:

Received: September 5, 2023

Revised: October 24, 2023

Accepted: October 24, 2023

Keywords:

Stakeholders Management, Green Tourism Destination, Waste Management, Retention

Abstract

This study examined the role of multi-level stakeholders in maintaining Koh Mak Island as a green tourism destination in Trat province, Thailand, with a particular focus on solid waste management during beach recreation. Previous research predominantly addressed multi-level stakeholder management, overlooking the importance of beach recreation. To enhance the green tourism destination, this study had two objectives: firstly, to investigate the roles of various stakeholders in beach recreation and identify collaboration opportunities, and secondly, to assess the environmental competence of relevant stakeholders for enhancing solid waste management. The Delphi panel interview method was utilized in three rounds, gradually shifting from open-ended to close-ended questions. The final round involved 12 participants. Analysis with Nvivo 11 software using open, axial, and selective coding revealed a diverse group of stakeholders engaged in beach recreation. Based on their green competencies, partnerships between local businesses and waste management authorities could enhance synergies in solid waste management and beach recreation, preserving the green tourism destination. The discussion and conclusions stress the importance of raising awareness and promoting green behavior among all stakeholders and implementing tangible waste management practices. Involvement of governance of the government is also crucial. The study also presents its limitations and offers future research recommendations.

Introduction:

Tourism has the potential to create memorable spaces and experiences for travelers (Angelkova et al., 2012). Tourism requires access to the environment, natural relaxation opportunities, and amenities like food, water, and sanitary facilities to ensure a lasting impression. However, the long-term growth of tourism necessitates careful consideration of its negative impact on the destination to leave a positive impression on future generations of travelers. Factors such as seasonal increases in visitor numbers, diverse sources of waste, and the proliferation of recreational facilities contribute to the long-term impact of tourism (UNWTO, 2017). One approach to managing tourism is controlling the number of tourists, which may disrupt economic development and prove unsustainable (Kilipiris and Zardava, 2012). Particularly, coastal areas and island beaches on Thailand's eastern coast, recognized as key green tourism destinations, face environmental challenges despite being part of the policy and economic development transfer (EEC, 2018). Many beaches and recreational activities in this region struggle to manage their environmental impact sustainably (Prayaga, 2017).

Additionally, three out of five provinces in the Eastern region of Thailand have some of Thailand's highest volumes of uncollected waste and marine debris (Bangkok Post, 2022), making coastal tourism destinations, especially aesthetic pollution, increasingly sensitive to environmental concerns.

Efficient solid waste management (SWM) is crucial for sustainable tourism development. SWM improvements can positively affect both tourism and environmental sustainability (Amasuomo & Baird, 2016). However, in many developing countries, local governments often lack the operational capacity to adequately manage the increasing waste volumes, resulting in low efficiency in SWM systems (Demirbas, 2011). Addressing these challenges is vital for promoting sustainable tourism practices and safeguarding the environment in popular tourist destinations (Bellia et al., 2021). Therefore, achieving sustainable improvement in solid waste management (SWM) in beach-island tourism destinations necessitates the consideration of the synergy concept and the involvement of multiple stakeholders to enhance the SWM performance in beach recreation areas, which have previously faced various challenges (Minelgaitė & Liobikienė, 2019).

Koh Mak, situated in Trat Province, is one of the islands where nature remains untouched. Its pristine beaches with clean white sand, crystal-clear waters, and serene ambiance, along with the traditional lifestyle of the local inhabitants, define the island's beauty. The island's charm is that some locals still engage in traditional trades, such as rubber plantation and fishing. Over time, Koh Mak has gained popularity among tourists. However, the rising number of visitors has also made it susceptible to environmental issues, including pollution and wastewater from various hotels and accommodations. These challenges inevitably impact the island's potential as a tourist destination. In alignment with Thailand's tourism strategy aimed at generating and distributing income to the local communities while reducing income and social disparities, the emphasis is now on promoting environmentally friendly tourism. Adopting the "Low Carbon" concept, which focuses on tourism activities that do not increase carbon dioxide or greenhouse gas emissions through solid waste management, the local people aim to create a sustainable tourism model that minimizes the impact on the environment and their community. The Designated Areas for Sustainable Tourism Administration (DASTA) initiated tourism following the principles of the low-carbon concept. Koh Mak is being developed as a low-carbon destination under the government's Designated Areas for Sustainable Tourism Administration (Dasta). It is home to rubber and coconut plantations, a community, small hotels, and resorts; the 15sqkm Koh Mak is the third largest island in Trat, after Koh Chang and Koh Kut. Among three Thai locations listed in the world's Top 100 Green Destinations in 2022, Mae Hong Son's Ban Huay Pu Keng and Chai Nat's Sapphaya communities, Koh Mak is recognized.

Hence, Koh Mak is awarded as a green tourism destination. To retain this award, waste management is one of the tools to support the low-carbon concept and reinforce Koh Mak as a green tourism destination. The primary objective of this study is to investigate the roles of various stakeholders in beach recreation and identify collaboration opportunities, and secondly, to assess the environmental competence of relevant stakeholders for enhancing solid waste management. The article is organized into several sections, starting with the introduction, followed by a literature review, methodology, results, discussion, and conclusion.

Literature review:

Principles and importance of stakeholder's management

Multi-level stakeholder management is a comprehensive approach involving engaging and coordinating various stakeholders at different levels to retain a green tourism destination (El-Gohary et al., 2006). In green tourism, stakeholders can include local communities, government agencies, tourists, businesses, non-governmental organizations (NGOs), and other relevant groups. As Eskerod and Huemann (2013) stated, some key aspects of multi-level stakeholders' management for retaining a green tourism destination are collaboration and Communication.

Effective Communication and cooperation are essential for engaging stakeholders at different levels. Establishing open communication channels allows stakeholders to share their perspectives, concerns, and ideas, fostering a sense of ownership and cooperation in sustaining the green tourism destination (Eskerod et al., 2015). Community Involvement: Local communities are critical stakeholders in green tourism destinations. Involving them in decision-making processes and sharing the benefits of tourism helps build a sense of responsibility and pride in maintaining the area's eco-friendly practices (Verbeke & Tung, 2013). Government Support and Regulations: Government agencies shape tourism policies and regulations. Multi-level stakeholders' management involves working with these entities to develop and enforce sustainable tourism guidelines, zoning regulations, and conservation measures. Municipalities in the area are vital to stakeholders (Johnson-Cramer et al., 2017).

Moreover, Private Sector Engagement: Engaging businesses in the tourism sector, including hotels, tour operators, and transportation providers, is vital. Encouraging environmentally responsible practices and offering incentives for adopting sustainable measures can contribute significantly to retaining a green tourism destination (Pedrini & Ferri, 2019; Yang et al., 2011). By incorporating a multi-level stakeholder management approach, green tourism destinations can benefit from a holistic and inclusive effort to preserve their natural and cultural assets, enhance visitor experiences, and foster sustainable economic development for local communities.

Multi-level stakeholders' management to retain green tourism destination

Previously, many studies conducted by stakeholders in solid waste management by local government offices like municipalities primarily focused on waste disposal (Rasche & Esser, 2006). These studies were often associated with administrative agencies responsible for decision-making, legislation, and taxation related to waste management in cities, towns, or states within their respective geographical areas (Seadon, 2010). Later, the formal private sector, serving as contracted partners for solid waste management, became the subject of investigation (Font & Tribe, 2001). There is an increasing focus on the informal waste management sector, including scavengers and garbage collectors, while overlooking significant players in beach recreation, such as hotels, resorts, shops, restaurants, and beachfront recreational tents (Law et al., 2012). Additionally, different stakeholders conduct independent research on green capacity, utilizing their findings as indicators of sustainable waste management. For instance, in the private sector, key indicators for assessing green capacity include pollution reduction, environmental protection, resource reduction, and carbon intensity reduction. In contrast, the people sector evaluates green and green performance indicators to assess their green competency (Cervantes et al., 2018).

Tripartite services are employed to establish synergy among multiple stakeholders in green tourism destinations. It involves service providers (local authorities), service recipients (residents and tourists), and the third sector that integrates the ecosystem into the study area. Here, the ecosystem represents a resource integrator among the participants of both service providers and recipients (Hong et al., 2003). The term "third sector" also corresponds to the private leisure sector along the beach, encompassing accommodation and various trades. The ecosystem formed among these tripartite services can be considered the voice of nature. It can be observed through the activities of the third sector, which brings an ecosystem into the target area. Due to existing gaps in the literature, a comprehensive investigation of synergies between multiple stakeholders to improve current SWM performance through beach recreation has not been previously undertaken (Kumar et al., 2017; Meidiana & Gamse, 2010; Singh et al., 2014). To address this gap, this paper aims to identify different approaches to synergies that can contribute to both practical and academic aspects while achieving its primary objective.

Green tourism destination

The concept of "green" or ecological tourism, which encourages people to engage in rural leisure activities that benefit the countryside rather than harm it, is gaining popularity (Furqan et al., 2010). Green tourism refers to people seeking leisure activities in rural areas, excluding urbanized coastlines and ski resorts. (Jopp et al., 2015). It encompasses the tourism industry's segment and government agencies catering to tourists in these regions. Additionally, it involves examining the impact of the tourist industry and public sector organizations on host rural communities, encompassing social, cultural, economic, and physical environments (Law et al., 2017). The reasons for promoting green tourism are both positive and negative (Mihalič, 2013). It responds to new agricultural policies, meets the changing economic needs of rural communities, enhances rural conservation efforts, educates, and entertains urban dwellers about the countryside, and addresses market demands for novel tourism products and experiences. Properly implemented, green tourism can be a significant stride towards coherent land management and ecological sustainability while contributing to a stable economic foundation for rural areas (Amasuomo & Baird, 2016). As per Jones's definition, Green and rural tourism share some common features, but they differ in terms of tourists' behavior. Green tourism also takes place in rural areas, but the motivations of green tourists go beyond merely enjoying nature. Green tourists adopt critical attitudes toward environmentally harmful consumption practices and strive to integrate this awareness into their travel choices. The term "green" in this context implies ecologically responsible behavior, similar to its usage in phrases like "Green party" or "green consumer."

Hence, green tourism can be described as a form of tourism that strongly emphasizes practicing tourism in environmentally responsible and sustainable manners. It is a conscious effort to ensure that travel activities have a minimal negative impact on the environment and promote eco-friendly practices throughout the travel experience (Mihalič, 2013). Green tourism and ecotourism share central features, including their nature-based focus. However, there are distinct differences between the two. Ecotourism primarily targets individuals with a strong interest in learning about the natural environment through travel experiences. On the other hand, green tourism is directed explicitly at urban dwellers, encouraging them to spend their holidays in rural areas to recuperate from daily stress and immerse themselves in nature.

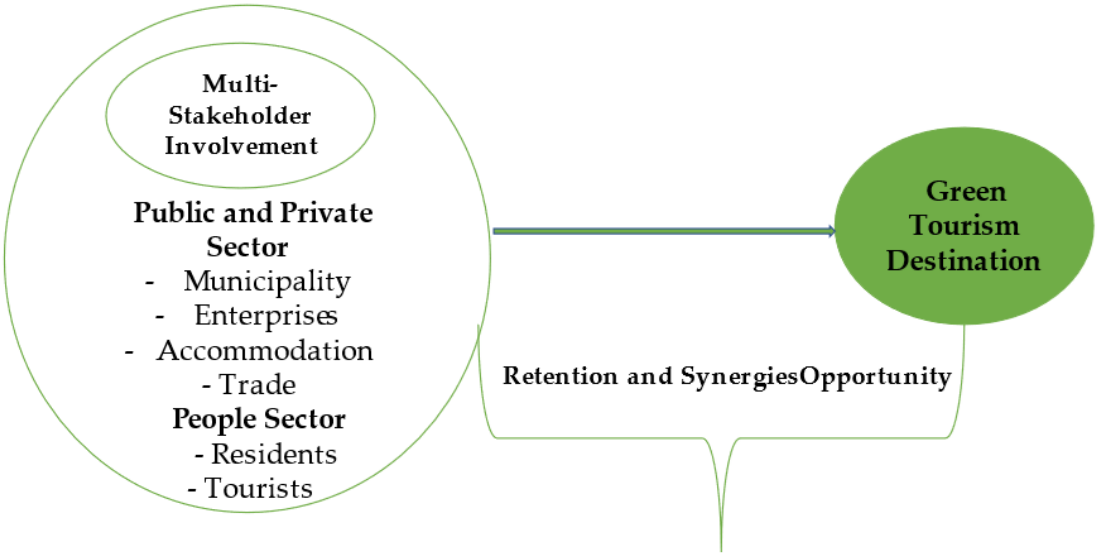
It is essential to differentiate green tourism from rural tourism as well. While rurality is the central feature of rural tourism, green tourism involves small-scale, individually owned tourism facilities and interactions between visitors and the local community (Welford & Ytterhus, 2004). Kilipiris and Zardave (2012) analyzed these aspects to set it apart from resort tourism, which is also a form of rural tourism but involves significant physical developments and modern facilities such as ski resorts and golf courses. In summary, green tourism offers urban residents a unique and nature-oriented holiday experience, emphasizing a close connection to the environment and the local community.

Methodology:

Research design and approach

From the significant problem statement, many ecotourism areas like beaches, coastal, and islands were threatened by various sources, including a wide range of tourists and the inability of local governments to manage the tourism environment. In other words, it must invest huge finance to reduce carbon emissions through waste management as the primary contributor to environmental impact. Therefore, the synergy opportunity concept was recruited as an essential mechanism to address the diverse threats and achieve a win-win situation for multiple stakeholders in retaining green tourism destinations through a solid waste management concept for development and sustainability. The figure below will explain the conceptual framework of this study.

Figure 1
Conceptual Framework



Based on the conceptual framework, the involvement of multi-stakeholders from the public and private sectors and the people sector plays an essential role in retaining and synergizing opportunities for green tourism destinations in Koh Mak, Trat Province, Thailand. The study deploys the Delphi Method (DM) that originated in the United States during the 1950s as a problem-solving and decision-making tool in research and evaluation studies. It was first formally presented in a research paper in 1963 after extensive experimentation at the Rand Corporation. The primary objectives of the DM are to explore various alternatives to a policy issue and create a constructive environment for achieving consensus. The DM involves presenting one or more topics to a panel of experts who provide precise evaluations that tend to converge over time, facilitated by validating their observations. The method progresses through multiple rounds, during which researchers and observers share additional information on the subject under consideration, leading to the development of a unified group opinion. This approach serves as a qualitative analysis tool for complex systems, emphasizing the extrapolation of insights from diverse experts. The Delphi technique is a typical method used in social research, involving the anonymous collection of opinions and viewpoints from a selected group of experts, often referred to as a panel. These experts express their views on a specific issue, and some opinions are validated through mutual comparison and progressive sharing. The DM finds significant application when there is a lack of consensus or agreement on implementing potential solutions.

Study area

Koh Mak is the third largest island in the Trat Sea. Followed by Koh Chang and Koh Kood. Located between Koh Chang and Koh Kood. Approximately 38 kilometers from the shore, with an area of approximately 9,500 rai, 500 rai of which is a public utility shaped like a four-pointed star. Most of the site is plain, with coconut groves, surrounded by bays and beautiful beaches. And clear water in many places such as Ta Nid Bay, Phai Bay, Prong Bay, Phat Bay, Lom Bay, Ta Lang Bay, Daeng Bay, White Bay, Phra Bay, Suan Yai Bay, Laem Tuk Tuk, Laem Son.

Figure 2

Study area

Data collection and data analysis

In this study, it was essential to have a panel consisting of influential members who could potentially impact future decisions. As a result, the panelists were carefully chosen to represent a diverse range of communities and groups with various interests. The panel included individuals from the public and private sectors, such as the chief executive of the subdistrict administrative organization (SAO), the director of municipal, the chairperson of the community enterprise, entrepreneurs, tourism enterprise, travel agents, tourists, and other stakeholders.

Furthermore, panelists were selected based on their expertise and knowledge in areas relevant to the study, such as rural tourism, ecotourism, waste management, environmental protection, green strategy expertise, policy making, government governance, and related subjects. Additionally, residents and tourists were included in the panel, ensuring that their perspectives and experiences were considered during the research process. In this study, the respondents were selected based on the rationales outlined earlier. Professional networks and official databases were utilized to create a list of stakeholders representing various categories. To ensure a representative sample, the researchers employed the stratified sampling method with random extraction from each homogenous stratum. The target sample size was set at n = 30 potential respondents. Formal invitations were then emailed to these potential participants, inviting them to participate in the study. Throughout the research process, all panelists remained anonymous during the phases of analysis and feedback. In line with the nature of a Delphi study, which does not aim to establish consensus but instead focuses on reaching a point of stabilized views, the research process concluded after the third round. At the end of this phase, the total number of participants decreased to 12. This reduction in participants across rounds is typical in Delphi technique studies as the process continues until the views stabilize and further iterations no longer significantly impact the results. The Delphi Technique method typically involves multiple rounds of questionnaires submitted to a panel, with feedback provided on the opinions collected. Each subsequent questionnaire is based on the results of the previous one. The initial round often employs open-ended questions to explore general opinions on the main research topics. In later rounds, closed-ended questions are used to analyze and evaluate the emerging aspects. The results from each round are used to construct the subsequent questionnaires, which become more specific to check and refine the previous results.

In this particular study, three interactions or rounds were conducted to determine the group's opinions. The number of rounds in the studies usually varies between two and five; in this case, three rounds were considered appropriate. While most applications of the Delphi method utilize written questionnaires, other methods such as in-person interviews, group interviews, phone or email interviews, or computer conferencing can also be used. For this study, the email procedure was chosen to achieve quicker response times and reduce postage costs.

Each of the three rounds in this study had a specific purpose

1. Round 1: Focused on general topics to initiate and expand discussions, aiming to identify overall opinions about the green tourism destination in Koh Mak, Trat Province. The questions are: 1). How important are stakeholders in green tourism destination retention? 2). How does stakeholder involvement affect retaining green tourism destinations? 3). How can you contribute to retaining the green tourism destination in Koh Mak?

2. Round 2: Focused on discussing secondary topics to discover a set of variables explaining the phenomenon under study. The questions are 4). What is the most important factor in retaining green tourism destinations? 5). Is waste management the most important factor in retaining green tourism destinations?

3. Round 3: Aimed to highlight forecasts, issues, goals, and options concerning the variables that were identified in the previous round. The questions are 6). What is the implementation of waste management in coastal and beach destinations? 7). How can you initiate Zero waste behavior in your responsibility? 8). What are the effective methods for solid waste management? 9). What is your suggestion?

During Round 1 of the Policy Delphi study, the primary objective was to initiate, facilitate, and extend the discussion on general topics related to the involvement of stakeholders in retaining a green tourism destination. By employing open-ended questions, this round allowed participants to freely express their opinions, ideas, and insights on the subject matter. As the mediator, the researcher played a crucial role in carefully analyzing and synthesizing the diverse contributions from the group of participants. This analysis aimed to identify the topics and areas of interest that resonated the most with the majority of individuals in the panel. Identifying these key topics was essential because they would lay the foundation for the subsequent rounds of study. The goal was to use the insights gained from Round 1 to design more focused and specific questionnaires for Round 2. This would allow the study to delve deeper into the particular subjects related to the involvement of stakeholders in green tourism destination retention. By facilitating and extending the discussion on the identified topics, Round 1 helped to establish a clear direction for the research, ensuring that the subsequent rounds addressed the most relevant aspects of the study. This iterative process is a fundamental aspect of the Policy Delphi method, allowing for collecting valuable insights from the expert panel and refining the research questions and focus as the study progresses.

In Round 2 of the Policy Delphi study, the focus shifted towards highlighting specific topics and gathering opinions regarding the variables discovered and discussed during Round 1. To achieve this, a new questionnaire was prepared for this round. Participants were asked to identify the factors influencing the retention of a green tourism destination. This stage allowed for a deeper exploration of the key variables that were placed in the previous round, aiming to understand their significance and impact on the subject at hand. In Round 3, the main objective was to converge towards more shared opinions about the green tourism destination. The derived or discovered variables from Round 2 were organized into four categories: forecast, issue, options, and goal. Participants were then asked to explore the implementation opportunities related to these categories. For this round, three separate questionnaires were prepared, each addressing one of the categories. Respondents were required to identify and rank the importance of different issues concerning each other for the issue items. This process aimed to discern which issues were considered most critical by the expert panel.

Regarding the options items, participants were asked to assess the likelihood that specific options could serve as feasible policy goals for retaining the green tourism destination. This step aimed to gauge the potential effectiveness and practicality of various options. Lastly, the goal items sought to elicit opinions about the desirability of particular policy goals concerning the green tourism destination. This allowed the panel to express their preferences and priorities regarding the desired outcomes. Content analysis was employed to analyze the data collected from the three rounds, which involved structuring the data through open coding, axial coding, and selective coding methods. NVIVO 11 software packages also assisted with data analysis and processing, ensuring optimal results and comprehensive insights from the collected data. This combination of qualitative analysis techniques and software support helped draw meaningful conclusions from the responses provided by the expert panel.

Result:

To fulfill Objective 1, to investigate the roles of various stakeholders in beach recreation and identify collaboration opportunities which involves investigating the roles of various stakeholders in beach recreation to identify collaborative opportunities, it becomes evident that multiple levels of stakeholders play a crucial role in managing beach recreation to preserve the green tourism destination. Table 1 displays the distribution of units of analysis related to key socio-demographic variables among the study participants.

Table 1

Demographics of respondents' information

Categories	Response	Round 1		Round 2		Round 3	
		Count	%	Count	%	Count	%
Gender	Male	22	74%	12	60%	8	66%
Education	Master's degree or higher	6	20%	6	30%	2	16%
	Bachelor	22	74%	13	65%	9	75%
	Below bachelor	2	6%	1	5%	1	8%
Experience in tourism (Year)	5 – 10	14	46%	10	50%	5	41%
	11 – 20	8	26%	6	30%	4	33%
	20 above	8	26%	4	20%	2	16%
Stakeholders	- Chief Executive of Sub-district Administration Office (SAO)	1	3%	1	5%	1	8%
	- Chairperson of Community Enterprise	1	3%	1	5%	1	8%
	- Ministry of Municipal						
	- Restaurant Owner	1	3%	1	5%	1	8%
	- Hotel Owner	4	13%	2	10%	2	16%
	- Travel Trade	2	6%	2	10%	2	16%
	- Resident	1	3%	1	5%	1	8%
	- Tourist	8	26%	4	20%	2	16%
		12	40%	8	40%	2	16%
Total		n1 = 30		n1 = 20		n1 = 12	
		100%		100%		100%	

The final participants in the final round are 12 participants; however, the key opinion remains from round 1. The analysis highlighted the characteristics of this green tourism destination based on the general questions. The vast majority of stakeholders stated that it is essential to retain green tourism destinations. Because Koh Mak once has been named as one of the 100 green tourism destinations in the world, and 3 destinations in Thailand, we need to do our best to maintain the green concepts at the destination. The most relevant comments are transcribed as follows: The tourists and residents play a crucial role in maintaining and conserving green values in the area by minimizing waste and initiating solid waste management. The data were analyzed using content analysis of qualitatively structured open coding, axial coding, and selective coding to consolidate the data.

The final participants in the last round are 12; however, the key participants remain the same as in round 1. The analysis highlighted the characteristics of this green tourism destination based on the general questions. Most stakeholders stated that involvement in retaining a green tourism destination is paramount. As Koh Mak has been named one of the 100 green tourism destinations in the world and one of 3 destinations in Thailand, we need to do our best to maintain the green concepts at the destination. Some of the most relevant comments are transcribed as follows: The tourists and residents play a crucial role in maintaining and conserving green values in the area by minimizing waste and taking the initiative in solid waste management. The data were analyzed using content analysis with qualitative structured open coding, axial coding, and selective coding alongside Nvivo 11 software analysis to consolidate the data.

Table 2

Open coding

Delphi Technique	Original statements
Round 1	The involvement of stakeholders plays a vital role in the growth of tourism destinations everywhere. Every stakeholder is interrelated and beneficial to one another, both in the public and private sectors. Tourists are considered consumers in tourism activity and also have an impact on destination development. A participant from a community enterprise stated, 'The green mindset and attitude of tourists influence the destination to be alert for greener behavior to respond to tourists' perception. Hence, any product available for sale at the destination must be produced under a green design strategy,' said the Chairman of the Community Enterprise at Koh Mak. Moreover, one tourist commented, 'We are visiting Koh Mak because it is recognized as a green tourism destination, and we support green behavior while we stay here. For instance, we always use our mug when we buy and reuse a drink. We request the laundry of bed sheets, pillowcases, and towels just twice a week to make sure we do not create carbon emissions.' The general idea of stakeholders' involvement and conservation of green tourism destinations is based on round 1 of the Delphi panel interview."
Round 2	The interview questions were, 'What is the most important factor to retain a green tourism destination? Is waste management the most important factor to retain a green tourism destination?' Most participants stated that several factors influence the retention of a green tourism destination, ensuring its long-term sustainability and preservation of the environment. From the public sector, entities like municipalities, sub-district administrative organizations (SAOs), and community enterprises focus on transparent and well-enforced sustainable tourism policies and regulations set by government authorities. These policies are essential for guiding tourism activities and ensuring compliance with environmentally friendly practices. Engaging and empowering local communities in decision-making processes and sharing the benefits of tourism help build a sense of ownership and responsibility toward preserving the destination's natural and cultural assets. On the other hand, the private sector, including hotel owners, restaurants, and travel trade, mentioned that engaging businesses in the tourism industry, such as hotels, tour operators, and transportation providers, to adopt sustainable practices and eco-certifications, can significantly reduce the overall ecological footprint of tourism.

Delphi Technique	Original statements
Round 2	Moreover, tourists and residents stated that understanding and responding to the preferences of responsible tourists who seek green and sustainable travel options could create a demand for such destinations and encourage their preservation. Encouraging responsible tourism behaviors among visitors, such as promoting eco-friendly transportation, respecting local cultures, and minimizing waste generation, contributes to the sustainable management of the destination. By addressing these influencing factors comprehensively and coordinately, destinations can retain their status as green tourism hotspots, preserving their natural beauty, biodiversity, and cultural heritage for future generations. Waste management is ultimately vital in implementation because waste is the main contributor to carbon emissions through every kind of waste.
Round 3	Round 3 allowed highlighting stakeholders' opinions concerning the implementation of waste management in coastal and beach destinations and the effective methods for solid waste management. A clear policy from the government and local authority is necessary to implement the solid policy. The participants from the public and private sections, including the people sectors, commented that Implementing waste management at a green tourism destination is essential for minimizing environmental impacts and promoting sustainability. Conduct a waste assessment to understand the types and quantities of waste generated at the destination. Based on the assessment, develop a waste management plan that outlines specific goals, targets, and strategies for waste reduction and recycling. Raise awareness among tourists, residents, and businesses about the importance of waste management and its impact on the environment. Provide information on proper waste disposal practices and the benefits of recycling. Encourage waste reduction at the source by promoting reusable products, such as water bottles and shopping bags. Minimize single-use items and encourage visitors to bring their own eco-friendly alternatives. Set up clearly marked recycling bins for different types of waste, including plastics, paper, glass, and metals. Ensure that collected recyclables are properly sorted and sent to recycling facilities. Green tourism destinations can significantly reduce their environmental footprint and promote a cleaner and healthier environment for visitors and local communities by taking a comprehensive and proactive approach to waste management.

Five thousand words were collected from 3 rounds of Delphi panel interview techniques. The contents were analyzed using NVivo 11 software to identify the frequency of words from all participants. The frequency of the words from the analysis of the software NVivo 11 is shown in Figure 1.

Figure 1

Nvivo 11 software analysis of word frequency

To achieve Objective 2, which is to assess the environmental competence of relevant stakeholders for enhancing solid waste management, the results of the three rounds of panel interviews were extracted. Data were derived from open coding results conducted over the course of the Delphi panel interviews and were further analyzed using axial coding and selective coding to identify the key findings related to multi-level stakeholder management for the preservation of Koh Mak as a green tourism destination in Trat Province. These findings are presented in Table 2.

Table 2

Axial and selective coding

Categories	Connotation statement
Stakeholders' involvement	Stakeholder involvement plays a pivotal role in maintaining a green tourism destination, as it brings together diverse individuals and groups with a direct or indirect interest in the destination's sustainability. By engaging stakeholders, efforts to uphold eco-friendly practices become more comprehensive, effective, and sustainable over the long term. In essence, stakeholder involvement is a vital element for preserving a green tourism destination. It encourages collaboration, inclusivity, and shared responsibility, leading to the implementation of more impactful and sustainable measures that benefit the destination's natural environment, local communities, and the tourism industry as a whole (Surachman et al., 2022; Thaler & Levin-Keitel, 2016). By working together, stakeholders can ensure that the destination continues to thrive in an environmentally responsible manner, fostering a harmonious relationship between tourism and preserving its ecological assets.
Waste management	In a green tourism destination, waste management practices should prioritize minimizing waste generation, promoting recycling, and ensuring proper waste disposal. To achieve this, a waste assessment should be conducted to understand the types and quantities of waste generated in the destination. This assessment will provide valuable insights into the waste management needs of the area. Subsequently, a comprehensive waste management plan should be developed, outlining specific goals, targets, and strategies for waste reduction, recycling, and disposal. The plan should consider the waste assessment findings and address the unique challenges and opportunities of the green tourism destination. By implementing these steps, a green tourism destination can effectively manage its waste, significantly reduce its environmental impact, and contribute to a more sustainable and eco-friendly tourism experience for both visitors and local residents. Proper waste management enhances the destination's appeal and aligns with the principles of green tourism, fostering a harmonious relationship between tourism and the natural environment.
Green behavior of tourists and residents	Implementing green behavior among tourists and residents involves promoting and encouraging environmentally friendly practices and responsible behaviors that contribute to the sustainability and conservation of the destination. Develop and promote eco-friendly accommodations, restaurants, and attractions that follow sustainable practices and reduce their environmental impact. Provide easily accessible recycling bins and waste disposal facilities in public areas to encourage proper waste separation and disposal.
Governance of the government	The effectiveness of green policy implementation, the capacity of environmental regulations, and the coordination among relevant government departments significantly influence the government's green governance capacity. To promote greener practices in logistics performance, it is crucial to implement appropriate policies, such as taxation reduction based on carbon emissions rates. Such incentives encourage enterprises to prioritize environmentally friendly goals.

Discussion:

The study emphasizes the involvement of stakeholders at different levels to retain the green tourism destination in Koh Mak, Trat Province, Thailand. The ultimate goal of conserving the destination aligns with the results of multi-level stakeholders' management, which is supported by previous studies such as El-Gohary et al. (2006), Johnson-Cramer et al. (2017), and Rasche and Esser (2006). These studies point out that multi-level stakeholder management is a comprehensive approach involving the engagement and coordination of various stakeholders at different levels to retain a green tourism destination. Every stakeholder is interrelated and beneficial to one another, both in the public and private sectors. Similarly, Yang et al. (2011) and Verbeke and Tung (2013) have mentioned that stakeholder involvement plays a pivotal role in maintaining a green tourism destination, as it brings together diverse individuals and groups with a direct or indirect interest in the destination's sustainability."

Solid waste management (SWM) plays a pivotal role in environmental conservation, as waste is a key contributor to carbon emissions, especially in Koh Mak, where transportation options are limited. This perspective aligns with scholars who have intensively studied waste management topics (Amasuomo & Baird, 2016; Meidiana & Gamse, 2010; Seadon, 2010). The proper and practical implementation of waste management must involve residents and tourists, who benefit from a green environment and are also significant contributors to waste disposal. Synergistic opportunities for enhancing solid waste management to retain a green tourism destination are supported by previous studies (Furqan, 2010; Jopp, 2015; Kilipiris & Zardava, 2012). These studies advocate for collaboration with local waste management facilities and recycling centers to ensure proper handling and processing of waste. Establishing a regular waste collection schedule and ensuring environmentally responsible disposal is crucial. To prevent littering, provide sufficient trash bins in public areas and popular tourist spots.

Conclusion:

To achieve the research objectives, the study aimed at 1). To investigate the roles of various stakeholders in beach recreation and identify collaboration opportunities which involves investigating the roles of various stakeholders in beach recreation to identify collaborative opportunities. 2). To assess the environmental competence of relevant stakeholders for enhancing solid waste management. Based on the empirical results from multi-level stakeholders' panel interviews using the Delphi technique, the study concluded that:

The research aims to explore the roles of various stakeholders involved in beach recreation and identify opportunities for collaboration. This investigation uncovers a dynamic interplay of interests, responsibilities, and potential partnerships among stakeholders, which hold significant potential for the sustainable management of beach destinations. Several key findings have emerged through a comprehensive exploration of stakeholder perspectives, contributions, and aspirations. One crucial observation is the diversity of stakeholders engaged in beach recreation. This includes various factors such as tourists, residents, government agencies, environmental organizations, businesses, and community groups. Each stakeholder group brings a unique viewpoint and distinct objectives to the beach environment. It becomes evident that these stakeholders' roles are interconnected and often mutually reliant. For example, tourists and residents impact the beach environment and are affected by its conditions. Businesses depend on the allure of the beach to attract visitors, while local authorities are responsible for enforcing regulations and upkeeping the area. Despite the distinctiveness of their roles, many stakeholders share common goals and concerns. These shared interests encompass maintaining the pristine quality of the natural environment, ensuring a positive and enjoyable experience for visitors, safeguarding local culture and heritage, and fostering economic prosperity. This alignment of goals emphasizes the potential for collaboration among diverse stakeholders to work collectively toward the sustainable management of beach destinations.

In essence, this study underscores the intricate web of stakeholder relationships within beach recreation and the promising possibilities for cooperation that can lead to the holistic and balanced management of these vital destinations.

To examine the green competency of relevant stakeholders and to identify synergistic opportunities for enhancing the current Solid Waste Management (SWM), initiate waste separation and recycling by setting up clearly marked recycling bins for different types of waste, including plastics, paper, glass, and metals. Establish a robust recycling program and ensure that collected recyclables are properly sorted and sent to recycling facilities. Implement a composting program for organic waste, such as food scraps and yard trimmings, and use composted material for landscaping and gardening. This approach reduces the volume of waste sent to landfills. Through a thorough analysis of stakeholder engagement and collaboration, practices reveal a pathway toward a more sustainable and efficient waste management system. The findings identified synergistic opportunities for collaboration that align with the strengths and objectives of different stakeholders. For instance, partnerships between local businesses and waste management authorities can lead to innovative recycling programs and educational campaigns. Effective collaboration hinges on the alignment of policies and regulations among stakeholders. Coordination between government agencies, businesses, and waste management entities is essential for successfully implementing sustainable waste management practices.

In conclusion, this investigation underscores the significance of comprehending stakeholder roles and nurturing collaboration to achieve a harmonious equilibrium among environmental preservation, local livelihoods, and enriching visitor experiences in beach recreation. Through seizing collaborative prospects, stakeholders hold the potential to safeguard natural resources, amplify cultural authenticity, and shape a destination that endures as treasured and resilient for generations to come. As a result, delving into the green competency of stakeholders and pinpointing cooperative avenues for enhancing Solid Waste Management offers a pathway toward more sustainable, efficient, and innovative waste management practices. By leveraging collective strengths and fostering collaborative partnerships, stakeholders can play a pivotal role in fostering a cleaner environment, elevating public health standards, and fortifying community resilience. This integrated approach aligns with the core tenets of sustainable tourism, serving as a blueprint for creating lasting positive impacts on both the destination and its inhabitants.

Limitations and future research recommendations:

The scope of the study might be limited to Koh Mak, and the findings may not be directly generalizable to other tourist destinations. Acknowledge the limitations of the specific context. The study may not have been able to include all relevant stakeholders due to practical constraints. Recognize that there may be voices and perspectives not captured in the research. Future research could involve comparative analysis with other similar destinations to identify common challenges and best practices. This could provide a broader perspective on sustainable tourism management. Researching the role of education and training programs in raising awareness and building capacity for sustainable tourism among stakeholders are also future research recommendations.

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