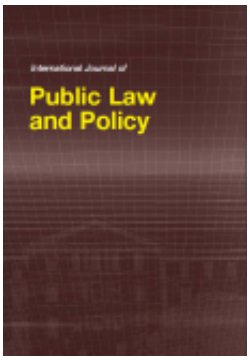

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Governing sustainable ecotourism in Thailand: success or failure in legal perspective?

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Governing sustainable ecotourism in Thailand: success or failure in legal perspective?

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Abstract: Ecotourism has played some critical roles as a compromise tool in the conflict between industrial development and nature conservation in developing countries for decades. However, in Thailand, the term is simply used for the benefit of tourism enterprises to gain access to protected areas, community forests, and public lands. It was argued ecotourism nowadays transforms natural landscapes and contributes to local biodiversity losses. The paper studied trends in sustainable ecotourism from 2018 to 2021 and examined how the operators implemented the concept of sustainability. Outcomes are the spatial expansion of land use in ecotourism development caused to change in the natural landscape. Local governments lacked their local biodiversity conservation rules in public lands. The recommendation is to empower 'the Designated Areas for Sustainable Tourism Administration' as a key institution to drive the sustainable tourism national's policy. Operating ecotourism must be regulated to ensure ecotourism will be in line with responsible tourism.

Keywords: public land; sustainability; ecotourism; biodiversity convention; environmental governance; public participation; Thailand.

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1 Introduction

In Thailand, ecotourism is not new (Dowling, 1996), with activities related to natural locations involving all kinds of activities and land tenures, including national parks, protected areas, forest communities, and public land (Sangpikul, 2008). Natural landscapes can also be owned by many different types of private enterprises and local communities involved in ecotourism (Youdelis, 2013). However, current practices in ecotourism have caused an increasing number of problems for the environment and for biodiversity conservation. Some tourism projects have changed primary ecosystems and geological landscapes into hostels and resorts, which subsequently caused changes in

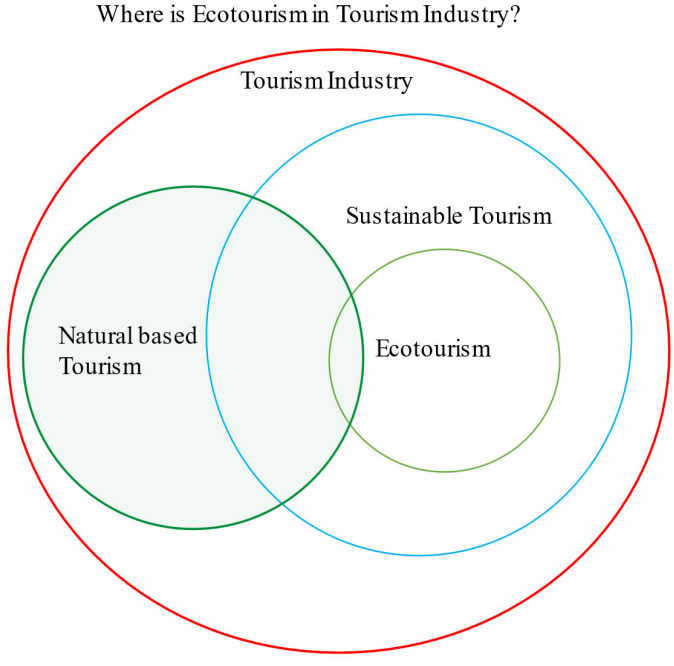
water flow, forest encroachment, deforestation, land conflicts, and wildfires (Kontogeorgopoulos, 2005). Since the World Tourism Organization (UNWTO) has promoted sustainable and responsible tourism as a new norm in tourism (UNWTO, 2020a), Thailand needs to adapt their industry model from mass tourism to sustainable ecotourism. In this paper, the misguided management of ecotourism is argued as being a problem. Trading off the natural beauty of an area for short-term income should be viewed as a failure rather than as success. Two approaches – the strong and weak approaches – are examined to test the readiness of ecotourism operators and to determine which operators can suitably govern sustainable ecotourism in Thailand.

2 Literature review

2.1 The position and roles of ecotourism in the tourism industry

Ecotourism is a compromise between conserving nature and opening those critical natural resources to tourism. The term ecotourism is not new, but the characteristics of nature-based tourism remain vague. This indistinctness easily causes confusion when practicing ecotourism, so these characteristics need to be clarified.

Figure 1 What is ecotourism? (see online version for colours)



Source: Adopted from the John Hope Franklin Center at Duke University (2015)

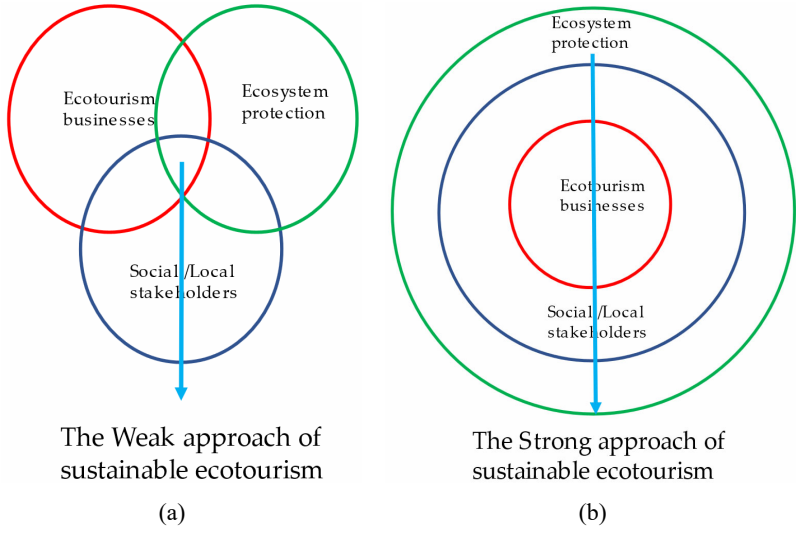
According to John Hope Franklin Center at Duke University (2015), Figure 1 explains where ecotourism falls within the tourism industry: within sustainable tourism. On the other hand, nature-based tourism may consist of tourism activities that are either

sustainable or unsustainable. Ceballos-Lascurain pointed out that the overlap between ecotourism and sustainable tourism consists of all that falls under the word 'travel' but may not be related to the concept of 'sustainability', such as trophy hunting, paintballing, or driving a motorcycle within a natural or conservation area. Ceballos-Lascurain defined ecotourism as follows:

> "Ecotourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature and any accompanying culture features both past and present that promotes conservation, has low negative visitor impact and provides for beneficially active socio-economic involvement of local population." (John Hope Franklin Center at Duke University, 2015)

The concept of ecotourism promises ecologically friendly tourism (Palmer and Chuamuangphan, 2018). When tourists visit beautiful natural areas, they can then subsequently learn about conservation (Shepherd, 2002). Fennell (2014) suggested that the success of ecotourism requires creating low impacts on the environment, respecting the local people, being aware that visitor activities can impact the livelihood of the local community, managing the conservation of protected areas and other natural areas, local communities participating in decision-making processes that affect their lifestyle, sharing direct benefits from the ecosystem with the local community, and supporting local businesses. Furthermore, the key advantages of implementing ecotourism policies and plans include educating the public, conserving the endemic ecosystem, and providing income to local communities (Kester, 2002). Ecotourism relies on the ecosystem sustaining its beautiful landscapes, so biodiversity is an important part of ecotourism (Tapper, 2010).

Figure 2 A diagram comparing the weak and strong approaches to sustainable ecotourism (see online version for colours)



Source: Adapted from Bosselmann (2002)

In practice, the key sectors driving the tourism industry in Thailand are the social and economic sectors, rather than the conservation sector (UNEP, 2015). Particularly, when it

comes to nature-based tourism, the conservationists disagree with commercial tourism to the protected public land. It is argued that natural tourism resources are used unsustainably to generate income according to a national tourism policy. Hence, what is the direction of sustainable ecotourism, and how to govern it? Scholars have suggested that the strong and weak approaches can be applied to determine resource use in sustainable ecotourism, with each presenting different approaches (Bosselmann, 2006). In the case of the weak approach, the economic, social, and environmental sectors take equal priority but are interlocked, whereas the strong approach suggests a hierarchy (Bosselmann, 2002).

In Figure 2(a) shows the 'interlocking circles' in the weak approach (Waikavee, 2006). Theoretically, achieving the weak approach requires perfect balance among all three sectors, with each being the same size and scale so that one sector does not take precedence over the other. Ecotourism is reliant on natural beauty that results from a healthy ecosystem. This quality brings in visitors and generates income for the local community. Achieving the weak approach requires balancing the three sectors. Otherwise, these biological resources become inadequate in serving the needs of visitors and the tourism industry. Some researchers have argued that both the social and economic sectors seem to cooperate with one another to create imbalance in sustainable ecotourism (Goodwin, 2009). If the number of visitors exceeds the ecological capacity of the destination, the ecosystem collapses, and over-tourism results (Pongponrat, 2011).

On the other hand, Figure 2(b) presents the strong approach, referred to as 'the nested egg', and its prioritization of the three parts (Bosselmann, 2009). The economic sector is the most important but is the smallest in size. The social sector is of secondary importance, but its scale and size are larger than that of the economic sector. A fundamental sector that supports society and the economy is the environmental conservation sector, which is the largest in scale and size. The strong approach ensures that the core concept of ecological sustainability is achieved (Bosselmann, 2010) theoretically; ecotourism destinations that are ecologically sustainable should be in great demand for tourists in search of quality. These responsible travellers are willing to pay high prices for an unforgettable experience in endemic nature. If a healthy ecosystem is well-protected, local businesses and employment opportunities will also become sustainable. Scholars suggest the seven components that make up the principle of sustainability in ecotourism successfully: community rights, the environment rights, the economy, education, local participation, support for conservation, and culture (Mowforth and Munt, 2015a). Such all factors need to mention in plans and policies relating to ecotourism. In practices, a method for calculating the ecological carrying capacity is important for assessing the environmental impacts and ecological sustainability (Shi et al., 2015).

2.2 The bio-circular-green economic model of Thailand

After the concept of sustainability was introduced by UNWTO as a norm in tourism (UNWTO, 2020b), Thailand's tourism policy has focused on using more natural tourism resources. In terms of the national post-COVID-19 tourism-recovery plan, the government restructured tourism regimes to boost the economy. From 2018 to 2020, the laws and regulations relating to biodiversity protection were amended or aborted. The country was reopened to international tourism under a new economic model called the 'bio-circular-green (BCG) economic model'. Combining three concepts, BCG involves

ecotourism, circular economy, and green economy (Meiksin, 2020). Biological resources will be used sustainably. The resulting income derived from local products is then believed to encourage these communities that earn from their own local resources to share their profits or incomes as well as with the conservation and restoration of the natural environment. Circular economy refers to the sustainable planning of tourism resources such as hotels, accommodation, food and drink services, and transportation such that they can be restored and reused. The concept of a circular economy promotes the effective waste management of produce after consumption to ensure reuse within the system. Green economy in tourism involves all environmentally friendly activities that sustain the social, economic, and environmental sectors being funded and supported by local authorities (UNEP and UNWTO, 2012).

It is argued that the BCG policy would result in an exchange for the intrinsic values of those biological resources with short-term gains for the tourism industry. Hence, without regulations in ecotourism, the BGC policy may lead to public natural assets being devalued. Thus, a conflict among the three sectors as mentioned above then ensues, resulting in significant interference with the protection of life, which is in opposition to Sustainable Development Goal 15 (Sachs et al., 2019). At the local level, a top-down pressure impacts natural areas and causes changes to the landscape (Chaudhary et al., 2022). The expansion of tourism businesses also affects the fragile ecosystems and biodiversity in public land that has been preserved for public interest (Cropper et al., 2001). In short-term policy, the BCG will favour profit over conservation, resulting in unsustainable tourism in the long-term (Delang, 2002; Phumee et al., 2018).

3 Methodology

A mixed methodology with both qualitative and quantitative methods was applied to evaluate sustainable ecotourism governance. To determine the population of the study, the classifications dictated by the GSTC (2020) destination criteria were used. The data from 2017 to 2020 were supplied by the Department of National Parks (DNP), Wildlife and Plant Conservation, the Tourism Authority of Thailand (TAT), the Department of Tourism (DT), and the Designated Areas for Sustainable Tourism Administration (DASTA). From the 7,075 locations included, 2,287 eco-tourist sites passed the inclusion criteria, with 545 in the north, 437 in the northeast, 272 in the east, 788 in the south, and 245 sites in the west and in the central regions each. Based on the methods of Taro Yamane (1973), the ecotourism site locations were specified within a 95% confidence level, $N = \frac{N}{1+N(e)^2}$, and a 5% deviation in the sampling. Therefore, 357 sites were obtained. The questionnaire consisted of open-ended, check-list questions and five-point Likert scales. The questionnaire was presented to a panel of consultants and five experts to recheck the content validity and any flaws in the questions. To be consistent with the objectives, item objective congruence (IOC) was used to find the consistency between the objective and the questionnaire, and questions with an IOC value greater than or equal to 0.7 were selected. The revised questionnaire was used for pre-testing with a questionnaire of 30 sets to evaluate the reliability (reliability test) according to Cronbach's method, Cronbach's alpha = 0.867. To collect the data, first, eco-tourist site mangers were invited to answer the questionnaire either online using Google forms or manually via registered

mail. The questionnaire contained five parts, as follows: Part 1 asked about general basic information, the characteristics of tourism resources, the land tenures, and land use. Part 2 asked about the principles of governing ecotourism and the need for regulatory rules, presented as an ordinal scale. Part 3 asked about the limitations of related laws, also presented as an ordinal scale. Part 4 asked about the recognition of Sustainable Development Goals, again presented as an ordinal scale. Part 5 used an ordinal scale-based Likert's scale, with a maximum of five points and interpreted as follows:

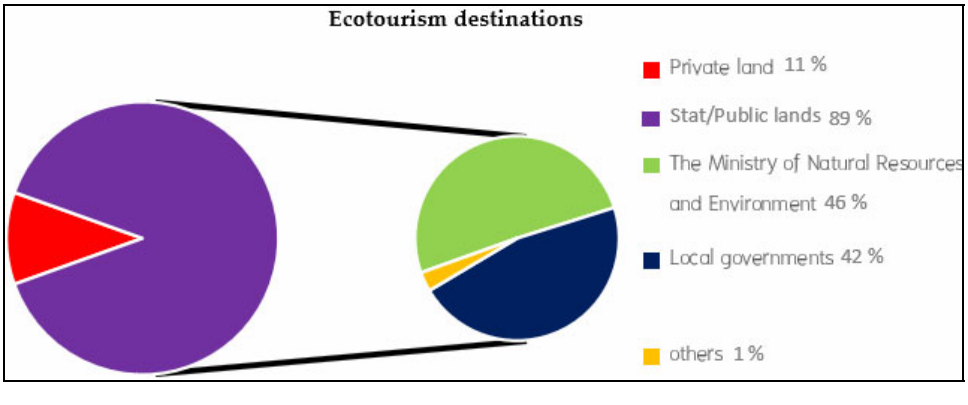
- The most significant issue (most sig.): 4.50–5.00.
- A very significant issue (very sig.): 3.50–4.49.
- A moderately significant issue (M sig.): 2.50–3.49.
- A less significant issue (L sig.): 1.50–2.49.
- The most insignificant issue (in sig.): 1.00–1.49.

Second, after evaluating the data, high scores were verified by the 40 in-depth interviewers, including managers and heads of the national parks, via phone and email. A focus group with five experts was then conducted.

4 Results

The result indicated that 357 sample eco-sites from across the country were included in this research. The southern region comprised the largest number of sites (122 sites, 34%). The northern region contained 86 (24%) sites. The north-eastern region consisted of 67 (19%) sites. The eastern region included 42 (12%), and the central region had 40 (11%) sites.

Figure 3 Ecotourism destinations in different land tenures (see online version for colours)



Government land and public land made up 89%, with the Ministry of Natural Resources and Environment owning 46% overall, and 43% of eco-destinations were run by local governments under the Ministry of Interior. Private land such as resorts and homestays only made up 11%. The others category includes land owned by long-term leaseholders and the Royal Thai Navy.

The national parks agreed that eco-sites needed to be regulated by laws because a mass tourism policy would impact the ecological capacity of the parks, and 97% agreed that controlling the inappropriate behaviour of tourists that may directly or indirectly affect the ecosystem was important. The national parks were concerned with the principles of the Convention on Biological Diversity: conservation, sustainable use, and benefit sharing. However, when asked about rules for governing the share of ecotourism benefits with the local community, 13% did not express an opinion and 7% disagreed because of the lack of fixed income ratios and clear rules. The responses to regulating eco-activities showed that 44% agreed, 33% disagreed, and 23% did not express an opinion. The business sectors disagreed with using the strong approach. Current laws are very intense, so for those who break the law, both imprisonment and high fines await as criminal penalties. In terms of SDGs, the operators acknowledged that the principles of sustainable development and the SDGs are important when answering about general information but failed to understand the specific details. Therefore, they were unable to follow the SDG guidelines properly.

According to the sustainable development report 2019 (Sachs et al., 2019), the SDG index shows that only 12.1% of wastewater comes from the tourism industry, suggesting that water from hotels was well-treated. However, SDG 6 was a major challenge. The urban air pollution was PM2.5 for Bangkok and Chiang Mai, resulting in an SDG 11 score of 26.3. SDG 14 showed that only marine-protected areas were well-managed (64.1%), but other significant areas showed decreases. SDG 15 showed that only territorial protected areas were well-managed (71.7%) but that others decreased and lacked available information. However, the low scores are suspected to have come from MI-governed areas such as public/local governmental lands. It can be seen that the current tourism industry is unsustainable in the long run.

During 2018–2021, in Thailand, the questionnaire showed how often sustainable ecotourism was applied and how effectively private and governmental operators implemented sustainability into their management. Overall, both governmental and private organizations passed, with scores at the very significant level. The results showed that park operators valued ecological integrity in their management. Mu-Koh Similan National Park received the highest score, suggestive of best practices. Their areas were preserved for rare bird species (Nicobar pigeons and *Caloenas nicobarica*) and sea turtles. Therefore, tourists could closely experience wildlife. Mu-Koh Similan National Park managed to deal with over-tourism by setting a limit on the maximum number of tourists based on the carrying capacity of the ecosystem. Both their private and park agency tour guides were well-trained. Using an e-ticket system to book tickets in advance reduced tourist congestion, and a fair quota of at least 3,000 tickets was allocated to both small and large boat-tour operators involved in the park. However, this practice is not regulated by law, so its regulation is dependent on each authority to be carried out. The recreational and protected zones of Mu-Koh Similan National Park were also clearly divided and labelled ($\bar{x}$ = 4.01, SD = 1.10). Educational signs describing the ecosystems or various biodiverse organisms were found (in English/Thai) throughout the area, thus receiving a high score, considered to be at the very significant level ($\bar{x}$ = 3.94, SD = 1.06). At national parks, eco-activities such as wildlife photography, snorkelling, and bird watching were led and guided by licensed tourist experts. The quality of the tour guide also scored well, again at the very significant level ($\bar{x}$ = 3.98, SD = 1.14). However, although alien fish species is a very concerning issue at national parks, it was clearly found to be an issue in Lom-Phu-Khiao, Tham-Pha-National Park, Lampang.

Strict pollution regulations, such as measuring greenhouse gas emissions, wastewater effluents, and noise, which can cause harm to wildlife, received scores at the moderate level ($\bar{x}$ = 3.16, SD = 1.25). Eco-tourist operators are less concerned with the intrinsic value of nature. In terms of environmental ethics, it seems they value nature as a benefit of human needs. This was the case at the well-known Khao-Yai National Park, Nakhon Ratchasima, where the road cut through the park. A large number of tourist vehicles and motorcycles caused noise pollution to wildlife. From the research conducted using deep interviews in 2018, the park used the noise and vibration standard criteria that were measured based on human standards to assess their effects on wildlife. Regarding the event of a wild elephant falling to death off a cliff in 2019, a path has been mistakenly built without consideration of the paths that wild elephants take, causing them to take dangerous routes to avoid encountering tourists. Baby elephants have been slipping off the cliff and dying at the same spot for 33 years, with a total of 26 wild elephants having died.

The participation of ecotourism businesses in the local community was scored as a moderately significant issue. Good practices can be seen in natural education and in the information provided to tourists at the tourist centre, including the involvement of local speakers ($\bar{x}$ = 3.62, SD = 1.19). Some eco-sites have launched opportunities for ethnic groups living in the area to work as local tour guides, e.g., in the south, such as Moken Village at Mu-Ko Surin National Park and Koh Pan-Yee Village at Sri Phang Nga National Park.

In terms of BCG movement in ecotourism and the role of public responsibility, the result shows that both public and private eco-tourist attractions recognize the BCG model as a national policy at a moderate level ($\bar{x}$ = 2.50, SD = 1.05). The operators assessed here demonstrated high corporate social responsibility (CSR), receiving scores at the very significant level. Each eco-site created a process to promote participation at tourism destinations and to maintain balance among the private sector, local community, and other agencies annually ($\bar{x}$ = 3.97, SD = 1.06). However, the BCG was not enacted in practice as planned. In the case of mountain running, protected areas were forced to organize trail-running competitions to stimulate tourism. Organizers then sprinkled lime along the paths to prevent leeches from affecting the runners, causing ecosystem issues. This type of running event is becoming popular and will be held in many protected areas in the following years, so these practices will gradually accelerate biodiversity loss at eco-sites.

In terms of sharing the benefits obtained from ecotourism, overall, the awareness of sharing benefits from these ecosystem services was low but focused on the distribution of income to the local community. Local communities gained benefits from the eco-destinations, such as receiving income from food and drink services at the national parks or a small share from souvenirs. In the case of the high-hill tribes (an ethnic minority group) in the north, in the process used for allocating rights, the quotas were set by the authorities. Therefore, the score received for rights allocation was moderate ($\bar{x}$ = 2.98, SD = 1.40). Unfortunately, the consumption of seafood was found to be unsustainable in the local fishery community. Juvenile blue swimming crabs (*Portunus pelagicus*) were easily found at the local market on Mae Rum-Phueng beach in Rayong province.

In terms of environmental governance and ethics, the operators were found to have good organized environmental governance such as annual travel agendas and service rules, which scored well, at the very significant level. In popular tourist destinations in

Bangkok, Phuket, and Chiang-Mai, staffs were well-trained with the knowledge, expertise, and conscientiousness to provide services based on the GSTC criteria. However, this high standard was found in only a few local governmental ecotourism destinations.

5 Discussion

The research outcomes showed that current methods of managing ecotourism were chosen based on the weak approach, so endemic ecosystems in niche areas could not be conserved and were opened for tourist activities. In Thailand, ecotourism activities can be carried out on all types of land tenures, as follows:

1 private land with land title deeds

2 public land managed by the local government, such as river beaches, sea beaches, wetlands, and mangroves

3 community forests managed by local communities and forest agencies such as woodlands, wetlands, and highlands

4 protected areas such as national parks, wildlife parks, and world heritage sites

5 property owned by the Crown or by the Royal Thai Navy, such as islands and seas.

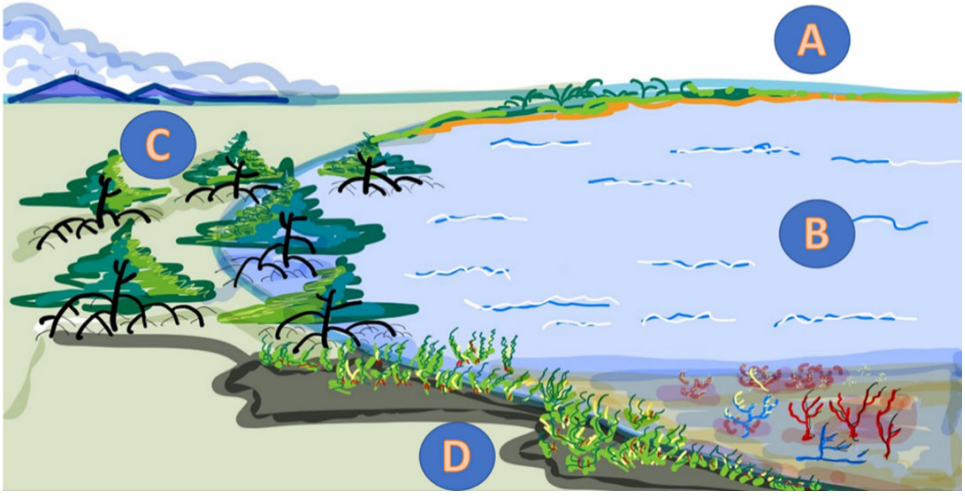
Many areas are of ecological importance and need to be preserved to maintain ecosystem services. In these five types of land tenures, the land occupants have the absolute right to manage their property according to the land law.

Although Thailand passed various laws dictating how biodiversity and environmental protection should be carried out, these laws are limitedly implemented within the principle of property boundaries. This legal loophole gives an advantage to the ecotourism industry in gaining more access to the biodiversity hotspots and protected land. For example, under the system of command and controlled regulation, biodiversity protection laws can be divided into two groups: species-based protection and area-based conservation. It authorizes National Parks and the Forestry Department to be in charge of enforcing the law. The WACPA BE 2562 (2019) (replacing the former law) aims to protect species listed as conserved, protected, controlled, and dangerous wild animals; to preserve the land as a wildlife sanctuary; and to legally trade wildlife within a permission-controlled system. In terms of timber and wood, the Forest Act BE 2484 (1941) (eighth amendment in 2019) aims to preserve species grown naturally or by human means throughout the country. Frankly, the law does not allow people to cut down trees of any species listed without permission unless on private land. Two key legislations related to conservation areas, also known as protected areas, are The NPA BE 2562 (2019) (replacing the former law) and The NRFA BE 2514 (1971) (fourth amendment in 2016). Although the penalty of biodiversity protection laws is seemed too strong, they are indeed limited to being enforced within the boundaries of the property. Moreover, the authority to enforce these laws are fragmented in terms of biodiversity connectivity, so they are ineffective in practice.

Figure 4 illustrates the fragmentation in biodiversity connections, which is then divided by the authorities governing the coastline.

A refers to public beaches, which are the responsibility of the local government. B refers to the sea and seabed, which are the responsibility of the Marine Department, the Department of Fisheries, and the Royal Navy. C refers to the mangrove forest under the responsibility of the Forest Department, and D refers to areas regulated by national parks and by the Department of Marine and Coastal Resources. The biological components of the coastline are governed by complex authorities with their own legal enforcement. Therefore, ecotourism activities are managed in different ways. In terms of ecosystem approach, biodiversity is connected beyond the property's boundaries. Scholars suggest that property rights and sustainability can be reconciled (Bosselmann, 2011). The principle of ecological sustainability should be placed as a common principle dictating how authorities and land occupants should be involved in ecotourism. Therefore, the 'ecosystem approach' guide provide by the Biodiversity Convention is useful for setting ecotourism regulations (CBD Guideline, 2004).

Figure 4 Image of biodiversity connectivity and jurisdiction over the land (see online version for colours)



Source: Adopted from Smith and Maltby (2003) and Hilty et al. (2020)

Thailand has no ecotourism regulations to use as a framework for governing eco-sites due to the need for balance in sustainable development. Regulations are significant because most eco-sites are hotspots for biodiversity such as headwater areas, mangrove forests, wetlands, and wildlife habitats. Eco-sites are often connected to protected areas. Although governing ecotourism itself has relied on some of the other related laws mentioned above, those laws do not directly deal with eco-activities. Their administrative order depends on political plans and policies, which are mostly set based on the sector driving tourism development. According to the data above, only a few governmental eco-sites used methods such as estimating ecological carrying capacity to limit visitor counts. Others were unconcerned although they operated in the same coastal areas.

It is argued that biodiversity has clearly used for ecotourism in the 2021–2022 sustainable tourism strategic plan under the BCG model. Those strategies will drive local communities and governments toward trading their biological resources for a small income. The sharing of benefits from biological resources then becomes less effective,

which means that the income is distributed to local communities unequally. Most income from ecotourism is centralized around tourism businesses rather than individual villagers. Local fisheries could change their source of livelihood from self-sufficient fishing to commercial fishing. Young aquatic animals can then also be found at the local market. Small resorts and homestays connected to these biodiversity hotspots can then be opened without conducting any environmental assessments.

An environmental impact assessment (EIA) should be required by law before ecotourism activities are carried out. Although an EIA is enforceable by Thai environmental law (The Enhancement and Conservation of the National Environmental Quality Act BE 2535, 1992), ecotourism activities are not regulated by Thai environmental law. However, because ecotourism is a part of the tourism industry by definition and causes impacts on the environment, ecotourism activities should be determined by EIAs. This means that, before implementing any eco-sites, an EIA should be conducted to determine both the project practicability and potential impacts on the ecosystem. Specifically, an assessment of ecosystem risk management, an ecosystem restoration plan, or a method of calculating the ecological carrying capacity in terms of number of visitors per area should be mandatorily conducted before undertaking a project. For business stakeholders, cooperate social responsibility should be recommended as a part of the initial assessment. It is important to state/local governments that an EIA procedure is undertaken for ecotourism on their lands. Therefore, project managers should improve their sustainable eco-tourism plans to include actions to control visitor behaviour, an ecosystem education awareness plan, or ecotourism tour-guide training, for example. Sustainable eco-site operators who pass these EIAs could then be licensed to carry out ecotourism, which would be renewable every five years, to avoid unforeseeable potential impacts.

6 Conclusions and recommendations

Governing sustainable ecotourism in Thailand could be a success and a failure at the same time. Success has been achieved by national park operators. On the other hand, local governments failed to manage eco-sites at a critical level. Due to a lack of interest in ecological knowledge and an unawareness of the conservation of biodiversity, many local governments are lax regarding legal enforcement or are not compliant with the law. Therefore, the DASTA should be awarded the authority on par with the act to counterbalance tourism industry groups and local governments. A Sustainable Ecotourism Regulation (SER) can be drafted based on the 12 principles of the Ecosystem Approach of the Biodiversity Convention (Smith and Maltby, 2003), as follows.

1 The purpose of the SER is to promote measures comprehensively and effectively for sustainable ecotourism by establishing a common ground based on the concept of ecological sustainability when promoting biodiversity conservation, sustainable use, sharing benefits, and environmental education.

2 Technical terms must be clearly defined to avoid confusion among stakeholders. For example, ‘natural tourism resources’ refer to the niche habitats of wildlife or other natural environments and to the mannerisms and customs, and other traditional ways of life that are closely related to being in harmony with nature. ‘Ecotourism activities’ refers to the activities or experiences those visitors or tourists engage in

using these natural tourism resources. 'Ecotourism business' refers to ecotourism operators that are specifically licensed for ecotourism activities. 'Responsible ecotourism' refers to tourism that ethically respects places, nature, and other creatures regarding their intrinsic values.

3 Sustainable ecotourism must be properly applied through collaborations among various stakeholders, such as local governments, land occupants, ecotourism businesses, local non-profit organizations, and local experts with traditional knowledge on the areas related to ecotourism, based on the concept of ecological sustainability.

4 Sustainable ecotourism operators must make tourism plans in advance and present them to the DASTA every year to ensure that the various ecotourism activities to be carried out will meet the objectives of sustainable ecotourism. The DASTA plans and policies shall be revised approximately every four years based on the status of the implementation of sustainable ecotourism.

5 Any project that may have an impact on natural tourism resources must conduct an EIA.

7 Further research suggestions

Due to the economic drive resulting from the post-COVID-19 situation, the BCG model needs to be carefully researched while considering its potential impact on the country's biodiversity.

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