IDENTIFYING THE POTENTIAL HERITAGE FOR ECOMUSEUM ESTABLISHMENT: A CASE STUDY OF A THAI COASTAL FISHING COMMUNITY

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Abstract: This study aimed to identify potential heritage resources of a Thai coastal community that could be presented if an ecomuseum were to be established. Through participatory action research, the study sought to involve the community in identifying, surveying, exploring, and selecting potential heritages. Additionally, two training courses were developed to educate participants about the ecomuseum concept and equip them with skills in data collection to ensure they gathered comprehensive and accurate information about each heritage. The study revealed 76 potential cultural and natural heritage resources, including food, local fishing tools, agriculture and animal husbandry, basketry, architecture, language, beliefs, legends, songs and collective memories, beaches, forests, mangroves, marine, and biodiversity. The community working committee also created heritage selection criteria to determine the final heritage to be included in the ecomuseum. The results of this study can be useful for other coastal communities seeking alternative solutions to preserving natural and cultural resources.

Keywords: Ecomuseum, coastal fishing community, natural resources conservation.

Introduction

The ecomuseum concept is widely recognised as a valuable tool for preserving and educating about local history and ecosystems. It has profoundly impacted cultural and natural heritage conservation, making it an essential aspect of sustainable development. Ecomuseums focus on the community's identity and strive to meet sustainable development goals (Davis, 1999; Liu & Lee, 2015). They promote positive cultural change and revitalisation by using the living heritage of a region to encourage community participation, local sustainable development, and in-situ preservation (The Saskatchewan Ecomuseums Initiative (SEI) Steering Committee, 2016). Not only does an ecomuseum address the three aspects of sustainable development - economic, social, and environmental - but it can also potentially address community problems spontaneously (Davis *et al.*, 2010; Terzić *et al.*, 2014). Thus, the outcome of establishing an ecomuseum can be far-reaching, including preserving its cultural and natural heritage, increasing participation from locals and visitors who seek to learn about the community's values and heritage, and boosting the local economy.

Ecomuseums worldwide use this concept to protect and promote their lost cultural and natural heritage (Riviere, 1985). For example, the Ecomusée du Bois-du-Luc in Belgium preserves the history of the mining industry and ecosystems, while the Ecomusée Creusot-Montceau in France conserves the history of local industry and religious doctrine. In Italy, the Ecomuseum Della Montagna Pistoiese preserves the traditional way of life in stone houses, and the Ecomuseo dei Terrazzamenti preserves pedestrian paths, stone dwellings, and community life (Maggi & Falletti, 2000). Ecomuseums can also resolve conflicts and conserve resources, as demonstrated by the Halong Bay Ecomuseum in Vietnam (Galla, 2002). Despite their many benefits, the number of ecomuseums in Asia is significantly lower than in Europe (Borrelli & Davis, 2012).

Thailand's coastal communities have a wealth of natural and cultural heritage. Unfortunately, rapid changes and impacts on these resources, such as the reduction of mangrove forests, the decline of aquatic animals, the accumulation of beach litter, conflicts over resource use, a lack of participation in resource management, and the abandonment of traditional fishing lifestyles by the younger generations, have become increasingly inevitable (Tongnunui & Beamish, 2017). The government and local communities have implemented various laws and conservation measures to address these issues, yet the effects of these changes remain (Pansavee, 2021). The success of ecomuseums in conserving natural and cultural heritage in various regions has sparked interest in applying this concept to coastal communities in Thailand.

According to Borrelli and Davis (2012), the ecomuseum establishment is a dynamic process through which communities can identify, conserve, interpret and manage their natural and cultural heritage resources for sustainable development. Ohara and Yanagida (2006) and Liu and Lee (2015) emphasised that identifying the community's natural and cultural heritages is crucial to ensure a successful ecomuseum. Based on their recommendation, this study thus, aims to undertake this essential first step by using the Ban Bu Boi community (BBB), a traditional fishing community in southern Thailand, as a case study to explore the availability of its heritage and evaluate its potential to develop into a full-blown ecomuseum later. The BBB was chosen because it represents local fishing communities along the Andaman Sea facing various issues. Roongtawanreongsri *et al.* (2017) noted that community members fear losing their traditional way of life if nothing is done to preserve their identity. However, they lack the knowledge to address these issues. By embracing the ecomuseum model, this community can showcase their unique heritage and values and promote sustainable development and economic growth while resolving the mentioned issues. Three research questions thus emerged:

1) What cultural and natural heritage resources exist in a traditional coastal fishing community that could be potentially preserved by establishing an ecomuseum? Should the local population desire to do so?

2) What guidelines and criteria should be considered when selecting potential heritage resources to be displayed in the said ecomuseum?

3) How can the community be involved in answering these questions and contributing to preserving their cultural and natural heritage?

Thus, this study aims to assist in establishing an ecomuseum in BBB and serve as a model for other communities facing similar challenges. Additionally, we aim to provide a proposed guideline for identifying potential heritage resources in similar contexts. The insights and findings from this study can significantly benefit those interested in creating an ecomuseum, including community developers, conservationists, and educational institutions. Specifically, this research can guide exploring potential heritages to be included and displayed in the ecomuseum. By sharing our knowledge and experience, we hope to contribute to preserving and celebrating cultural heritage in coastal communities elsewhere.

Methods

Study Area

This study used the Andaman BBB coastal fishery community in Laem Son Sub-district, La-Ngu District, Satun Province, as a case study. This unique community boasts a wealth of natural resources and Muslim cultural heritages, including history, legends, occupational wisdom, marine and coastal resources, mangrove forests, terrestrial forests, and agricultural areas, all within 168.96 hectares (Figure 1). The community was home to 297 households and a population of 1037.
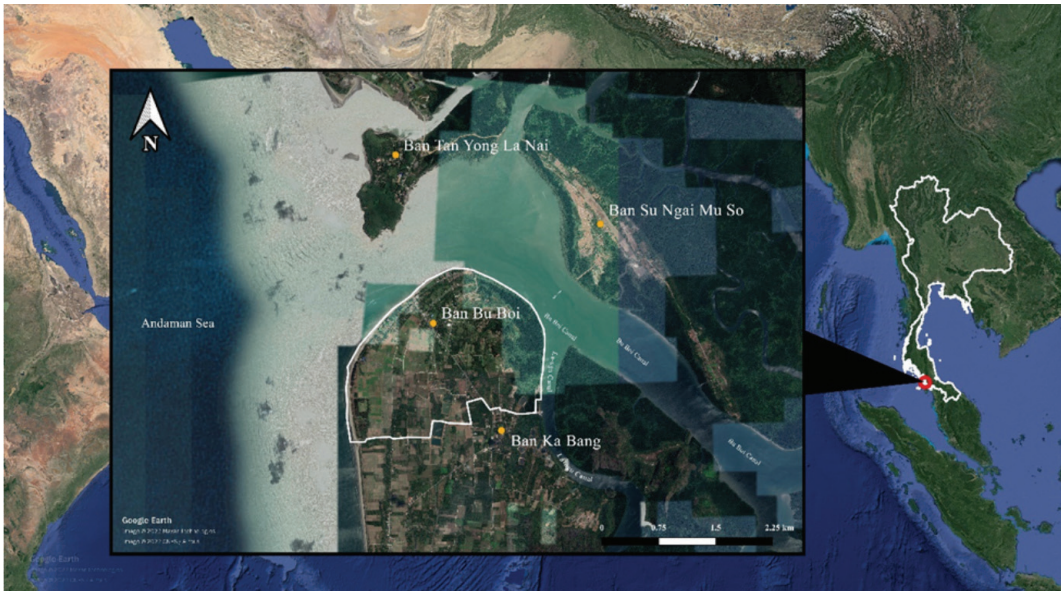
Figure 1: Map of the study area, Ban Bu Boi Community, in Laem Son Sub-District, La-ngu District, Satun Province
Source: Modified from Google Earth (Image ©2022 Maxar Technology, Image ©2022 CNES/Airbus)

Research Design

This research employed the applied qualitative research design, utilising Participatory Action Research (PAR). PAR was deemed appropriate for the goal of this research as it involves researchers working collaboratively with local participants to identify common goals and develop strategies to achieve them (Tracy, 2013). This application is particularly effective in addressing issues of concern and promoting positive change in the community. By engaging with local participants, PAR allows for a more comprehensive understanding of the issues and potential solutions. This collaborative approach can foster a sense of ownership and empowerment among the participants as they are actively involved in the research process and developing solutions.

Participants

The research involved three distinct target groups, each playing a crucial role in the study. The first group consisted of 164 household representatives who were integral to the research process. The second group comprised 38 community locals with extensive knowledge and wisdom regarding cultural and natural heritage resources. Finally, the third group comprised 17 working committee members who conducted surveys and collected cultural and natural heritage data.

Research Steps

The researchers adopted the ecomuseum establishment steps as outlined by Davis (2011), Kim and Lee (2013), Aydemir (2016) and Wuisang *et al*. (2018). Additionally, we developed a comprehensive training course for participants to educate them on ecomuseum concepts and surveying techniques to empower and mobilise them to take action. The three participant groups were involved in different research steps based on their relevance to the overall process, which will be elaborated on later. Figure 2 provides an overview of the research process.

The Research Process		
1	**Preliminary preparation**	• The researchers conducted community meetings to exchange ideas for mutual understanding and planning for the whole process.
2	**Development of participants' skills and knowledge**	• The researchers created a learning session about the ecomuseum concept for community people. • The researchers created a learning session about cultural and natural heritage concepts and survey techniques.
3	**Survey, exploration, and identification of the heritage resources**	• Community members selected a working committee to survey and collect information on the cultural and natural heritages. • The working committee and the researchers surveyed and collected cultural and natural heritage data.
4	**Selection of the heritage resources**	• The working committee and the researchers created criteria for selection. • The working committee and the researchers selected the final heritages with potentiality.

Figure 2: The research process

Step 1: Preliminary Preparation

This preparatory phase aimed to establish a solid foundation for the subsequent steps of the research. The researchers did not have to build a relationship with the community as the researchers and the community members collaborated earlier in a couple of research. The process began with deliberations with the community leaders to determine the optimal approach for the study. Over one month, several informal meetings were held with community leaders to discuss the possibility, requirements, conditions, advantages, and disadvantages of creating an ecomuseum. This phase also involved an initial assessment of the community's cultural and natural heritages to determine whether the project could progress.

Step 2: Development of Participants' Skills and Knowledge

The researchers developed comprehensive training courses to equip the participants with the necessary knowledge and skills. These courses were designed to serve an educational purpose and were tailored to meet the community's specific needs. Two specific courses were created to achieve this goal. The first course focused on the ecomuseum concept, covering its development, characteristics, roles, forms, management, and examples from around

the world. This course was designed to educate all community households, enabling them to understand the ecomuseum concept and share the same vision. The course was conducted in six sessions, each attended by small groups. In total, 164 households participated in the course, which was designed to ensure effective and efficient learning outcomes. The second course was tailored for the working committee, who would survey, explore, and identify the cultural and natural heritages. This course provided them with the knowledge and skills required for data collection and survey techniques to identify and document the community's cultural and natural heritage sites, which could be used to develop the ecomuseum. The training courses were designed to be engaging and interactive, focusing on practical learning. The participants were encouraged to ask questions and share their experiences, which helped to create a collaborative learning environment.

Step 3: Survey, Exploration, and Identification of the Heritage Resources

To ensure the success of the ecomuseum concept, the community selected a group of 17 members to form a working committee. These individuals were chosen based on their knowledge of the ecomuseum concept, local wisdom, community resources, and availability to participate in the

process. The committee comprised community leaders, female leaders, youth leaders, and local officers. Together with researchers, they collaborated to create a comprehensive list of the community's cultural and natural heritage as well as a list of individuals who could provide insight into these heritages. It was then followed by a survey and data collection process using various methods, including interviews, open-ended questions, observations, and surveys. Detailed data needed were the characteristics of heritage resources, the heritage's history and development, and how they were inherited and preserved.

The next step involved a survey and data collection process, utilising various methods such as interviews, open-ended questions, observations, and surveys. The goal was to gather detailed data on the characteristics of heritage resources, their history and development, and how they were inherited and preserved.

In total, 38 informants were involved in the process. To ensure a thorough exploration of the community's heritage resources, surveys and participant observations were conducted in various areas. These included the marine area (3 times by boat), local fisheries practice (3 times), canal area (2 times by boat), mangrove forest area (3 times by foot), beach area (5 times by foot), and land forest area (1 time by foot). The survey and data collection process were completed after three months.

Step 4: Selection of the Heritage Resources

The working committee and researchers collaborated to develop the Cultural and Natural Heritage Selection Criteria. This task was achieved by thoroughly analysing other ecomuseum websites and related research. Additionally, we brainstormed criteria that align with the community's way of life and uniqueness. Once the criteria were established, they were used to identify the cultural and natural heritages that best represented the community's identity. This process ensured that the selected heritages were significant and reflective of the community's values and traditions.

Data Analysis

Qualitative data from discussion forums, interviews, observations, and surveys were recorded daily for data analysis. The data was then analysed through content analysis, grouping themes, synthesising contents, and discussion.

Results

The Coastal Fishing Community's Potential Heritage

The first research question was, should the local population desire to do so? What cultural and natural heritage resources exist in a traditional coastal fishing community that could be potentially preserved by establishing an ecomuseum? Using the BBB as a case study, we identify 12 distinct groups of resources that have the potential to be showcased in an ecomuseum. These resources can be divided into eight categories of cultural heritage and four natural ones. The cultural categories include traditional fishing tools, local fresh and preserved food, coastal farming and animal husbandry, beliefs, legends, songs and memories, basketry and handcraft, community traditions, local architecture, and dialect. The natural heritages were pine beach, marine area and biodiversity, mangrove forests, and 'Ra-pon' (Table 1). These heritages are the unique culture and history of the BBB community that provides an intriguing insight into the lives of its inhabitants. Some categories will be highlighted in more detail as an example for other coastal communities who wish to identify similar but unique heritage that can be preserved, too.

Traditional Wisdom in Making and Using Fishing Tools

The BBB community relies on fishing for their livelihood. They have mastered the art of fishing in a 16 square kilometre marine area, utilising various local fishing tools such as deep-water pound nets, deep-water set nets, crab traps, squid traps, and various types of nets. Occasionally, the fishermen venture outside of this area to Bulon Island, approximately 50 kilometres away, to

Table 1: List of the potential cultural and natural heritages of the community

Cultural and Natural Heritage	No.of Items	Details
Cultural		
Traditional wisdom in making and using fishing tools	25	'*Hua-thong*' fishing boat, deep waters pound nets/deep waters set net, shallow waters pound net/shallow waters set net, surrounding net, mackerel surface gill net, lobster pod, butterfish surface gill net, threadfins surface gill net, crab bottom gill net, gill net and entangling net, grouper dip net, crab lift net, push net, clams trap, crab trap, squid trap, octopus trap, serrated mud crab trap, red-banded grouper trap, striped sea catfish trap, handlines and pole line, octopus traps by the noble volute shell, jellyfish bridge, pole and flag, and weight.
Local fresh and processed food	22	Red rice-crab curry, Goring crab, oyster curry, '*Chao Lay*' or fishermen curry, '*Tor Mea*' curry, pimp curry, grilled fish - seafood sauce, crab egg chilli paste, '*Yod Ya Sabuntai*' - shrimp paste, bean paste, mango chilli paste, stir-fried squid, seafood processing, stuffed dough pyramid dessert, bamboo sticky rice dessert, '*Khanom Deesum*', pandanus hot cake, coconut sweet rice flour ('*Khanom Jak*'), *Khanom Bunga Buda*, Thai crispy coconut craps, '*Khanom Boraphet*' and Aşure.
Coastal farming and animal husbandry	7	Rice planting, watermelon planting, coconut planting, growing chilli peppers, raising native horses, raising indigenous cattle and raising indigenous goats.
Belief, legend, song and collective memory	6	Beliefs about boats, myths about catching fish, beliefs in nature, '*To Bu Boi*' legend, songs about the sea and collective memories.
Basketry	2	Thatched-nipa-leaf roofs and pandan-leaf mats.
Community tradition	3	Circumcision, marriage, and the Quran studying.
Local architecture	1	Building a house with local architecture.
Dialect	1	Southern Satun dialect.
Natural		
Pine beach	3	The beach supports the community's different activities. It comprises 1.92 hectares with a 4 kilometre length and accommodates biodiversity and beautiful scenery.
Marine and biodiversity	2	The sea is teemed with biodiversity and is where the community's life occurs. The community-generated its rules and regulations to use it sustainably. The marine ecosystem here includes the canal, which is 4 kilometres long.
Mangrove forest	3	The community mangrove forest had an area of 44.16 hectares with various plants and animals.
"Ra-pon"	1	"Ra-pon" is the local name for the organic matter carried from the sea to land on the community coast. People use it as fertilisers.
Total	76	

place gill nets or surrounding nets, and to Sam Island, about 20 kilometres away, to use jellyfish shovelling, crab bottom gill nets, crab traps, and squid traps. Additionally, they dive near the coastline to collect snails. The fishermen's use of fishing tools is a testament to their deep understanding of the habitat and nature of each aquatic animal. For instance, they know that blue

crabs live in dunes, yellow shrimp in the mouth of canals with muddy water, sand whiting fish in sandy soil, snails in shallow sandy soil, and pomfret fish in deep trenches. Their knowledge has been passed down through generations of observation, experience, and knowledge transfer, and at least 25 traditional fishing tools are still in use. Their expertise allows them to harvest seafood while sustainably preserving the ecosystem's delicate balance.

Local Fresh and Processed Food

Coastal communities are renowned for their abundance of local seafood recipes, and BBB is no exception. With at least 22 well-known recipes that most visitors adore, the community has a lot to showcase. These recipes range from savoury to sweet, mild to spicy, offering diverse flavours to suit any palate. Some of these recipes have been modified with an Islamic touch, adding uniqueness to the delicious dishes. Often sourced directly from the sea, the uncontaminated seafood is freshest served, a strong point of the coastal communities. They also preserved the excess for out-seasonal nutrition. These also become well-loved products for relatives and visitors and can be showcased in the ecomuseum.

Natural Resources

Coastal communities naturally have natural beauty, such as sea, sand, seawater, islands, canals, and aquatic biodiversity. In BBB's case, some natural resources are pine beaches, rocky mountains, mangroves, canals, and marine biodiversity. One unique resource not found anywhere else is '*Rapon,*' which is the natural occurrence of branches and woods from the mangroves deposited at a particular beach by sea waves. These resources often interlink with the local stories and legends, which will be selectively highlighted here.

Belief, Legend, Song and Collective Memory

The locals have given each waterway flowing to the lush 44.16 hectares of mangrove area a unique name based on its distinctive characteristics. For instance, '*Khlong Hat Daeng,*' which translates to 'red beach', is 200 meters long and home to red dunes visible during low tide. Legend has it that the area was stained red with the blood of soldiers killed during World War II and that their remains were dumped here until a foul smell spread, giving rise to the name of the neighbouring village, Sungai Muso, which translates to 'stinking'. Today, the area is a popular spot for villagers to catch clams, mussels, and spiny rock crabs. '*Khlong Mi Lang'* was named for its abundance of catfish (*Mi Lang* means catfish), while '*Khlong Khod Khad'* earned its name due to its winding shape. Finally, '*Khlong Pad Nui'* and '*Khlong Pad Yai'* were named after the palm trees that line their banks.

'*Khao Phap Pha*'

A 15-metre-high rocky mountain with stone layers overlapping like folded fabrics is a popular tourist attraction along the coast. The area teems with mangrove and evergreen plants, such as cacti, pandanus, small-leaved mangroves, and white tabuns. According to local legend, a junk boat was wrecked off-shore, and the folded clothes were washed up on the mountain. '*Khao Kai'* is a stone mountain shaped like a chicken, believed to have originated from the same shipwreck. It can only be seen when the water recedes, and the local villagers and fishermen often tie a three-coloured cloth to the area that looks like the chicken neck for good luck and a successful fishing career. '*Khao Maeo'* resembles a large cat curled up and is believed to have come from the same wreck. It is a limestone mountain with a few drought-resistant plants, such as sandalwood, cacti, and pandanus. '*Hin Luk Chang*' is a round lump of limestone that appears as a parent and a child elephant drinking water from the Bu Boi canal. It is believed that wild elephants once inhabited this area due to the abundance of forests and mangroves (Roongtawanreongsri, 2017).

The survey, data collection, atmosphere, and examples of cultural and natural heritage are depicted in Figure 3.

Figure 3: The educational and exploratory atmosphere of the community's cultural and natural heritage

Proposed Selection Criteria

As numerous heritage resources may hold significance for certain community members, while others may not share the same sentiment, our second research question delves into identifying appropriate guidelines and criteria for determining which potential heritage resources should be included in the ecomuseum display. Our findings are presented here to assist other communities facing similar circumstances in adapting as necessary.

After collecting 76 cultural and natural heritage data, the team held consecutive meetings to determine which ones were worth selecting. Some heritages can also be found in other Muslim communities, such as buns, crab sticks, '*koi-pet*' desserts and Azura desserts, which may not indicate the community's uniqueness. Similarly, most community traditions are considered common Muslim traditions that may not be so distinguished as the community's heritage. However, some fishing gears, such as serrated mud crab traps, red-banded grouper traps and striped sea catfish traps, are no longer used much in the present day elsewhere, but can still be found within the community, and the knowledge of how to create and use them is still alive. The participants agreed that they should be included in the ecomuseum.

Hence, selection criteria were naturally developed to ensure that the chosen heritages genuinely represent the community. Ultimately, the selection criteria arose from a brainstorming session with the help of the MACDAB 21 Museum Eco-Qualification Criteria (Davis, 2011). There are seven criteria (Table 2), three of which were from the MACDAB criteria, and the working committed added another four. For a heritage to be included in the ecomuseum, it must pass at least one criterion. Table 3 provides assessment samples of the cultural and natural heritages studied and explored.

From the BBB case study, 60 of 76 cultural and natural heritages met those criteria. The final heritages included 12 food-related heritages, 23 fishing gears, seven agricultural and animal husbandry activities, six beliefs, legends, songs and shared memories, one basketry and handcraft, one architecture, one language, three beach heritages, two marine and biodiversity, three mangrove forest heritages, and '*Ra-pon*'. Although some of these heritages may appear ordinary, they are of great importance to the community in terms of their prolonged existence, such as '*Khanom Chak*' and '*Khanom Thien*' (Criterion 7). Additionally, some heritages are on the verge of extinction from the community, such as '*Chao Lay*' Curry, mackerel surface

Table 2: Selection criteria developed by the community

Criteria	Criteria for Assessing Cultural and Natural Heritage by the Community
1	The heritage represents the community's identity and wisdom and is essential to the community's way of life.
2	The heritage is distinguishing and unique.
3	The heritage contains spiritual values and is meaningful to the community.
4	The heritage can be accessed or displayed in the ecomuseum during all seasons.
5	The heritage possesses a legacy that is about to disappear from the community.
6	The heritage can promote local careers to generate income for the community or create co-benefits.
7	If the heritage is a common heritage, it must be passed down for a long time, thus, reflecting the culture of the community.

Note: Criteria 1, 5 and 7 were from Davis (2011), whereas the working committee created 2, 3, 4 and 6.

Table 3: Examples of some cultural and natural heritages assessed by the selection criteria

Heritage	Examples of Using the Evaluation Criteria for Considering Cultural and Natural Heritage by the Community						
	Criteria No. 1	Criteria No. 2	Criteria No. 3	Criteria No. 4	Criteria No. 5	Criteria No. 6	Criteria No. 7
Local fresh and preserved food							
Red Rice-Crab Curry	√	-	-	√	-	-	√
Tor Mea' Curry	√	-	-	√	-	-	√
*Chao La*y Curry	√	-	√	√	-	-	√
stuffed dough pyramid dessert	√	-	-	√	-	-	√
Aşure							
Traditional wisdom in making and using fishing tools							
Fishing boat	√	√	-	√	-	√	√
Mackerel Surface gill net	√	-	-	√	-	√	√
Deep waters pound nets, or Deep waters set nets	√	√	-	-	-	√	-
Handlines and Pole & line	-	-	-	-	-	-	-
Octopus Traps by Noble Volute Shell	-	-	-	-	-	-	-
Farming and animal husbandry							
Rice planting	√	-	-	-	-	√	-
Watermelon planting	√	-	-	-	-	√	√
Raising native horses	√	-	-	√	-	√	-

Heritage	Examples of Using the Evaluation Criteria for Considering Cultural and Natural Heritage by the Community						
	Criteria No. 1	Criteria No. 2	Criteria No. 3	Criteria No. 4	Criteria No. 5	Criteria No. 6	Criteria No. 7
Belief, legend, song and memory							
Songs about the sea	√	-	√	√	√	-	-
Collective memories	√	-	√	√	√	-	-
Basketry and handcrafts							
Sewing thatched roof	√	√	-	√	-	√	√
Weaving pandan leaf mats	-	-	-	-	-	-	-
Community tradition							
Circumcision	-	-	-	-	-	-	-
Local architecture							
Building a house	√	√	-	√	-	-	√
Dialect							
Southern Satun dialect	√	-	-	√	-	-	√
Pine Beach and Bu Boi Beach							
Biodiversity and beach activities	√	√	-	√	-	√	-
Sea and marine biodiversity							
Marine biodiversity	√	√	-	√	-	√	-
Mangrove forest							
Catching aquatic animals	√	√	-	√	-	√	-
'*Ra-pon*'							
The remains of organic matter carried from the sea	√	-	-	√	-	√	-

gill net, and thatched-sewing roofs (Criterion 5). 16 heritages were not selected, including oyster curry, pimp curry, crab egg chilli paste, mango chilli paste, stir-fried squid, seafood processing, '*Bunga Buda*' or '*Dok Lamchiak*' dessert, coconut-biscuit curl, Aşure, handlines and pole lines, octopus traps, weaving pandan leaf mats, circumcision, marriage and reading the Quran. Some cultural traditions were not selected for inclusion due to various factors, such as their ubiquity, lack of community significance, limited availability, or sensitivity surrounding religious observances. The community agreed that some particular heritages could be presented seasonally. For example, from June to September, visitors can explore the beach and search for screw turret shells. From October to April, they will be able to observe and taste a variety of preserved seafood. If they visit the community's ecomuseum during circumcision, they can learn and observe such rituals.

In short, the essential criteria that the local people are concerned about must be able to distinguish the outstanding, unique and meaningful community's heritage resources and possess the capacity to be showcased in the ecomuseum while simultaneously promoting the local economy.

Engaging the Community

The final research question pertains to community involvement in the entire research process to determine the results of the first two questions. In this research, we engaged stakeholders at various levels throughout the research stage. Community leaders participated in the project's planning, providing valuable insights and feedback throughout the research operation. Household representatives were also included in the process, participating in a training course to understand better the ecomuseum concept and its potential establishment in their community. Additionally, relevant governmental officers were involved in critical stages, such as informing the project, educating the concept, and planning for the proposed ecomuseum establishment. Finally, the youth actively participated in the survey and data collection for heritage identification.

In order to assist community members in achieving the research goal with efficiency, training courses were developed to meet their needs. These courses aimed to provide all households with knowledge about the ecomuseum concept and equip the working committee with the necessary skills for data collection. These courses were an empowering tool for the community, allowing them to mobilise as informed citizens.

The PAR method was particularly effective in this context, as it encouraged active participation from local individuals throughout the planning process, learning stages, survey and data collection, selection criteria development, heritage resource selection, and research evaluation.

Discussion

This study aimed to identify potential natural and cultural heritage within a coastal fishing community as a preliminary stage before establishing an ecomuseum. Its purpose was to provide examples and guidelines for other communities who desire to preserve their values through ecomuseum establishment. The findings revealed that numerous resources could be showcased from the coastal communities, depending on the community's values and priorities. This led to the development of heritage selection guidelines based on the community's actual needs. The results also confirmed that community participation could bring about positive change and action towards a common goal, making it a powerful solution for preserving the community's valued heritage.

The BBB community was selected as a case study to highlight its unique cultural and natural resources, serving as an example for similar communities elsewhere. Typically, the livelihoods of coastal fishing communities along the Thai Andaman coast are inextricably linked to the sea. However, the BBB community possessed its uniqueness of diverse cultures and wisdom derived from local resources, particularly their traditional fishing methods, the creation and use of folksy fishing gear, unique seasonal cooking and food preservation techniques, and abundant natural resources such as the sea, coastline, mangrove forests, and agricultural land. These resources possess high potential for establishing an ecomuseum.

While these heritage resources may differ in specific local characteristics unique to certain geographies, added up by cultural and socio-economic factors, they should also exist in other coastal communities. Various resources can be listed as having potential for the ecomuseum. To help with heritage identification, we compiled a list from this study and various ecomuseum literature, not strictly limited to coastal, and modified them to suit the context of coastal communities (Table 4). Some of the literature that inspired us includes Hoobler (2006), Nitzky (2012), Rogers (2012), Begossi and Caires (2015), Moshenska and Fernández (2017), Pavlis (2017), Canavese *et al.* (2018), Pasternák and Verba (2018), Dal Palù *et al.* (2018), Aoulad-Sidi-Mhend *et al.* (2019), Zhou *et al.* (2019), Sarmiento *et al.* (2020), Fuller *et al.* (2020) and Belliggiano *et al.* (2021).

Table 4: A compiled list of potential natural and cultural heritage exists in a coastal community

Category	Examples
Natural beauty	The beautiful or unique scenery of geographies includes coastline, landscape, beach, sand, sea, seawater, sunset or sunrise spot, valley, mountainscape, rock formation, cliff, limestone, cave, waterway (river, canal, streams), and lakes.
Natural resources	Wetlands, mangroves, beach forests, marshes, biodiversity, wildlife animals, vegetation, trails and forest tracks, pebbles, marine sediments, waterfalls, and springs.
Socio-cultural heritage	Spiritual values, religions, pilgrimage sites, beliefs, rituals, customs, legends, stories, myths, aesthetics, dialects, wisdom, inspirations, collective memories, identities, music and performances, local food and recipes, local architectures, traditional healings, traditional villages, cultural diversity, history, archaeological remains, native culture, ethnic culture, arts and crafts, occupations, and industry.

Another essential component of this study was the heritage selection criteria. With the data collection yielding a plethora of potential heritages, it was necessary to narrow down the selection. Maggi and Falletti (2000) and Galla (2002) provided some criteria that were adapted for this study: (Criteria 1) the heritage must represent the community's identity and wisdom, (Criteria 5) it must possess a legacy that is on the brink of disappearing from the community, and (Criteria 7) it must have been passed down for a long time, thus, reflecting the culture of the community. However, these three criteria were insufficient to eliminate some of the 76 items, so the working committee added additional criteria. These include the heritage being distinctive and unique (Criteria 2), containing spiritual values and being meaningful to the community (Criteria 3), being accessible or displayed in the ecomuseum during all seasons (Criteria 4), and being able to promote local careers and generate income for the community or create co-benefits (Criteria 6). By using a combination of established criteria and additional practical considerations, the working committee was able to select the most suitable heritage for the community. This ensures that the selected heritage is both culturally significant and economically viable, providing tangible benefits to the community.

This study employed participatory action research to involve the community in every step of the process, from planning, surveying, and identifying potential heritages to collecting data and making the final selection. In establishing an ecomuseum, it is crucial to have the community actively engaged in exploring, collecting, and selecting the heritages (Liu & Lee, 2015). While all members were involved in every stage, this study specifically included youth participation in the survey and data collection to resolve the young generation leaving their ancestors' traditional way issue. In other studies, Galla (2002) and Lloyd and Morgan (2011) similarly found that community participation is essential for exploring and collecting cultural and natural heritage data in the Halong Bay Ecomuseum in Vietnam, which has a context similar to this research (Liu & Lee, 2015). Liu and Lee (2015) also noted that by exploring and collecting information about the heritages, the participants would better understand which heritages to conserve due to their significance.

The willingness of the people to participate in the research reflects the strong bond within the BBB community. Muslim communities share the same beliefs and perspectives on social, cultural, and natural resource conservation. Individually, they are generous and follow Islamic religious traditions and principles while having a strong community network and mutual trust. This common belief allows them to work together to handle community matters and collaborate with various agencies and organisations inside and outside the community. These human and social characteristics have enabled action research to progress smoothly and productively. Besides,

the community's rich resources are solid natural capital contributing to many other potential heritages. The BBB community feels that they own their resources and cultures and have equal access to each resource, which has resulted in an enthusiastic attitude towards community development (Roongtawanreongsri *et al*., 2017). This sentiment is echoed in the findings of Knollenberg *et al*. (2022), which suggest that social, cultural, human, and natural capital are the key supports for the community to be proactive in sustaining the local economy. Other studies have also found that social, human, and cultural capital are essential for community development (Bekcer, 1964; Flora, 1995). As the ecomuseum concept emphasises community involvement and placing value on people rather than objects (Chaumier & Chare, 2020), these driving forces are essential for establishing an ecomuseum. Although political, financial, and built capital may play a crucial role in the later stages of ecomuseum establishment, they did not contribute much to the process in this research.

This research has yielded some valuable insights that are worth highlighting. First, it is vital to identify the key stakeholders who contribute to the success of the process. These stakeholders include community members, leaders, elders, religious figures, and youth. Additionally, local government officers responsible for cultural and tourism aspects, such as the Provincial Office of Culture, the Department of Tourism and Sports, and the Provincial Museum, as well as educational institutes like local universities, schools, and vocational colleges, and non-profit organisations and funding agencies should also be involved.

In the context of this study, we found that involving participants as working committees and data collectors was essential. Previous research had typically relied on researchers collecting data on potential heritages independently, without the community being immersed in the process (Pantu, 2014; Phansiri, 2020). This research addressed this issue by recruiting the community as primary data collectors and selecting a working committee for

the necessary tasks. Additionally, the community suggested drawing on the energy of the youth to join the process, thus, naturally transferring pride in the community's heritage to the next generation.

Second, to ensure the success of this research, it is crucial to create and promote active participation. Pavlis (2017a) notes that ecomuseums are designed for and managed by local communities, and establishing them is dynamic (Pasternák & Verba, 2018). Therefore, community involvement must be the primary focus of the ecomuseum, as emphasised by Corsane (2006), Borrelli and Davis (2012), Liu and Lee (2015), Chaumier and Chare (2020). According to Davis (2011), community participation offers numerous benefits that can lead to increased acceptance and practice among members, resulting in cost reductions, minimised wasted time, reduced conflicts and confrontation, easier collaboration, increased intimacy between people in the community, development of ideas from community people, credibility and fairness, and heightened public interest in operational issues. As a result, researchers need to encourage community involvement throughout the process, from planning and brainstorming to consultation and follow-up. This approach ensures that surveys and data collection are comprehensive, complete, and accurate.

Third, empowering communities through education on the content and process of establishing an ecomuseum is a powerful tool for driving community development. Numerous studies have highlighted the democratic and community-based social processes of ecomuseums (Corsane, 2006; Chang *et al*., 2015; The Saskatchewan Ecomuseums Initiative (SEI) Steering Committee, 2016). For community members to make informed decisions for the better course of their community, they must have vital knowledge about the issues being considered. A training course or learning session can equip community members with the relevant knowledge and skills to achieve their goals. Through such an educational process

on ecomuseums, communities can better understand the benefits and potential impact of establishing one. This knowledge can empower community members to take an active role in developing their community and work towards a common goal (Sutter *et al*., 2016). Additionally, the democratic and community-based social processes of ecomuseums can foster a sense of unity and collaboration among community members (Belliggiano *et al*., 2021). Education on ecomuseums can catalyse community development and provide a platform for community members to come together and work towards a shared vision.

Fourth, proper planning before conducting a survey and collecting data is essential to obtain a comprehensive list of potential heritage. This planning process involves designing questions that will elicit complete information about each heritage and preparing for additional resources if the information gathered from the community is insufficient. Furthermore, recording the geographic coordinates of the areas where cultural and natural heritage is located can be highly beneficial for future research endeavours.

Fifth, various methods for surveying and collecting heritage data should be used to uncover valuable insights. For instance, snowballing can identify knowledgeable human resources such as local scholars, elders, or people involved in the area. It is also beneficial to set up a working committee to design questions or data to be gathered, have youth interview those people, and write a memorandum of various stories relating to cultural and natural heritage. In particular, having youth conduct interviews with local people has proven advantageous, as the respondents are more likely to provide complete insights due to the feeling of a close connection with the interviewers. This finding is consistent with Liu and Lee's (2015) study, which utilised various survey methods and qualitative data collection over a 7-year cooperative study of local activities. They also employed a questionnaire survey to interview 25 local experts and discovered that such practices

fostered good relationships, resulting in accurate cultural and natural heritage information.

Lastly, communities must collaborate and establish selection criteria that align with the objectives of the ecomuseum. While some criteria may already exist, it is important to assess their suitability for the community's context and develop additional criteria if necessary. In addition, voting or other processes may be utilised during the selection process to ensure that the potential of the surveyed heritage is considered and conflicting significance is avoided. Failure to do so could result in conflicts among community members (Sungrugsa *et al*., 2017).

Conclusion

Establishing an ecomuseum is a significant step in preserving and celebrating natural and cultural heritage. To ensure the success of this endeavour, participatory action research was conducted to enhance and empower community involvement in the initial stages of setting up an ecomuseum: The survey, identification, data collection and selection of potential heritages. The results show that a coastal fishing community can have various potential natural and cultural heritage resources. This study identified critical lessons learned from helping the community identify, explore and collect comprehensive data for potential heritages. They are to identify and engage relevant stakeholders, create and promote active participation, empower the community with a learning process, plan well before conducting the survey, use various methods for data collection, and develop context-appropriate selection criteria. These steps must be undertaken with the active involvement of the community members. The success of this research relies heavily on the community's human, social, cultural, and natural capital, while financial, political, and built capital plays a lesser role. Further research should be conducted to collect detailed information about each heritage and outline how to present this information to reflect the community's nature and culture in the coming ecomuseum.

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