

# Landscape Improvement to Promote Cultural Landscape Values Toward Sustainability: A Case Study of Wat Khongkhaliab, Nakhon Si Thammarat Province, Thailand

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## ABSTRACT

Wat Khongkhaliab is where King Taksin the Great first set foot in Nakhon Si Thammarat, a province in the south of Thailand, during the Thonburi period. Due to the devotion of the local populace and the temple, there is a project to construct a monument to King Taksin the Great and improve the temple's landscape. This study investigates the issues and the impacts of the construction of the King Taksin monument within the Wat Khongkhaliab area. Additionally, the study proposes a sustainable landscaping model to enhance the cultural heritage values at Wat Khongkhaliab. The study employed concepts of cultural heritage value, cultural landscape, sustainable conservation and development of historical sites, and field surveys to analyze land use, transportation systems, open spaces, viewpoints, architecture, cultural landscape elements, and various traditional activities in the area. It proposed ways to make the monument prominent and to create awareness of the cultural landscape elements related to historical events associated with King Taksin's stay at Wat Khongkhaliab, including other cultural heritage sites within the temple. The implementation considered sustainable development principles, including environmental, social, and economic factors, resulting in efficient time and budget management of the first phase of construction.

**Keywords:** improvement, sustainability, cultural landscape, cultural heritage, Wat Khongkhaliab, King Taksin the Great

## INTRODUCTION

Cultural landscapes are examples of the evolution of human societies and settlements over time, under the influence of physical constraints arising from different factors, such as natural environment and continuous social, economic and cultural forces. The study of cultural landscapes often reflects existing techniques of sustainable land use, taking into account the characteristics and constraints of the natural environment from which the landscape is created, and the relationship that man has created with nature (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2023). The main components of cultural landscapes can be classified as tangible heritage values, which refer to physical characteristics, and intangible heritage values, which refer to the meaning of the landscape (O'Donnell, 2008). From the above principles and concepts, it can be seen that the definition of cultural landscape does not only refer to the landscape of rural communities, but also covers the landscape in urban areas, especially in areas that have been declared as old cities or historic areas.

The cultural landscape of historical areas is considered a valuable and important cultural heritage. A study of cultural landscape should look at the historical area, environmental and cultural contexts, and factors affecting the change of the area to appreciate the value and importance of each element in the area. Sustainability-oriented landscape research requires interdisciplinary and multidisciplinary approaches, and because sustainability-oriented landscape research requires inter- and transdisciplinary approaches, it is especially important to consider the influence researchers have in shaping and applying conceptual frameworks and methods (Knierim et al., 2021).

The cultural landscape of a historic area is linked to the history of community establishment resulting from past social and political factors. In areas with dense buildings or structures, there is little remaining original natural conditions. The cultural landscape of a historic area reflects the

development of the community, the continuation of the community's way of life and culture from the past to the present through historical areas, important past activities, and important historical figures. Examples of areas in this group include battlefields, palaces, and residences of important persons (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2011).

King Taksin the Great, an important monarch of Thailand during the Thonburi period, led his forces to subjugate the southern cities in 1769. His royal fleet, including the royal barge "Suwannaphichai Nawa," reached Nakhon Si Thammarat. According to the royal chronicles, he landed at the ancient port (Wat Khongkhaliab) and proceeded to Thapho. During his stay in Nakhon Si Thammarat, he renovated Wat Phra Mahathat. Moreover, he borrowed the Tipitaka from Wat Hor Trai in Nakhon Si Thammarat to make copies in Thonburi and invited Phra Ajarn Sri from Wat Pa To to become the second Supreme Patriarch of Thonburi. He ordered the construction of over 100 boats in Nakhon Si Thammarat before returning to Thonburi by the royal fleet in early 1770. King Taksin the Great has been revered by the people of Nakhon Si Thammarat since then until the present day (Wannapong & Prichet, 2015).

Wat Khongkhaliab is situated at Moo 3, Tha Sak subdistrict, Mueang district, Nakhon Si Thammarat province. Its location is nearby Tha Sak river. People can find Wat Khongkhaliab as the first temple on their way to Nakhon Si Thammarat from Pak Paya river basin. It is an ancient local temple dating back to the Ayutthaya period and is historically linked to King Taksin the Great. It is where King Taksin the Great first set foot on the land of Nakhon Si Thammarat. Currently, Wat Khongkhaliab is bordered to the south by Tha Sak river, to the north by agricultural land, and to the east and west by residential areas. Within the temple grounds, significant sites include the sacred well and numerous revered statues. Additionally, Wat Khongkhaliab serves as a venue for religious and traditional community activities.

**Figure 1**

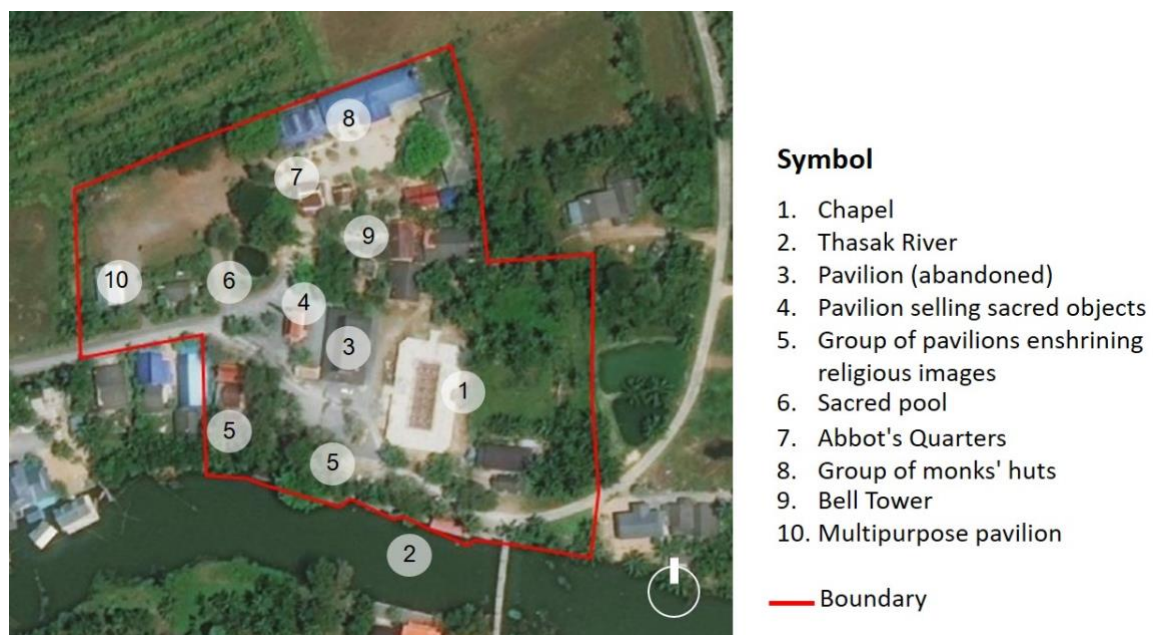
*Aerial Photograph of Wat Khongkhaliab's Location in 2022*



*Note.* Adapted from *Wat Khongkhaliab*, by Google Map, 2025 (<https://shorturl.at/Ke9nU>). Copyright 2025 by Google LLC.

**Figure 2**

*Aerial Photograph and Boundary of Wat Khongkhaliab in 2022*



*Note.* Adapted from *Wat Khongkhaliab*, by Google Map, 2025 (<https://shorturl.at/Cx54r>). Copyright 2025 by Google LLC.

Private sector benefactors, in collaboration with Wat Khongkhaliab, commissioned the School of Architecture and Design at Walailak University to study the landscape adaptation plan for constructing the King Taksin the Great Monument. This initiative aims to commemorate his contributions and develop a master plan for the sustainable conservation and development of Wat Khongkhaliab and the surrounding communities.

Creating new landscapes in religious sites can contribute to urban sustainability by establishing new recreational spaces for the community and revitalizing the area's potential as a tourist destination (Husarski, 2025). Landscape improvement greatly enhances the aesthetic appeal of the area. Design can create ambiance using ecological structures, leading to new landscape design concepts (Jin & Miao, 2024). Landscape design should also emphasize scenic views and involve public participation (Darnthamromgkul, 2023). In the conservation and development of historical areas, one should consider not only buildings and monuments but also the historical area as a community of people with culture and belief systems reflected in the overall historical landscape, which is the cultural landscape (Taylor, 2016).

The study of cultural landscape components is divided into two parts: cultural study and topographical study. The cultural study focuses on the way of life and traditions of the people living around the cultural landscape to understand the reasons behind human actions towards nature or the transmission of attitudes and beliefs. The topographical study examines the relationships among living organisms within the ecological system influenced by natural processes and human activities that create the cultural landscape (UNESCO, 2011). Integrating conservation and development will promote more sustainable urban and community recovery (Zhang et al., 2024). The question of this research, therefore, is how to improve the cultural landscape of Wat Khongkhaliab sustainably. The research objectives are to investigate the issues and the impacts of the construction of the King Taksin monument within Wat Khongkhaliab and to propose a landscape adaptation model to enhance the cultural heritage values at Wat Khongkhaliab sustainably.

## METHODOLOGY

Step 1: Information on conservation concepts, cultural landscapes, sustainability, relevant history, and beliefs was collected from documents to study their potential and use as guidelines for area improvement. Additionally, semi-structured interviews were conducted with stakeholders, including a temple representative (the abbot), a government agency representative (the mayor of Tha Sak Subdistrict Administrative Organization), the village headman of Village No. 3, a private sector representative (the Phanrak Ratchadet Foundation), and surrounding community members.

Step 2: Field surveys were conducted to assess land use boundaries, utility infrastructure, open spaces, architectural and landscape elements, transportation systems, viewpoints, and activities. The aim is to identify both the potential and the issues of the area. This process included visual assessments and detailed note-taking.

Step 3: Data obtained from steps 1 and 2 were analyzed to propose landscape adaptation methods for the construction of the King Taksin monument and promote the cultural heritage values of Wat Khongkhaliab, Mueang district, Nakhon Si Thammarat. The proposed landscape adaptation methods included two concepts: (1) positioning and designing the King Taksin monument, and (2) landscape improvement to enhance the cultural landscape values of Wat Khongkhaliab sustainably.

## Framework for Cultural Landscape Adaptation in Historical Areas to Sustainability

### Cultural Landscape Values in Historical Areas

Historical areas are a part of cultural heritage, representing aesthetic, historical, social, or other unique values significant to the community, including both tangible and intangible aspects (International Council on Monuments and Sites [ICOMOS], 2013). This also includes cultural landscapes, which are a type of cultural heritage reflecting human adaptation and settlement patterns that modify the environment to meet

societal and cultural needs (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2002). These are geographical areas that combine cultural and natural resources with history, activities, or notable individuals.

Managing landscapes in cultural heritage areas should not only focus on conserving globally significant heritage and tangible heritage to enhance economic value but should also emphasize local heritage values (Ginzarly et al., 2019). Cultural landscapes can express values both in tangible and intangible forms across four aspects (Thinnakorn & Anurak, 2022).

**Aesthetic Value:** This refers to areas with beautiful buildings and surroundings resulting from the utility or beliefs of ethnic groups. These areas are aesthetically pleasing due to the craftsmanship of royal or local artisans, using local materials, harmonizing with the environment, showcasing architectural styles, site layouts, and community planning.

**Community History:** This refers to areas with buildings and surroundings that serve as historical evidence of the community, having ancient structures linked to significant community events in history. The environmental and architectural features reflect the founding of the community or its original culture.

**Educational and Research Value:** This refers to areas with buildings and environments serving as information sources, demonstrating authenticity, rarity, and uniqueness. These areas represent shifts in land use or utility due to beliefs, construction wisdom, and planning, providing clear communication of their significance.

**Social Value:** This refers to areas with buildings and environments associated with community events, traditions, rituals, beliefs, stories, or legends. These areas are deeply connected to the locality, widely accepted, continuously utilized, and capable of promoting the local economy.

### **Guidelines for Conservation and Development in Cultural Heritage Areas**

Utilizing diverse forms of cultural heritage is crucial for development, from cultural heritage to creative industries and cultural tourism, serving as a tool for driving sustainable development.

There should be an assessment of the vulnerability of cultural heritage components considering the environmental, social, and economic factors, as well as potential impacts. This assessment should inform the creation of a framework for integrating heritage values leading to the establishment of conservation and development guidelines for unique historical towns (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2015).

The conservation and development practices in historical community areas are grounded in the following fundamental guidelines (Fine Arts Department, Ministry of Culture, 2005; Wayne & Attoe, 1988).

**Land Use and Building Types:** It is the control established based on the original land use characteristics of the area to maintain the community's uniqueness and prevent buildings that do not align with the area's historical character.

**Open Space and Visual Elements Impacting the Environment, Landscape, and Views:** This involves considering existing open spaces and new ones created by building constructions. Existing open spaces should be preserved without new constructions. The original layout and perspectives should be maintained to preserve the significant views and spaces. Newly created open spaces should be flexible for various uses (Ewing & Cervero, 2010).

**Proportion and Form:** The proportions and forms of new buildings should consider their relationship with surrounding structures, respecting the original architectural styles. New constructions in historical areas should harmonize with the historical sites in terms of size, color, form, and location, ensuring they do not obstruct the view of significant historical buildings. Moreover, new buildings should be designed in a way that can be identified as recent constructions.

**Building Characteristics:** This includes controlling building height in conservation areas, respecting the existing skyline and landmark buildings. Construction near historical sites should maintain a setback of at least 20 meters from these sites.

**Selection of Vegetation:** Preserving as many original large trees as possible is crucial, as they are significant elements that reflect the historical



continuity of the area (Thinnakorn, 2021). Additionally, new plants should be well-suited to the local ecosystem and environment, as well as easy to maintain. The selected types of plant species should be able to use in consumption, daily life, decoration, or expression of religious or cultural beliefs (Chatakul & Janpathompong, 2022).

### **Approaches for Sustainable Landscape Adaptation in Historical Areas**

The concept of landscape adaptation considers the interrelationship of various values, environmental conditions, and activities within an area. The guiding principles aim to identify the authenticity and integrity of the place and to understand the area's development and transformations (Thinnakhon, 2018). This involves evaluating the location and setting, form and design, material and substance, use and function, traditions, techniques and management systems, language, and other forms of intangible heritage as well as spirit and feeling (UNESCO, 2023). These elements collectively contribute to a framework for recognizing the values and establishing the cultural identity of the area.

The creation of cultural identity considers the unique characteristics of individuals, societies, communities, nations, ethnicities, languages, local cultures, religions, etc. These characteristics serve as indicators of uniqueness that are not universally applicable to other societies (Fuangsakun, 2003). It should include small sacred sites that represent the heritage of beliefs from various cultures, expressed through space and external appearance (Jhearmaneechotechai, 2022). Elements reflecting cultural identity are crucial for recognizing the distinctiveness within a community area (Chimplee & Haocharoen, 2022). Establishing an identity for cultural spaces can be achieved through designs that reflect the cultural identity of the community. This includes integrating heritage elements with innovative designs and prioritizing the experiences and memories of visitors, thereby enhancing the identity and memory of the place (Efsthathiou, 2020). Cultural festivals also play an important role in creating identity and social connections by providing spaces for community interaction and the display of artistic innovations (del Barrio et

al., 2012). The design process for creating a shared identity among stakeholders in all sectors helps ensure cultural sustainability. Social participation enhances the effectiveness of cultural heritage reuse (de Abreu Santos & van der Borg, 2023). Emphasizing community participation, ways of life, and culture in the cultural landscape is essential for the protection of cultural heritage (Zhou & Buranaut, 2025).

Development approaches should encompass topics ranging from geography and social aspects to economic and architectural issues, both at the local and national levels. The focus on five main areas—population, economy, architecture, urban planning, and culture—will lead to the emergence of concepts related to urban sustainability (Pavel, 2024). However, conservation concepts should acknowledge changes occurring in historical areas and must incorporate processes and set conservation and heritage management goals as part of sustainable development strategies (Issarathumnoon, 2020). Integrating traditional architectural elements into new developments and adapting them to current circumstances are a solution for housing issues and they promote a more sustainable culture (Formolly & Saraei, 2024).

Sustainability endures significant environmental impacts due to human actions (van der Heijden, 1999). Buildings and the built environment play a crucial role in human impacts on the natural environment and the quality of life (The International Union of Architects, 1993). Sustainable architectural and environmental design must promote environmental quality, ensure clean air and water, and enhance the quality of life, which are all interconnected aspects of environmentally responsible architecture (Williams, 2007). Sustainable environmental design or landscape adaptation considers the following three factors (Hengrasmee, 2007; Samsudin & Maliki, 2015; Thinnakorn et al., 2025).

**Environmental Factors:** Consideration of protected or conserved areas of cultural landscapes that are suitable and conducive to development and adaptation to threats. The layout or architectural form must relate to the environment, adapting buildings or layouts to vegetation and water sources without negatively impacting the environment. It should demonstrate

traditional wisdom in living practices, use appropriate materials and technologies, and provide flexible functionality according to needs.

**Social Factors:** Consideration of local approval or stakeholder engagement regarding the scope of the cultural landscape, its significance, and value for preservation and protection. The layout or building form must relate to the community's lifestyle, be part of the social structure, and be supported by laws and policies for shared resource use or through community participation in creating agreements.

**Economic Factors:** Consideration of the ability to create and develop new elements that support cultural and economic activities within the heritage area. Activities within buildings or communities should maintain an efficient economic system and resource management.

Reviewing related concepts brings about the conceptual framework for improving the landscape to promote the value of the cultural landscape of the historical area of Wat Khongkhaliab. It is necessary to take into account the participation between the temple and all stakeholders in order to know the value and importance of the elements of the cultural landscape in the area and lead to the development of the concept of designing the improvement of the landscape to create a clearer awareness of the cultural landscape and the joint management guidelines of the area, which will be an important part in the conservation and development of Wat Khongkhaliab sustainably.

The concept of designing the area improvement gives importance to the elements of the cultural landscape in the area of Wat Khongkhaliab that are related to historical events and important people. Conducting field surveys and collecting data from settlement characteristics, and historical development leads to an analysis of land use, traffic, open spaces, perspectives, architecture, landscape elements and activities that occur within the temple and surrounding environment in terms of culture, traditions and beliefs or important historical events and current cultural tourism activities to know the potential and problems in each area. The factors affecting sustainable development are as follows:

Environmental factors involve the area plan, clarity of the area boundaries according to the ownership of the temple, awareness of important

elements of the cultural landscape, such as architecture, vegetation, and water sources. Utilization of free space can support a variety of activities, is flexible, and can support future expansion. Another mechanism is adapting wisdom in using appropriate materials and technologies that are easily available locally and do not have an impact on the environment.

Social factors concern the approval of local people or stakeholders on the scope of the cultural landscape, meaning and significance in the area for the conservation and development of the cultural landscape in the temple area and in line with the way of life and better living of the surrounding community. The approach includes creating awareness of information on the development of site plans or building construction in the area, laws and policies, or participation in creating community agreements for shared resource use.

Economic factors point out the ability to generate income to support cultural activities of the temple and the community's economic system, the efficient management system of resources and areas within the temple and surrounding communities.

## RESULTS

### Analysis Results and Improvement Concepts for Wat Khongkhaliab

From the data collection and interviews with stakeholders, it was found that Wat Khongkhaliab holds distinctive value and significance in the historical context of the community. It is associated with a historical event involving King Taksin the Great, who traveled by water to visit Nakhon Si Thammarat and once stayed at the ancient pier of Wat Khongkhaliab (Wannapong & Prichet, 2015). There are also other beliefs, such as a local tale about Luang Pu Thuat, a revered monk in Thailand, who is said to have waited to board a boat under the Bodhi tree at this temple. In addition, archaeological artifacts have been unearthed within the temple grounds, such as remains of ancient boats and ceramic wares. These elements, along with Tha Sak river,

historical events, and local narratives, are considered key components of the cultural landscape—both tangible and intangible. This information was then analyzed using an urban community design framework to assess potential and identify problems, leading to conceptual ideas for improvement and problem-solving, as detailed in Figures 3 and 4 and Table 1.

### Land Boundary and Land Use

Wat Khongkhalieb is situated adjacent to Tha Sak river. The land is used for Buddhist religious purposes, supports various traditional activities, and serves as a recreational space for the community. These functions are key components of the cultural landscape. The grounds of Wat Khongkhalieb were divided into two main areas: the Buddhavasa area and the Sanghavasa area. The Buddhavasa area, located in the northern part of the temple, included the abbot's quarters, the monks' residences, a bell tower, a kitchen building, and restrooms. The Sanghavasa area comprised viharas and pavilions that house Buddha statues and artifacts unearthed within the temple grounds. A significant issue was the lack of clear boundaries between the Buddhavasa area, the Sanghavasa area, and the temple grounds. This ambiguity can lead to disturbances of the monks' privacy by visitors and tourists participating in various activities within the temple. The concept to address this issue is establishing clear boundaries between the Buddhavasa and the Sanghavasa areas by planting rows of local or Buddhist-related tall shrubs, such as orange jasmine and canna lily trees.

### Transportation System

Wat Khongkhalieb can be accessed via two routes: a land route through via a rural road from Pak Nakhon subdistrict and a water route via Tha Sak river, which historically served as a major transportation route linked to King Taksin the Great and the community's past way of life. However, the internal transportation system within the temple lacks clear demarcation, with no distinction between primary and secondary routes. Pedestrian paths are not separated from vehicle paths, posing safety risks. Additionally, motorcycles and cars from the surrounding

communities use the temple grounds as a shortcut to access the communities behind the temple, and there is a lack of emphasis on access via the water route, which was historically significant. The proposed improvement concept included raising awareness about access to Tha Sak river, which is a component of the cultural landscape associated with the history of King Taksin the Great, promoting the riverside area as a community recreational space, enhancing the recognition of the area along the river and promoting it as a community recreational space, reducing the frequency of car traffic through the temple by recommending alternative routes, organizing parking areas, implementing measures to control vehicle access within the temple grounds, and prioritizing pedestrian pathways to ensure safety and accessibility.

### Open Spaces

The open spaces within Wat Khongkhalieb are used for various community traditional activities. The temple courtyard is a sandy area that integrates with the riverside ecosystem, providing efficient water drainage and heat dissipation. There is also an open, undeveloped area behind the temple. However, the main issues with these open spaces included the dispersed nature of activity areas between buildings, a lack of flexibility and shade, and poor connectivity with the open spaces along Tha Sak river due to the presence of a pavilion housing religious statues that obstructs the connection between the courtyard and the riverside open spaces. Additionally, there is a lack of organized parking during traditional events. The improvement concept involved demolishing the unused pavilion to expand the open space and enhancing the temple courtyard as the site for a monument to King Taksin while preserving the original sandy courtyard characteristics. This improvement would also connect the courtyard to the open spaces along the river.

### Architecture and Landscape Elements

The buildings within Wat Khongkhalieb are mostly small, with heights ranging from 4 to 12 meters, scattered throughout the temple grounds. These buildings include both reinforced concrete and wooden structures, which are less than 15 years



old. The oldest structure is the bell tower, about 20 years old. Most buildings are newly constructed, with the large ordination hall, a central building for major community traditional activities, still under construction. There is also an unused multipurpose pavilion. The temple grounds feature numerous large trees, mainly around the perimeter.

The issues identified included the deteriorated state of many structures housing religious statues, which are scattered, leading to disconnected and inflexible open spaces, the diverse architectural styles lacking unity, and the lack of prominence for significant landscape elements, such as Tha Sak river, the river area, sacred pond, and bodhi tree, which are historically and culturally significant. The improvement concept involved establishing a royal monument as a focal point of the temple, renovating buildings and harmonizing their architectural styles with local southern Thai architecture, clustering new buildings to create flexible open spaces, enhancing landscape elements like walkways, trees, and signs to integrate with the temple's architectural features, developing the riverside area into a community recreation space, renovating the sacred pond to reflect the site's history and beliefs, and preserving large trees while highlighting the significance of the bodhi tree along the river according to community beliefs.

## Viewpoints

An analysis of the viewpoints and perceptions within the temple revealed a lack of clarity due to the absence of well-defined boundaries. Within the temple grounds, Tha Sak river area offers a stunning view that highlights the serene waterfront atmosphere and the lush greenery of the trees lining the opposite bank. However, this viewpoint is largely obscured by newly constructed buildings, resulting in limited visibility. Furthermore, the temple grounds lack a focal point. The improvement concept involved enhancing the perception of entering the temple grounds by constructing a prominent entrance gate and clearly defined boundary walls. Emphasis was placed on creating awareness of the viewpoint towards the waterfront area, highlighting the significance of Tha Sak river as a cultural landscape associated with the history of

King Taksin the Great. A monument of King Taksin the Great was erected as a focal point, making it noticeable from the temple's entrance. (Figure 4).

## Activities

Wat Khongkhaliab serves as a central hub for Buddhist religious activities within the community, particularly on Buddhist holy days or significant religious occasions. These activities include the traditional candle-lit procession and merit-making ceremonies. The lower level of the ongoing construction of the vihara is utilized for these events, accommodating approximately 80-100 individuals daily. On weekdays, about 20 community members or tourists visit to pay respects to the sacred objects within the temple. However, these activities cause issues, such as poor parking organization, which leads to vehicles being scattered around the temple. This causes traffic congestion and reduces the available space for events. Additionally, the absence of adequate seating and shade diminishes the comfort and support available to participants during community ceremonies. This study proposed improvements involving creating a designated parking area to better accommodate both religious and tourism activities, as well as establishing a historical center dedicated to King Taksin the Great and Luang Pu Thuat.

This center would consolidate scattered religious images and antiquities, serving as an information hub for interested tourists. The improvement concept focuses on promoting religious and community recreational activities that are connected to historical narratives, which are considered intangible elements of the cultural landscape. It includes expanding parking areas to accommodate future traditional events and tourism, and establishing a King Taksin and Luang Pu Thuat Historical Center. This aligns with suggestions from stakeholders who proposed that Wat Khongkhaliab be developed into a community historical learning center and cultural tourism site—serving as a place that provides historical information about the community and a centralized location for housing religious images and artifacts currently scattered across various pavilions.

**Table 1**

*Summarization of the Analysis and Proposed Improvement Concepts.*

Analysis Topic	Potential / Problematic Condition	Proposed Improvement Concept
Land Use and Boundaries	<ul style="list-style-type: none"> <li>- The southern area of the temple, which borders Tha Sak river, is an important component of the cultural landscape.</li> <li>- The boundaries of the Buddhavasa and the Sanghavasa areas were unclear.</li> </ul>	<ul style="list-style-type: none"> <li>- Define and clarify the boundaries of the Buddhavasa and the Sanghavasa areas by planting tall shrubs.</li> <li>- Promote land use for religious activities and community recreational activities.</li> </ul>
Transportation System	<ul style="list-style-type: none"> <li>- Tha Sak river was a historical waterway associated with King Taksin the Great.</li> <li>- The importance of water transportation has diminished.</li> <li>- The road through the temple was used by the surrounding community, but lacked clear demarcation for traffic routes.</li> </ul>	<ul style="list-style-type: none"> <li>- Raise awareness about the river area and promote it as a community recreation space.</li> <li>- Reduce the frequency of vehicular traffic through the temple by recommending alternative routes.</li> </ul>
Open Space System	<ul style="list-style-type: none"> <li>- The open space within the temple was used for community ceremonies and features sandy areas that support drainage and cooling.</li> <li>- There were many small closed areas with limited flexibility.</li> <li>- Newer buildings obstructed the riverside open space views.</li> </ul>	<ul style="list-style-type: none"> <li>- Improve the temple's open space to house a monument to King Taksin the Great and preserve the original sandy area.</li> <li>- Demolish unused pavilions to increase the open space</li> </ul>
Architecture / Landscape Elements	<ul style="list-style-type: none"> <li>- Architectural styles were diverse and lack cohesion.</li> <li>- Buildings were scattered and largely in disrepair.</li> <li>- Landscape elements were not integrated with architecture.</li> <li>- There was a lack of awareness of the riverside area, resulting in the failure in reflecting its historical significance as an important component of the cultural landscape.</li> <li>- The sacred pond lacked emphasis.</li> </ul> <p>There were many large trees in the temple area.</p>	<ul style="list-style-type: none"> <li>- Improve building conditions and unify architectural styles (Southern local architecture).</li> <li>- Group buildings to better accommodate activities.</li> <li>- Integrate landscape elements with architecture (paths and trees).</li> <li>- Raise awareness of the importance of Tha Sak river and transform the riverside area into a community recreation space.</li> <li>- Improve the sacred pond area to reflect the area's history and beliefs.</li> <li>- Preserve large trees and emphasize the significance of the sacred bodhi tree according to community beliefs.</li> </ul>

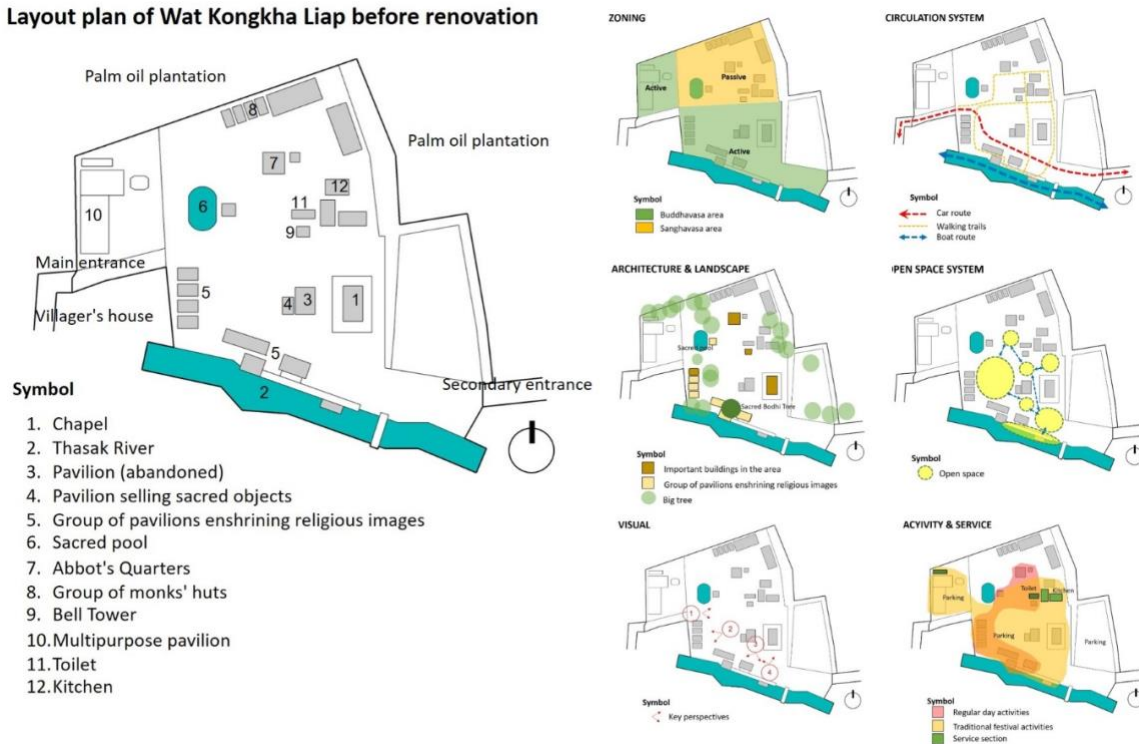
**Table 1 (Continued)**

Analysis Topic	Potential / Problematic Condition	Proposed Improvement Concept
Viewpoints	<ul style="list-style-type: none"> <li>- There was a lack of awareness of the entrance to the temple grounds.</li> <li>- The approach to significant buildings and sites lacked visibility.</li> <li>- Internal views within the temple lacked focal points.</li> </ul>	<ul style="list-style-type: none"> <li>- Enhance the awareness of the entrance to the temple grounds.</li> <li>- Create a monument to King Taksin as a focal point.</li> <li>- Promote and enhance riverside views.</li> </ul>
Activities in the Area	<ul style="list-style-type: none"> <li>- There are activities in the area.</li> <li>- There was a lack of parking space during ceremonial events.</li> <li>- There was insufficient information on promoting cultural heritage within the temple.</li> </ul>	<ul style="list-style-type: none"> <li>- Promote religious and community recreational activities that are connected to historical narratives, which are considered intangible elements of the cultural landscape.</li> <li>- Develop parking areas to accommodate ceremonial and tourism activities.</li> <li>- Establish a historical center dedicated to King Taksin and Luang Pu Thuat to provide information to interested visitors.</li> </ul>

**Figure 3**

*Analysis of Various Issues in the Area of Wat Khongkhaliab*

**Layout plan of Wat Kongkha Liap before renovation**



## Landscape Improvement Strategies for Constructing the Monument of King Taksin the Great and Promoting the Cultural Heritage of Wat Khongkhaliab Sustainably

Wat Khongkhaliab features cultural landscape elements associated with the history of King Taksin the Great, such as Tha Sak river, a historical route for royal naval fleets. The temple, once an ancient port and naval camp, currently comprises both sacred and monastic areas. It includes an ordination hall under construction, used for Buddhist ceremonies. Most buildings, like pavilions housing various religious statues, a souvenir shop, and a multipurpose hall, are new constructions. The site lacks organized parking for participants in Buddhist activities. This study demonstrated that the construction of the King Taksin monument involved addressing several

issues within the temple, categorized into three main areas (Figure 4):

1. **Building Issues:** Most buildings are new constructions linked to cultural tourism activities at the temple. They display diverse architectural styles lacking a cohesive identity. The buildings are scattered, including pavilions for selling amulets, housing statues, and a deteriorating multipurpose hall.
2. **Landscape Architectural Elements:** The area along Tha Sak river contains buildings that fail to emphasize or connect with the site's historical significance. Landscape elements, such as pathways, signs, and light poles, are poorly placed and designed. Additionally, the ancient Bodhi tree, which holds historical and cultural significance for the local community, lacks proper emphasis.
3. **Viewpoint and Perception Issues:** The riverside area lacks prominence due to pavilions blocking the view. The position of the souvenir shop and the multipurpose hall obstruct the view of the ordination hall, an important Buddhist structure.

**Figure 4**

*Issues in the Area of Wat Khongkhaliab*



*Note.* (1) Building issues, (2) Landscape architectural elements issues, and (3) Viewpoint and perception issues adapted from *Wat Khongkhaliab*, by Google Map, 2025 (<https://shorturl.at/Cx54r>). Copyright 2025 by Google LLC.

The concept of creating a monument to King Taksin and enhancing the landscape to reflect its identity and promote the value of the cultural landscape elements of Wat Khongkhaliab and the surrounding communities towards sustainability involves ensuring that development supports the activities and lifestyle of the community. The approach to improvement included the following concepts:

1. The Concept of Landscaping for the Creation of a Monument to King Taksin: This concept aims to make the monument a prominent and dignified landmark. This involves relocating the unused multipurpose pavilion and the amulet sales building to establish the monument's site. The surrounding area would be transformed into a multipurpose sand plaza to accommodate various activities of the temple (Figures 5, 6, and 7).

2. The Concept of Landscaping to Enhance the Cultural Landscape Value of Wat Khongkhaliab: This concept involves preserving and promoting awareness of the original cultural landscape elements. This approach aims to reflect and restore the historical ambiance of the area during the era of King Taksin's visit to Wat Khongkhaliab. Emphasis was placed on recognizing the importance of the area along Tha Sak river, the sand plaza, the sacred water source, and the large trees within the temple grounds. Additionally, a historical learning center dedicated to King Taksin and other related figures associated with Wat Khongkhaliab will be established (Figures 5–11).

3. The Concept of Landscaping for Wat Khongkhaliab and Its Surrounding Communities to Ensure Sustainability: This concept includes the following details:

**Environmental Aspects:** Clear boundaries were established for the temple, as well as for the Buddhavasa area and the Sanghavasa area. New buildings and landscape elements were constructed using local architectural styles and wisdom, incorporating native plant species and readily available materials such as brick, cement,

and wood. Moreover, the construction employed techniques that could be executed by local craftsmen. Additionally, the temple grounds were designed as multifunctional and adaptable spaces to support various activities.

**Social Aspects:** Each improvement project should be approved by stakeholders, including the Wat Khongkhaliab committee, the local administrative chief, village heads, sub-district chiefs, and community members with religious devotion. This ensures that the objectives and values of the landscape elements were understood and collaboratively defined. This approach would guide the landscape enhancement within the temple and establish regulations for new constructions to ensure consistency in size and style. It would also involve planning spaces to accommodate various activities and future cultural tourism.

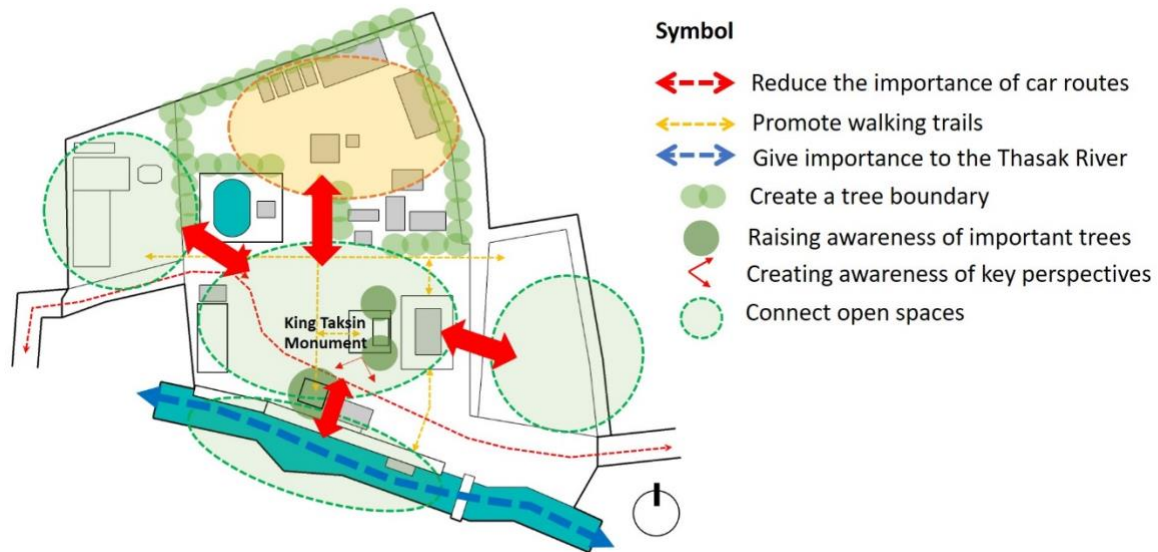
**Economic Aspects:** A committee consisting of stakeholders should be established to oversee donations from devotees and manage administrative and construction costs within the temple. Additionally, the committee should organize and regulate trade activities within the temple and the surrounding community to promote the development of the temple and enhance the local economy.

Figure 7 depicts the proposed layout and design of the King Taksin monument, oriented with the statue facing the old city of Nakhon Si Thammarat. The monument centered itself in relation to the main hall, making use of its backdrop. The design featured Thai-inspired architecture with a white color scheme to harmonize with the ordination hall that is currently under construction and is also planned to be built with white marble. The area surrounding the statue used local materials, such as brick, and is adorned with red padauk trees, reflecting the color associated with the king. Measures were implemented to control signage and construction within the monument's vicinity to prevent visual pollution.



**Figure 5**

*The Layout of Wat Khongkhaliab After the Improvement*



**Figure 6**

*Aerial View of Wat Khongkhaliab After the Landscape Improvement*



**Figure 7**

*Proposed Layout and Design of the King Taksin Monument*





Figure 8 shows the proposal for enhancing awareness and emphasizing the area along Tha Sak river by relocating the pavilion housing various statues. This change aimed to create a visual connection between the open space of the temple's sand plaza and the open area along the Tha Sak river. The plan also highlighted the importance of the ancient bodhi tree and the restoration of the pavilion housing the statue of Luang Pu Thuat, who, according to community belief, used to wait for boats under the bodhi tree.

As shown in Figure 9, the ground was paved with locally sourced brick, and low shrubbery was planted to define boundaries. Ground-cover plants were introduced along the river to maintain the original ecological condition of the soil.

Figure 10 shows the proposal for improving the sacred pond area according to community

beliefs. The design included paving the pond's edge with brick and incorporating informational signage about the historical significance of the sacred pond.

Figure 11 demonstrates the proposal for enhancing the historical center dedicated to King Taksin the Great and Wat Khongkhaliab. This involved relocating scattered pavilions with statues along the river to create a central information hub about King Taksin and other historical figures related to Wat Khongkhaliab. The design incorporated local architectural wisdom, including elevating the structure to prevent flooding during the rainy season and soil moisture. The use of locally available construction and decorative materials was emphasized.

### Figure 8

*Proposal for Enhancing Awareness and Emphasizing the Area Along Tha Sak River by Relocating the Pavilion Housing Various Statues*



### Figure 9

*Visual Representation of the Plan to Transform the Area into an Ancient Boat Landing Site and Recreational Space Along Tha Sak River for Community Activities*



**Figure 10**

*Proposal for Improving the Sacred Pond Area According to Community Beliefs*



**Figure 11**

*Proposal for Enhancing the Historical Center Dedicated to King Taksin the Great and Wat Khongkhaliab*



## DISCUSSION

The landscape improvement project for the King Taksin monument and the enhancement of the cultural landscape value of Wat Khongkhaliab and its surrounding communities aim to achieve sustainability by emphasizing and raising awareness of the cultural landscape elements associated with King Taksin's historical visit to the temple, which are Tha Sak river, Wat Khongkhaliab, and cultural activities which serve as historical evidence, in line with UNESCO's guidelines (UNESCO, 2015; Thinnakorn & Anurak, 2022) as both tangible and intangible cultural heritage. This serves as a guideline for design aimed at enhancing the cultural landscape value of Wat Khongkhaliab.

Based on the sustainable development framework, this project commenced with the presentation of objectives and design approaches, which were reviewed through consultations with representatives from Wat

Khongkhaliab, relevant government agencies, the surrounding communities, and devoted individuals. Feedback was collected in two rounds, leading to design modifications to align with space usage needs, construction styles, and the use of local materials. Additionally, a plan for managing donations and organizing community activities was developed, adhering to the concepts of Issarathumnoon (2020), Samsudin and Maliki (2015), and Hengrasmee (2007) (Figure 12).

The presentation of the participatory improvement proposal led to increased community involvement in the construction of the monument and landscape enhancement. This engagement included donations of funds and construction materials such as bricks, cement, and reclaimed wood, which are readily available locally. Additionally, labor support was provided by monks from the temple and volunteers from the surrounding community, who assisted in laying bricks for the river and sacred pond areas. This collective effort resulted in a faster



construction timeline and reduced costs for materials and labor (Figure 13). It represents an integration of local design elements with modern forms, which not only effectively preserves cultural identity but also promotes the principles of sustainable development (Laohaviraphap & Mahaek, 2023).

In late 2023, a ceremony was held to install the King Taksin monument at its designated location. The event saw significant participation from devoted individuals and local government representatives. This heightened awareness and increased donations are crucial for the ongoing development and enhancement of the landscape at Wat Khongkhaliab in the future (Figure 14).

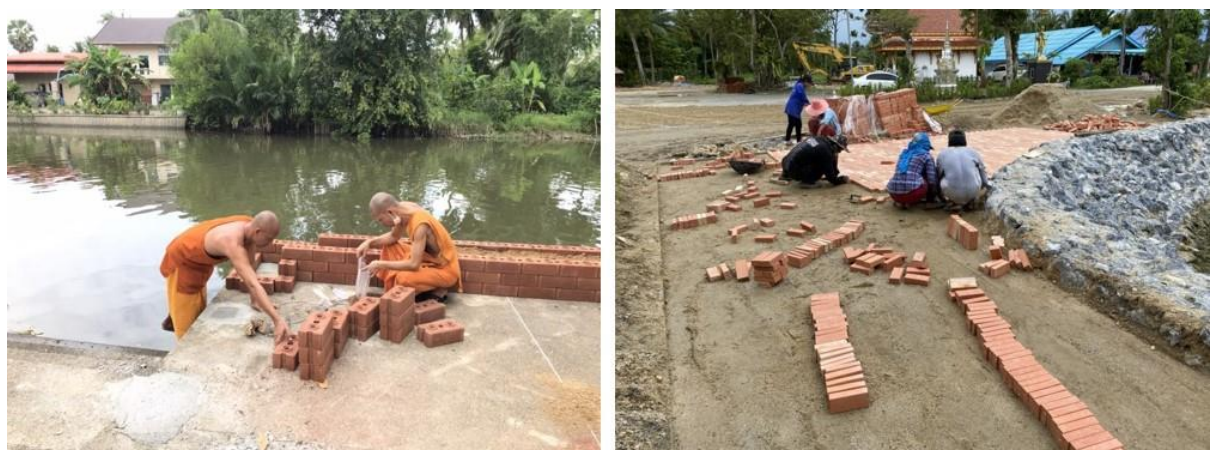
**Figure 12**

*Presentation of the Landscape Improvement Proposal and Feedback From the First and Second Consultation Rounds*



**Figure 13**

*Community Involvement and Support in Construction Through the Use of Local Materials and Labor From Local Craftsmen and Monks Within the Temple*



**Figure 14**

*The Atmosphere During the Ceremony for the Installation of the King Taksin Monument at Its Designated Location*



This study, which began with the design process and improvement based on the framework of promoting cultural heritage values and sustainable conservation and development, involved stakeholder participation. This approach has enhanced the recognition of cultural landscape elements related to King Taksin's historical visit to Wat Khongkhaliab, as well as other cultural heritage components such as the sacred pond, sand plaza, and ancient bodhi tree. This differs from government projects, which primarily emphasize the designers' concepts and physical improvements, relying heavily on contractors and high-standard commercial materials, without considering the use of construction technologies that are appropriate for the local community.

Based on a sustainable development framework—comprising environmental, social, and economic factors—to the landscape design of Wat Khongkhaliab, consequently, during the initial phase of constructing the monument and improving the temple landscape, the project effectively controlled time and budget. The use of locally available materials minimized

environmental impact. The application of appropriate and flexible technologies was ensured. Furthermore, the involvement of all sectors and the establishment of a management committee from stakeholders to oversee administrative and financial matters have contributed to the sustainable development of the temple and the surrounding communities.

## CONCLUSION

Wat Khongkhaliab holds significant historical value, being the site where King Taksin the Great first set foot in Nakhon Si Thammarat during the Thonburi period. The study involved various conceptual approaches and field surveys to analyze land use, transportation systems, open spaces, viewpoints, architecture, cultural landscape elements, and various community activities and traditions within the area.

Field surveys revealed that activities within the temple impact the perception of cultural landscape elements. Specifically, the

construction of a souvenir shop and pavilions housing various statues has led to scattered placement around the riverside and temple plaza, diminishing the view of Tha Sak riverside and the ordination hall. Additionally, the inflexibility of the temple plaza has hindered its capacity to accommodate traditional events and tourism activities. Based on the analysis of potential and issues, the landscape improvement concepts for Wat Khongkhaliab can be summarized as to design the monument of King Taksin the Great to be a prominent and central landmark for the community and to highlight the cultural landscape by enhancing the perception of Tha Sak riverside, the sacred pond, the ancient bodhi tree, and a historical learning center dedicated to King Taksin and Wat Khongkhaliab.

As for the concept for sustainable landscape improvement, it incorporates several key factors to ensure long-term effectiveness. For environmental factors, the boundaries within the temple should be clearly defined, new buildings or landscape elements should be created with environmental considerations, local plants and materials should be used, and adaptable construction techniques should be applied. In terms of social factors, improvement concepts should be approved by stakeholders, who understand and prioritize the values of the landscape elements, leading to collaborative landscape improvement and implementation. Finally, for economic factors, a committee of stakeholders should be established to manage benefits and administrative costs within the temple, promoting its development and supporting the local economy.

This study indicates that from the initial design and improvement process, promoting cultural heritage values through sustainable conservation and development, with stakeholder participation, could control construction time and budget effectively. This approach will contribute to the temple's and the surrounding community's sustainable future development.

## Recommendations

The construction and landscape improvement of historical sites cannot be undertaken all at once due to the need for funding from donors. Thus, it is advisable to prioritize areas for development. This study proposes the following recommendations. First, encourage community involvement at all stages: This includes collaboratively determining the value of cultural heritage, utilizing various spaces for temple and community activities, reviewing feedback and solutions, and establishing measures within the temple that respect the rights of residents. Secondly, allow flexibility in design and construction processes to adapt to actual site conditions: This may involve adjusting material choices to fit budget constraints or project timelines and ensuring the design accommodates future activities. Finally, implement a transparent financial plan: Due to the high costs and extended timeline of construction and landscape improvements, continuous funding is essential. The management committee must ensure transparency and integrity, prioritizing the interests of Wat Khongkhaliab and the community. This approach will build trust among donors and support the successful completion of the project.

## Research Limitations

The research team conducted a study and developed a master plan to propose landscape improvements for Wat Khongkhaliab. The completion of such a proposed plan is expected to take a significant amount of time due to the need to gather funding. Consequently, the research team has presented the analysis results, focusing on the design process for landscape improvement according to academic conceptual frameworks and discussing the findings only during the initial phase of implementation.



## ACKNOWLEDGMENTS

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## REFERENCES

- Chatakul, P., & Janpathompong, S. (2022). Identifying plant species and their usage for landscape on the historical mural paintings of Nan, Thailand. *Nakhara: Journal of Environmental Design and Planning*, 21(3), Article 219. <https://doi.org/10.54028/NJ202221219>
- Chimpalee, S., & Haocharoen, K. (2022). Cultural identity of Talad Noi community, Bangkok. *Asian Creative Architecture, Art and Design*, 35(2), 72–89. <https://so04.tci-thaijo.org/index.php/archkmitl/article/view/258660>
- Darnthamromgkul, W. (2023). Public response to the appearance of ecological urban park design: The battle between the 'picturesque' and the 'messiness.' *Sustainable and Resilient Infrastructure*, 8(3), 307–324. <https://doi.org/10.1080/23789689.2023.2175165>
- de Abreu Santos, V. Á., & Van Der Borg, J. (2023). Cultural mapping tools and co-design Process: A Content Analysis to Layering perspectives on the creative production of space. *Sustainability*, 15(6), Article 5335. <https://doi.org/10.3390/su15065335>
- del Barrio, M. J., Devesa, M., & Herrero, L. C. (2012). Evaluating intangible cultural heritage: The case of cultural festivals. *City, Culture and Society*, 3(4), 235–244. <https://doi.org/10.1016/j.ccs.2012.09.002>
- Efstathiou, A. (2020). Sense of place, identity and memory as elements of the design for tourism. In A. Kavoura, E. Kefallonitis, & P. Theodoridis (Eds.), *Strategic innovative marketing and tourism* (pp. 311–319). Springer International Publishing. [https://doi.org/10.1007/978-3-030-36126-6\\_34](https://doi.org/10.1007/978-3-030-36126-6_34)
- Ewing, R., & Cervero, R. (2010). Travel and the built environment: A meta-analysis. *Journal of the American Planning Association*, 76(3), 265–294. <https://doi.org/10.1080/01944361003766766>
- Fine Arts Department, (2005). *Phraratchabanyat borannasathan borannawatthu sinlapa wat tho lae phiphotphi Na tho sathan haeng chat pho.so. songphanharoisi kaekhai phoem te mo doi phraratchabanyat borannasathan borannawatthu sinlapawatthu lae phiphotphi Na tho sathan haeng chat (chabap thi song ) pho.so. songphanharoisamsipha* [Guidelines for the preservation of ancient sites according to the Ancient Sites, Antiques, Objects of Art and National Museums Act B.E. 2505 (1962), amended B.E. 2535 (1992)]. <https://www.ratchakitcha.soc.go.th/DATA/PDF/2535/A/038/12.PDF>
- Formolly, A., & Saraei, M. H. (2024). Socio-cultural transformations in modernity and household patterns: A study on local traditions housing and the impact and evolution of vernacular architecture in Yazd, Iran. *City, Territory and Architecture*, 11(1), Article 15. <https://doi.org/10.1186/s40410-024-00236-6>
- Fuangsakun, A. (2003). *Attalak kan thopthuan thritsadi lae krop naeokhit* [Identify: A review of theories and conceptual frameworks]. National Research Council of Thailand.
- Ginzarly, M., Houbart, C., & Teller, J. (2019). The historic urban landscape approach to urban management: A systematic review. *International Journal of Heritage Studies*. 25(10), 999–1019. <https://doi.org/10.1080/13527258.2018.1552615>



- Hengrasmee, S. (2007). The study of sustainable architectural design in Thailand. *Journal of Architectural/Planning Research Studies*, 5(1), 133–154.  
<https://doi.org/10.56261/jars.v5i1.169238>
- Husarski, R. (2025). North Korean god(s): The role of religion in the urban sustainability of Pyongyang. In P. Em (Ed.), *Pursuing sustainable urban development in North Korea*. Routledge.  
<https://doi.org/10.4324/9781003372035>
- International Council on Monuments and Sites. (2013). *The Burra Charter: The Australia ICOMOS charter for places of cultural significance 2013*. Australia ICOMOS.  
<https://australia.icomos.org/publications/burra-charter-practice-notes/>
- Issarathumnoon, W. (2020). Applying the historic urban landscape approach to the identification of urban heritage attributes of Bangkok old town. *Nakhara: Journal of Environmental Design and Planning*, 19, 25–38.  
<https://doi.org/10.54028/NJ2020192538>
- Jhearmaneechotechai, P. (2022). Selection criteria of ordinary urban heritages through the case of Bangrak, a multi-cultural & old commercial district of Bangkok. *Nakhara: Journal of Environmental Design and Planning*, 21(2), Article 209.  
<https://doi.org/10.54028/NJ202221209>
- Jin, W., & Miao, W. (2024). How the ecological structure affects the aesthetic atmosphere of the landscape: Evaluation of the landscape beauty of Xingqing Palace Park in Xi'an. *PLoS ONE*, 19(5), Article e0302855.  
<https://doi.org/10.1371/journal.pone.0302855>
- Knierim, A., Bieling, C., & Zander, P. (2021). How researchers shape the construction of landscape change – insights from a scenario study. *Landscape Research*, 46(8), 1057–1070.  
<https://doi.org/10.1080/01426397.2021.1940116>
- Laohaviraphap, N., & Mahaek, E. (2023). Cultural revitalization of Tha Phae Road: An in-depth exploration of contemporary Lanna architectural facades and urban identity. *Nakhara: Journal of Environmental Design and Planning*, 22(2), Article 313.  
<https://doi.org/10.54028/NJ202322313>
- O'Donnell, P. M. (2008) *Urban cultural landscapes and the spirit of place* [Paper presentation]. 16th ICOMOS General Assembly and International Symposium: 'Finding the spirit of place – between the tangible and the intangible', Quebec, Canada.  
<https://publ.icomos.org/publicomos/jlbSai?html=Bur&base=technica&ref=41427&file=66.pdf&path=77-hFCw-13.pdf>
- Pavel, P. E. (Ed.). (2024). *Pursuing sustainable urban development in North Korea*. Taylor & Francis.
- Samsudin, P.Y., & Maliki, N.Z. (2015). Preserving cultural landscape in homestay programme towards sustainable tourism: Brief critical review Concept. *Procedia-Social and Behavioral Sciences*, 170, 433–441.  
<https://doi.org/10.1016/j.sbspro.2015.01.004>
- Taylor, K. (2016). The historic urban landscape paradigm and cities as cultural landscapes. Challenging orthodoxy in urban conservation. *Landscape Research*, 41(4), 471–480.  
<https://doi.org/10.1080/01426397.2016.1156066>
- The International Union of Architects. (1993.). *Declaration of independence for a sustainable future: UIA/AIA World Congress of Architects, Chicago*. [https://www.uia-architectes.org/wp-content/uploads/2022/01/DeclarationChicagoJuin1993\\_english.pdf](https://www.uia-architectes.org/wp-content/uploads/2022/01/DeclarationChicagoJuin1993_english.pdf)
- Thinnakhon, W. (2018). *Landscape improvement to promote cultural heritage value of Wat Phra Mahathat Woramahawihan, Nakhon Si Thammarat province, towards being nominated as a world heritage site*. Walailak University.

- Thinnakorn, W. (2021). The urban image conservation and development of Nakhon Si Thammarat's old town community in Thailand. *Nakhara: Journal of Environmental Design and Planning*, 20(3), Article 120. <https://doi.org/doi:10.54028/NJ202120120>
- Thinnakorn, W., & Anurak, T. (2022). Valuing cultural landscape heritage in historic areas: Proposed assessment criteria from Thailand. *International Journal of Sustainable Development and Planning*, 17(5). 1543–1551. <https://doi.org/doi:10.18280/ijstdp.170518>
- Thinnakorn, W., Kaewtawee, R., Srimuang, K., & Ahmad, A. (2025). Sustainability assessment of vernacular architectural heritage: the case of Shino-European shophouse in Tha Wang historical neighbourhood, Thailand. *Cogent Arts and Humanities*, 12(1), Article 2482385. <https://doi.org/doi:10.1080/23311983.2025.2482385>
- United Nations Educational, Scientific and Cultural Organization. (2002). *Cultural landscapes: The challenges of conservation*. [https://whc.unesco.org/documents/publi\\_wh\\_papers\\_07\\_en.pdf](https://whc.unesco.org/documents/publi_wh_papers_07_en.pdf)
- United Nations Educational, Scientific and Cultural Organization. (2011). *Recommendation on the historic urban landscape*. <https://whc.unesco.org/uploads/activities/documents/activity-638-98.pdf>
- United Nations Educational, Scientific and Cultural Organization. (2015). *Culture for sustainable urban development initiative*. [https://ocm.iccrom.org/sites/default/files/2021-07/UNESCO%20Culture%20for%20Sustainable%20Urban%20Development\\_OCM%20datasheet.pdf](https://ocm.iccrom.org/sites/default/files/2021-07/UNESCO%20Culture%20for%20Sustainable%20Urban%20Development_OCM%20datasheet.pdf)
- United Nations Educational, Scientific and Cultural Organization. (2023). *Operational guidelines for the implementation of the world heritage convention*. <https://whc.unesco.org/en/guidelines/>
- van Der Heijden, H. A. (1999). Environmental movements, ecological modernisation and political opportunity structures. *Environmental Politics*, 8(1), 199–221. <https://doi.org/10.1080/09644019908414444>
- Wannapong, V., & Prichet, P. (2015). *Phrachao Tak sin yang mai tai* [King Taksin is not dead]. Thaana Bundit Publishing House, Bangkok.
- Wayne, O., & Attoe. (1988). *Transit, land use and urban form. center for the study of American architecture*. University of Texas at Austin.
- Williams, D. E. (2007). *Sustainable design ecology, architecture and planning*. John Wiley & Sons.
- Zhang, Y., Chen, S., & Hoistad, M. A. (2024). Sustainable development strategy for historic neighborhood shrinkage: Taking Puhuiquan neighborhood in Yulin, China, as an example. *Heritage Science*, (12), Article 67. <https://doi.org/10.1186/s40494-024-01180-x>
- Zhou, F., & Buranaut, I. (2025). Study on the interaction between agricultural practices, religious activities, and cultural relics. *Nakhara: Journal of Environmental Design and Planning*, 24(1), Article 506. <https://doi.org/10.54028/NJ202524506>