

# Cultural Revitalization of Tha Phae Road: An In-Depth Exploration of Contemporary Lanna Architectural Facades and Urban Identity

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## ABSTRACT

This study presents a comprehensive analysis of contemporary Lanna architecture on Tha Phae Road, a historically and culturally significant street in Chiang Mai, Thailand. The main objective of this research is to conduct this comprehensive analysis of the revitalization process with a specific focus on the architectural facades of the revitalized buildings. The study aims to document and evaluate how traditional Lanna architectural elements have been integrated with Modern, Western, and Chinese architectural styles during the process, while also investigating its ensuing urban impacts.

Employing a descriptive case study approach, this research draws upon a diverse array of primary and secondary sources, including scholarly literature and on-site photographs. Through the examination of three representative case studies (1) Modern-Lanna style, (2) Modern-Western-Lanna style, and (3) Modern-Western-Chinese-Lanna style, this study illustrates the deliberate amalgamation of traditional Lanna elements with modern design features, resulting in a dynamic and captivating urban landscape.

The findings reveal a successful synergy between historical preservation and contemporary urban development. The integration of Lanna design elements with modern features not only effectively conserves the region's cultural identity but also contributes to sustainable architectural principles. Significantly, the implementation of building control regulations has played a pivotal role in preserving the inherent integrity of Lanna architectural styles.

Moreover, this research offers valuable insights for scholars, architects, and urban planners, providing practical guidance on harmoniously incorporating cultural heritage into contemporary Lanna designs while ensuring the enduring preservation of the region's distinctive identity.

**Keywords:** Tha Phae road, Lanna contemporary architecture, cultural heritage, building facade, revitalization

## INTRODUCTION

Tha Phae Road, situated in the heart of Chiang Mai, Thailand, stands as a testament to the city's rich historical significance, highlighting the evolution of contemporary Lanna architecture and urbanism over the past century. The story of Tha Phae Road traces back to its origins before 1884, when trade between the Lanna region and British merchants in Burma flourished (Ongsakul, 2018). During this period, Western influences brought in by missionaries led to the adoption of a Western-influenced architectural style known as Lanna Colonial architecture (Usavangkul, 2012). Tha Phae Road gained significance as it connected Chiang Mai's essential pier on the western bank of the Ping River to the city, facilitating trade between the northern royal family and foreign merchants residing in specific areas outside the old city walls (Chompoorath, 2018).

The historical trajectory took a new turn with the Annexation of Lanna to Siam in 1886, as the region became part of the Siamese national state, leading to efforts to erase signs of Lanna's previous independent authority. Modernization further transformed Tha Phae Road into a vibrant commercial hub, drawing in the Chinese community and giving rise to the unique Sino-Portuguese architectural blend. The arrival of the Chiang Mai-Bangkok railway in 1921 expanded the economy, introducing the change from water-to land-based transportation, and bringing newfound prosperity to the road (Arkrapotiwong, 2022; Chompoorath, 2018; Lieorungruang, 2000).

However, the 20th century also brought challenges. As Chiang Mai grew into a center of commerce and regional development, rapid urban expansion led to the enforcement of architectural regulations and changes in land use along Tha Phae Road. Consequently, over fifty percent of its traditional colonial architecture was lost, replaced by modern commercial buildings. The shift towards vehicular use of the road further eroded its original essence, impacting its historical significance and pedestrian-friendly nature (Sukkata, 2020; Teo, 2019).

Today, Tha Phae Road is at a critical juncture, with numerous buildings, handed down through multiple generations, languishing in a state of

neglect. This generational transfer has resulted in escalating property values, surpassing the threshold of potential buyers' willingness to invest, and, thus, limiting the practical uses of these properties to providing accommodation for larger tourist groups. While only a select few buildings, acknowledged for their cultural and historical significance by their proprietors, have been subject to preservation endeavors, the chosen architectural interventions have often fallen short of effectively encapsulating the essence of Tha Phae Road's historical ambiance. Consequently, historical imprints are being erased, making it increasingly difficult to retrace the road's storied past (Suwatcharapinun, 2016).

This predicament poses a significant threat to the cultural, historical, and architectural significance of Chiang Mai's built environment as Tha Phae Road serves as a principal thoroughfare connecting the rail station and river port to the eastern gate of the city, which leads to Wat Phra Singh, an ancient Lanna temple with the majestic mountain, Doi Sutepph, as a backdrop. The architectural marvels that adorn this road stand as a testament to the passage of time, contributing to the captivating allure of its historical avenues, and allowing future generations to marvel at the magnificence and splendor of its architectural legacy (Punyafoo, 2016). Pisuttakoon (2011) underscores that the abandonment of cultural heritage and the lack of identity exhibited by certain buildings present significant obstacles to the recognition of Tha Phae Road's heritage by Thai tourists.

Efforts aimed at revitalizing Tha Phae Road must delicately balance the imperatives of preservation and development, extending beyond the scope of historic buildings to encompass the broader urban fabric and streetscape. This comprehensive framework for revitalization assumes paramount importance in preserving the timeless charm and allure of Tha Phae Road, enabling forthcoming generations to cherish its architectural heritage and appreciate the unique fusion of modern and traditional elements that it embodies (Giacobello et al., 2022; Pallares-Barbera et al., 2021).

## Objectives

The main aim of this study is to analyze the revitalization process of Tha Phae Road in Chiang Mai, focusing on the integration of traditional Lanna architectural elements with Modern, Western, and Chinese styles. It aims to understand the impact of heritage zoning regulations on cultural preservation, and explore the urban impacts of the revitalization efforts. The research offers insights to scholars, architects and planners with respect to incorporating cultural heritage into contemporary designs while preserving the region's identity. The study's findings contribute to the ongoing development and enhancement of Lanna architectural principles in the modern urban context, underscoring the balance between modernization and adaptation to new functions, while preserving the cultural heritage and historical significance of Tha Phae Road.

## LITERATURE REVIEW

In recent years, there has been a growing global emphasis on the preservation of cultural heritage and the pursuit of sustainable development, especially in historic cities. Cultural heritage sites play a crucial role in promoting tourism and conserving the unique cultural identity of a location, while sustainable development seeks to balance economic growth, environmental conservation, and social progress (Tavares et al., 2021; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2016).

A noteworthy example of successful integration between local vernacular and contemporary architecture can be found in Kyoto, Japan. The "Preserving and Improving Historical Townscape" policy, part of the Kyoto Landscape Policies, aims to safeguard the city's historical building styles and traditional way of life. This approach encourages the restoration and enhancement of traditional buildings, such as Kyo-machiya, which are essential to Kyoto's historical landscape. As a result, the city's historical townscape has been revitalized and expanded, leading to increased residential usage, community interaction, investments, and heightened allure (Kyoto City, 2021). In seeking to comprehensively understand

Tha Phae Road, we must consider various perspectives, including urbanism, building preservation, and street design.

Numerous studies emphasize the significance of preserving cultural heritage and addressing challenges such as inadequate funding, management, and the impacts of modernization on historic sites (Riddhagni, 2018). Singhaneeat (2006) highlights the importance of revitalizing Tha Phae Road while preserving its cultural heritage by integrating contemporary architecture into historic buildings. However, further analysis is needed to develop effective preservation strategies for other historic structures along the road (Zagroba et al., 2020). Achieving a balanced approach that considers both architectural and cultural significance is crucial for sustainable development in historic sites like Tha Phae Road. The integration of contemporary Lanna architecture into historic buildings holds promise and warrants more exploration in order to devise effective preservation and revitalization measures. The challenges associated with preserving cultural heritage and promoting sustainable development in historic cities like Chiang Mai necessitate further research.

## Urban Landscape and Elements: Shaping the Character of Historic Cities

The urban landscape, comprising buildings, streets, public spaces, parks, and other visual elements, holds significant importance in reflecting the cultural heritage and historical essence of a place and fostering a sense of belonging within the community (Aboutaleb et al., 2016; Cullen, 1961; Lynch, 1960).

Shane (2005) identifies three fundamental urban elements—armature, enclave, and heterotopia—which play a crucial role in shaping cities. Tha Phae Road, with its historical and cultural significance, serves as an enclave within Chiang Mai. Preservation and revitalization efforts aim to maintain the distinct cultural identity that sets it apart from other areas in the city.

Research by Zhang et al. (2021) highlights how spatial changes, openness of building facades, and shop distribution significantly impact pedestrian activities in the urban environment.

Additionally, Askari et al. (2018) emphasize the influence of architectural style and historical context, along with the integration of modern and traditional building facades, on users' perceptions of streetscapes.

Considering the local context and street functions is essential in street design and development. An and Lee (2018) categorized roadside commercial areas in Korea based on various criteria, revealing common materials and designs used in renovations that reflect ordinary architecture.

In Singapore, Li (2007) explored colonial shophouses in a specific area within Chinatown to demonstrate the interaction of various influences, such as ethnic identity, colonial heritage, and local lifestyle preferences. The study employed quantitative analysis of shophouse facades and data from on-site investigations to reveal the intricate blend of architectural styles that reflect the ongoing quest for identity among the local community.

Similarly, Pattananurot (2020) conducted an in-depth study on revitalizing the facades of Old Town Nong Khai in Thailand, considering the evolving cultural, social, and economic contexts that shape the region. Understanding the architectural trends of Tha Phae Road is similarly crucial for revitalizing Contemporary Lanna architecture.

In conclusion, the urban landscape plays a vital role in preserving cultural heritage and fostering sustainable development in historic cities like Chiang Mai. Integrating contemporary and traditional elements, along with tailored conservation efforts, offers a promising approach to shaping the character of such cities. However, addressing the challenges associated with cultural heritage preservation and sustainable development requires further research and practical solutions.

## Building Revitalization

Preserving the cultural significance of places involves various levels of building intervention processes. Conservation encompasses preservation, restoration, and adaptation. Preservation aims to maintain the existing fabric of a place and slow down its deterioration, while restoration involves returning the place to a

known earlier state by removing accretions or reassembling existing elements. Adaptation, on the other hand, entails modifying a place to suit its current or proposed use (Australia International Council on Monuments and Site, 2013).

In parallel, revitalization seeks to conserve existing buildings or districts by putting them to practical use (Gadhi, 2014). Revitalizing buildings with cultural and historical importance presents architectural design challenges, particularly with the advancements in modern techniques. Striking a balance between preserving the authentic cultural heritage of a building and infusing it with contemporary life and functionality is increasingly challenging (Penica et al., 2015).

Building revitalization is a multifaceted process that considers physical, spatial, and social aspects to extend the life and functionality of existing structures while preserving their architectural and cultural essence (Doratli, 2005). This process involves various physical measures, such as adaptive reuse or conversion of the building to accommodate new functions or uses. It requires careful consideration of the existing building's physical and spatial parameters, as well as compliance with special historic building controls.

The impact of revitalization efforts extends beyond preserving heritage areas; it transforms them into vibrant living spaces and fosters a sense of pride and ownership within the local community (Handaruni et al., 2021). Additionally, revitalization can enhance the value of a building, making it more appealing to potential tenants or buyers, thus contributing to its sustainability (Samadi & Yunus, 2012).

Therefore, a crucial aspect of revitalization lies in adopting physical measures that cater to contemporary needs while preserving the existence of heritage buildings. This approach necessitates striking a balance between maintaining the architectural and cultural character of the structure and accommodating the functional requirements of modern use. The research focuses on exploring physical revitalization measures as a pivotal element in preserving heritage buildings and ensuring their relevance in contemporary contexts.

## Contemporary Lanna Architecture

Contemporary Lanna architecture is a modern architectural style that draws inspiration from the traditional arts, crafts, and construction techniques of the Lanna Kingdom in northern Thailand. It combines elements of traditional Lanna and Western architecture, creating a harmonious blend of old and new while preserving the distinctive cultural essence of the Lanna people (Anglasith, 2007; Usavangkul, 2012). The style includes buildings featuring gable roof structures and elements reflecting the traditional Thai Lanna architectural style. This architectural approach evolves by incorporating modern design principles while staying true to its historical roots in the Lanna region, emphasizing architectural unity by integrating form, function, materials, and technologies with the local environment (Chiang Mai Municipality, 2015; Lieorungruang, 2010).

An exemplary illustration of contemporary Lanna architecture can be found along Tha Phae Road, where Western architectural influences seamlessly coexist with traditional Lanna half-concrete half-wood houses, known as "*Sa Ra Nai*." These buildings showcase intricate woodcarvings, steep roofs, and curved eaves, creatively blending with modern materials, technologies, and sustainable practices (Sthapitanonda, 2016).

In the dynamic and rapidly evolving field of contemporary Lanna architecture, practitioners face challenges in preserving cultural heritage while also accommodating contemporary living standards and usage requirements.

Nevertheless, the ongoing development and adaptation of Lanna architectural principles underscore the field's resilience and enduring significance in shaping modern urban environments (Djokic et al., 2016; Jerkovic-Babovic et al., 2020).

To understand and evaluate Lanna architecture thoroughly, one must consider its physical elements, contextual relevance, and cultural symbolism. Scholars have extensively researched Lanna architecture, identifying the key physical and abstract qualities of this design style.

Charernsupkul and Temiyabandha (1996) identified four essential physical elements of Lanna architecture: spatial planning and organization, composition and compound, structure and construction, and architectural elements. These elements emphasize the use of gable-end roofs, locally available materials like timber and bamboo, and traditional construction techniques. Architectural elements, such as carved wooden brackets, eaves, and pillars, are also distinctive features of Lanna architecture.

Likewise, Lieorungruang (2010) proposed six significant physical and abstract qualities of Lanna architecture: traditional symbols and building decorations; utilization of natural textures, colors, and materials; specific functional usage; division of proportions into three parts according to the human body; integration with the environment and local landscape; and abstract characteristics such as a sense of art, using high-quality craftsmanship with unique details and their own criteria in each region.

These classifications underscore the profound role of symbolism and ornamentation in Lanna architecture, along with the importance of utilizing natural materials and textures. Additionally, Lanna architecture is thoughtfully designed to harmonize with the local climate and environment, ensuring a seamless blend of structures within their natural surroundings.

In the revitalization of Tha Phae Road, the four sets of Lanna architectural knowledge—spatial planning and organization, composition and compound, structure and construction, and architectural elements—play pivotal roles in comprehending and evaluating the buildings in this area.

Firstly, spatial planning and organization involve the arrangement of spaces within a building and their interaction with outdoor spaces. Introducing public spaces like plazas and open-air markets during the revitalization process fosters social interaction and community engagement.

Secondly, composition and compound pertain to the overall form and layout of buildings or clusters of structures. By integrating traditional Lanna architectural elements, such as gable-end roofs and timber structures, into contemporary designs, the new buildings seamlessly fit into the existing urban fabric.

Thirdly, structure and construction encompass the use of materials and construction techniques characteristic of Lanna architecture, often featuring natural elements like timber and bamboo. Embracing sustainable building practices and materials during revitalization effectively reduces the negative environmental impact of new constructions.

Lastly, architectural elements encompass ornamental features and motifs unique to Lanna architecture. Thoughtfully incorporating traditional Lanna motifs and ornamentation into contemporary designs establishes a visual connection between the past and present, preserving a sense of continuity and cultural heritage.

The significance of vernacular architecture, particularly the Lanna Thai house, underscores the importance of preserving cultural heritage during the revitalization of historic areas like Tha Phae Road. This endeavor aims to enhance the region's distinct character while improving its livability, sustainability, and economic vitality. Moreover, revitalization seeks to create a sense of place that appeals to residents, visitors, and investors, thus, promoting the area's cultural and historical significance. It also stimulates economic growth, generating job opportunities, increasing property values, and fostering social equity (Charernsupkul & Temiyabandha, 1996; Lieorungruang, 2010).

However, revitalization efforts face challenges in striking a balance between preservation and modern development demands. For example, one significant challenge is maintaining historic charm while meeting contemporary functionality. Nonetheless, effective utilization of historic built environments can address economic, social, and cultural needs well into the future (Rypkema, 1999).

Furthermore, revitalization becomes more complex when historic buildings or areas require extensive restoration or repair. Additionally, ensuring that the revitalization process is inclusive and equitable to benefit all members of the community, including low-income residents and marginalized groups, presents another challenge (McCabe & Ellen, 2016).

The four sets of Lanna architectural design knowledge can be thoughtfully utilized to guide the revitalization of contemporary Lanna

architecture on Tha Phae Road. This approach allows for a comprehensive analysis of the buildings along this road, guiding preservation and development endeavors with respect for tradition and responsiveness to the demands of modern urban living.

## Contemporary Lanna Architecture on Tha Phae Road: Building Typologies, Styles and Historical Timelines

Contemporary Lanna architecture on Tha Phae Road encompasses three distinct styles influenced by Chinese, Western, and modern elements. To fully comprehend contemporary Lanna architecture, it is imperative to understand the typology of Lanna buildings. Lieorungruang (2010) classified Lanna buildings into six typologies based on their functional use: residential, commercial/industrial, religious, governmental, welfare and education, and recreational buildings. This classification aids in analyzing design criteria, identifying common building types, and recognizing prevalent architectural elements in contemporary Lanna architecture.

As noted by Chompoorath and Kimura (2017), Tha Phae Road serves as a mixed-use district, accommodating both residential and commercial functions. Therefore, a specific focus on these two building types—residential and commercial—is essential.

**Lanna residential architecture:** Lanna houses represent a crucial aspect of the original Lanna culture, particularly in Chiang Mai, a center of political and cultural significance. These houses serve as a central model of Lanna architecture, displaying diverse designs adapted to the unique environmental conditions of each area, and incorporating external cultural influences.

**Lanna commercial architecture:** Lanna commercial buildings, especially shophouses, are prominently situated along historical economic routes. Over time, they have undergone adaptations influenced by foreign sources, including missionaries, English timber

traders, Chinese merchants, and Bangkok's governors. The outcome is a fusion of European style and local adaptations, tailored to suit the hot and humid climate of the region. This architectural synthesis is evident in the construction of most shophouses, characterized by a "half-wood, half-concrete" structure (Lieurungruang, 2008), along with the incorporation of European decorative elements, particularly the gingerbread trim, and the use of Chinese folding doors. The enduring presence of this distinctive architectural style along Tha Phae Road today serves as a testament to the sustained efforts spanning several decades, involving maintenance, renovation, and restoration, all aimed at accommodating the evolving lifestyle of the local residents.

The primary focus of this study is on the prevalent building types on Tha Phae Road: commercial and residential. Utilizing a methodological approach, the research examines design criteria drawn from successful examples of contemporary Lanna architecture found on Tha Phae Road. Through an examination of these representative building types and their contemporary adaptations, the research aims to glean valuable insights for the advancement and innovation of Lanna architectural principles in the modern context.

Furthermore, observation of the relationship between architectural styles and timelines in contemporary Lanna architecture is a significant aspect of the study. Various scholars have attempted to categorize the chronology and styles of shophouse based on factors like urbanization, leading to diverse proposed timelines. For example, SuchaXaya (1981) identified five eras of shophouses, while Chantavilasvong (1978) proposed four timelines based on the influence of urbanization on shophouse transformations, ranging from the reign of King Rama IV to King Rama IX. Similarly, Suwatcharapinun (2016) divided the historical timeline of Tha Phae Road into four periods: (1) Tha Phae Road in the beginning (1884), after the implementation of the second treaty between Bangkok and Britain; (2) Tha Phae Road during the period of Siam intendant (1897), when it served as an area of Siam intendant along the River Ping, connecting to a new era of modern economy; (3) Tha Phae Road during the period of up-rising from Chinese trading, and (4) Tha

Phae Road in the present day (2022), reflecting diversity of cultural influences that are observable in the area's architectural styles.

The research utilizes this current situation as the starting point, and integrates the historical timelines and specific elements of Lanna shophouses to establish design criteria for contemporary Lanna architecture. By analyzing the historical evolution and contemporary adaptations of architectural styles on Tha Phae Road, the research aims to contribute to the continued development and enhancement of Lanna architectural principles in the modern urban context.

## RESEARCH METHODOLOGY

This section outlines the methodology employed in the research project, aiming to comprehensively understand contemporary Lanna architecture on Tha Phae Road. The design criteria for this research are derived from historical timelines and specific elements of Lanna shophouses, which are categorized into three main influences: Chinese (C), Western (W), and Modern (M). Chinese-influenced architecture emerged in the late 19th century, influenced by Chinese merchants, and characterized by glazed roof tiles, motif decorations, and window grilles. Western-influenced architecture developed in the late 19th and early 20th centuries, influenced by Western art and sciences, featuring stucco, glass, and hip roofs. Modern architecture has been emerging since the mid-20th century, incorporating modern building materials and techniques like reinforced concrete, steel, and glass. These architectural styles often incorporate traditional Lanna elements in a contemporary manner, with an emphasis on promoting Thai culture.

The study utilizes the characteristics of the three main influences: Chinese (C), Western (W), and Modern (M), alongside Lanna (L)—as criteria for categorizing contemporary Lanna architecture on Tha Phae Road. This approach provides a valuable framework for understanding the evolution of Lanna architecture within the broader historical and cultural contexts, contributing to a

better appreciation and preservation of the region's cultural heritage.

The research methodology involved several key steps to achieve its objectives. Firstly, a comprehensive field survey was conducted to inspect all buildings on both sides of Tha Phae Road, documenting architectural features and capturing photographs. Secondly, a thorough document analysis was performed, reviewing historical documents related to Tha Phae Road and guidelines for building design and revitalization in the area. Thirdly, a comparative analysis was undertaken by comparing the current state of revitalized buildings with their previous conditions, utilizing photographs from 2022 and Google Street View images from 2011. Fourthly, to gain deeper insights into the design elements of contemporary Lanna architecture on Tha Phae Road, a facade elemental study was conducted, focusing on three case studies from each of the three distinctive styles of revitalization. Finally, the data collected from the field surveys, document analysis, comparative analysis, and facade elemental study were subjected to rigorous analysis, with conclusions drawn about the key design elements and characteristics of contemporary Lanna architecture on Tha Phae Road. These findings have practical implications, informing future revitalization efforts and serving as a reference for architects and designers seeking to incorporate Lanna elements into their work.

In summary, the study utilizes a systematic approach that integrates historical and

contemporary elements in order to understand and categorize contemporary Lanna architecture on Tha Phae Road. The study's findings contribute to preserving and promoting the cultural heritage of the region, while also guiding future architectural endeavors in embracing the essence of Lanna architecture within a modern context.

## RESULTS

### Overview of Areas Surveyed: Tha Phae Road

The survey area encompasses multiple blocks on both sides of Tha Phae Road, a historically and culturally significant street that stretches from Tha Phae Gate to the Buddha Sathan intersection (Figure 1).

Tha Phae Road is home to a unique blend of Lanna residential and commercial components, and occupies a strategic location near the old city of Chiang Mai. Its historical importance is deeply rooted in its association with Tha Phae Gate, one of Chiang Mai's five ancient city gates, which has managed to retain its original door.

The eastern part of Tha Phae Road leads to Nawarat Bridge which grants access to the renowned Warorot Market. As the largest and

**Figure 1**

*Map of Surveyed Area*



*Note.* The survey was conducted within a specific area, starting from Tha Phae Gate, and extending to the Buddha Sathan intersection at the base of Nawarat Bridge, covering a distance of approximately one kilometer



original local market in Chiang Mai. Tha Phae Road seamlessly connects to Charoen Muang Road, facilitating a convenient route to Chiang Mai train station. On the western side, the road merges with The Sunday Market, colloquially known as Walking Street. This sprawling market is nestled within Chiang Mai's ancient walled city area, extending approximately 1 km along Ratchadamnoen Road, leading to Wat Phra Singh, a significant religious landmark in the city.

In the past, before the advent of the railway system in Chiang Mai in January 1922, Tha Phae Road featured traditional Lanna-style wooden dwellings. Over time, the area experienced, between 1862 and 1896, architectural influences from Chinese merchants, followed by Western art and sciences between 1896 and 1900. As Bangkok provided modern construction materials, some buildings started incorporating these materials into their designs. By the 1920s, Tha Phae Road had been transformed into Chiang Mai's principal business district, surpassing the Wat Ket neighborhood, which had previously held that distinction.

A notable turning point occurred in 1983 when postmodernism was significantly influencing Western architecture, leading to the emergence of classic-style architecture along Tha Phae Road. In that year, a new Tha Phae Gate was constructed, catalyzing the development of shops, department stores, hotels, commercial buildings, and financial institutions along the road. However, this period of urban development and modernization also posed challenges to the

preservation of the city's uniqueness. To safeguard the area's local art and culture, local government organizations introduced building control regulations in 1988 that encompassed Tha Phae Road. These regulations aimed to maintain the Lanna Thai architectural style or northern traditional style in new construction or renovation.

Despite some old wooden structures being replaced with contemporary concrete buildings, more recent efforts have been directed towards preserving the remaining historical structures and cultural heritage of Tha Phae Road, which has, today, evolved into a renowned tourist destination adorned with restaurants, cafes, shops, and various cultural and historical landmarks, including Tha Phae Gate, ancient temples, and the Chiang Mai Religion Practice Center.

To document and analyze the existing buildings along Tha Phae Road, a total of 99 buildings located on the north and south sides of the survey area were meticulously photographed. These photographs were then organized in a table for elevation study, a method used to analyze building exteriors by studying their front view. This technique permits examination of the design features, materials, and ornamentation of the buildings, as well as their overall aesthetic. Key Plan A and Key Plan B in Figure 2 and Figure 3, respectively, illustrate the surveyed area, with the locations of buildings highlighted in red.

**Figure 2**

*Key Plan A*



*Note.* This figure illustrates the location of surveyed buildings on the eastern side of Tha Phae Road, spanning both sides of the road.

**Figure 3***Key Plan B*

*Note.* This figure illustrates the location of surveyed buildings on the western side of Tha Phae Road, spanning both sides of the road.

Between 2011 and 2022, Tha Phae Road underwent a discernible revitalization process that affected 15 buildings, designated with specific codes from R-01 to R-15, corresponding to their east-to-west locations. Transformation was evident in various design elements, encompassing form, roofs, color, decoration, fences, and walls. The impetus for these changes had come from the Chiang Mai Municipal law B.E.2557, which places significant emphasis on preserving the authentic "Lanna" identity, and enforces stringent guidelines to safeguard the area's rich cultural heritage.

However, the Chiang Mai Comprehensive Plan 2012 also imposes certain restrictions on land use and building height. Specifically, buildings in the Brown or Conservative area are subject to a maximum height limit of 12 meters. Interestingly, the Green and Red areas, spanning from Chang Moi Tat Mai Road to the Buddha Sathan

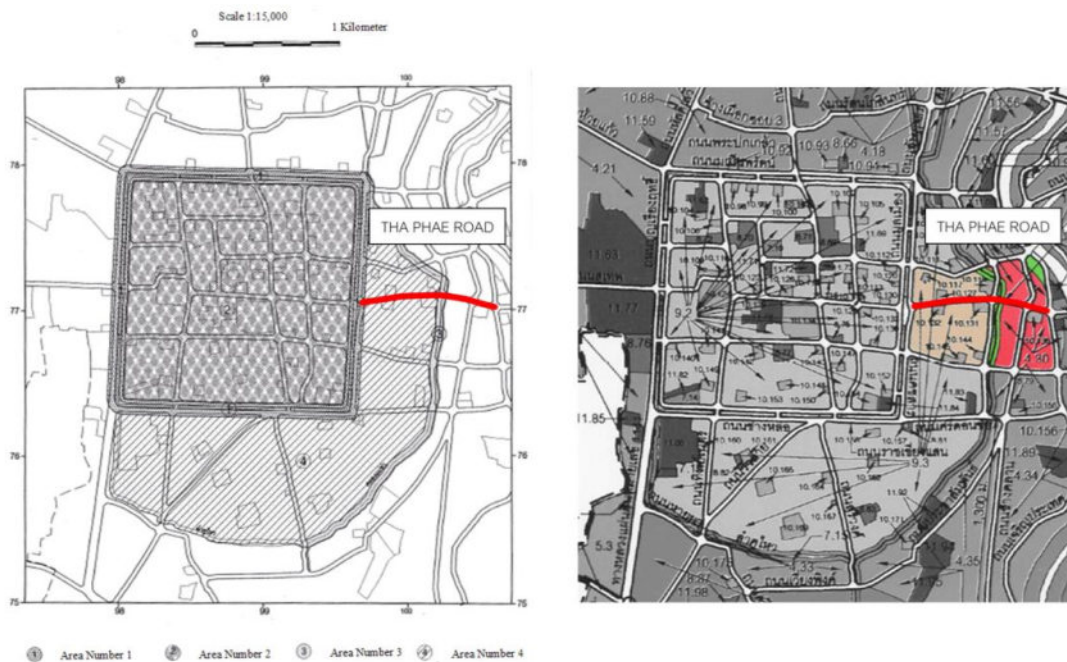
intersection at the end of Tha Phae Road (Figure 4), are not subjected to the same design limitations.

Consequently, the revitalized buildings within this region display a diverse range of architectural styles, as owners have been given the freedom to choose according to their preferences and intended functional use (Figure 5). While some buildings underwent complete demolition, making way for new modern commercial structures with little resemblance to traditional shophouse architecture, others were meticulously preserved and revitalized, with a renewed emphasis on their cultural and historical significance.

The observations and conclusions drawn from this situation underscore the impact of heritage zoning on the overall integrity of Tha Phae Road as a uniform street. The variation in architectural styles resulting from different zoning regulations contributes to the dynamic character of the area.

**Figure 4**

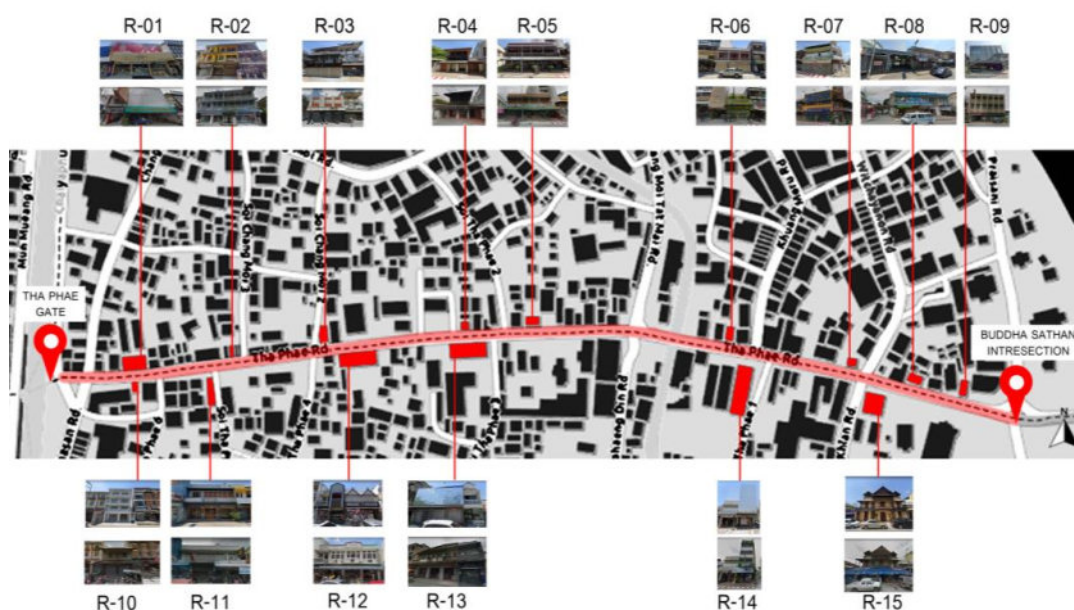
*Laws on the Area of Tha Phae Road*



*Note.* This figure shows the area of Tha Phae Road that is subjected to current requirements and laws. The area where Chiang Mai Municipal law applies (left) and the Chiang Mai Comprehensive Plan applies (right). Adapted from *Kotkrasuang hai chai bangkhap phangmueang ruam changwat Chiang Mai pho so song phan haroi ha sip ha* [Ministerial regulation of Chiang Mai comprehensive plan, 2012], by The Royal Thai Government Gazette, 2012 (<https://dl.parliament.go.th/backoffice/viewer2300/web/viewer.php>). Copyright 2012 by The Royal Thai Government Gazette.

**Figure 5**

*Locations and Photographs of the Revitalized Buildings*



*Note.* The 15 revitalized buildings are designated with specific codes from R-01 to R-15 from east to west along Tha Phae Road



## Building Facade Comparative Analysis

This section presents a comprehensive analysis of the revitalization process on Tha Phae Road, with a specific focus on the building facades. The study adopts a descriptive case study approach, drawing on primary and secondary sources, including scholarly literature and on-site photographs. The research methodology employs a comparative approach to analyzing and categorizing the architectural paradigms of the 15 revitalized buildings, based on the Four Sets of Lanna Architectural Design Knowledge. Unfortunately, detailed plans and section data for the buildings were unavailable due to privacy considerations. As a result, instead of an analysis of spatial planning and organization, an examination of the functional usage of the buildings was undertaken.

Furthermore, the study classifies the revitalized buildings based on their facade elements, which are categorized as Chinese (C), Western (W), Modern (M), or Lanna (L). The data collected from site investigations are summarized in comparative tables (Table 1, Table 2), providing a clear overview of each building's characteristics, revitalization efforts, and architectural style.

The analysis of the architectural styles of these revitalized buildings revealed a dominant trend of blending three distinct cultural influences, resulting in the identification of three revitalization styles:

1. Modern-Lanna style: Six buildings highlight the harmonious integration of contemporary elements with traditional Lanna architecture.
2. Modern-Western-Lanna style: Another six buildings exhibit a fusion of Western architectural features with the Lanna cultural heritage.
3. Modern-Western-Chinese-Lanna style: Two buildings stand out as particularly unique, embodying a captivating hybridization of four distinctive styles, namely Modern-Western-Chinese-Lanna. This combination displays a diverse and eclectic architectural approach.

Notably, only one building, which is currently abandoned, adheres strictly to a Modern style, underscoring the prevailing inclination towards preserving the area's cultural heritage.

A significant finding in 13 out of the 15 case studies relates to the transition in functional usage of the buildings over the 11-year period. The revitalization process has involved transforming the buildings from their original functions into new hospitality-related functions, such as hotels, souvenir shops, and coffee shops, catering to the increasing demand from tourists. However, it is obvious that the changes of functional use came from owner preferences, without financial support or guidelines from the government with respect to the building regulations that control the image of Lanna identity. The result of this variety of functions is manifested through the building facades, which reflect the buildings' different purposes. For example, R-01, which changed from an electrical store into a cosmetic store, had an advertising canvas structure added to target Chinese tourist groups, which were popular at that time. Adaptations to facilitate functional usage have exerted great influence and driven many other changes in the facades of the buildings on Tha Phae Road.

Regarding Composition and Compound, 10 out of 15 buildings have remained largely unchanged, suggesting limited flexibility due to the law that restricts the height of buildings to 12 meters, or the equivalent of a 3-4 story building. For this reason, changes have mostly comprised 1-2 story extensions to increase building height and provide more space.

Similarly, the main structure has been kept for most of the revitalized buildings (11 out of 15), reflecting a conscious effort to preserve the original architectural form. This adherence to the original structure and construction further emphasizes the commitment to conserving the area's cultural heritage. However, some extensions of roof structures and reinforcements have been made, often using materials like steel or reinforced concrete to strengthen the old wooden structures.

However, while the facade is an integral aspect of a building's identity and plays a crucial role in shaping the overall aesthetic and cultural significance of the area, in terms of the

revitalization of architectural elements, all 15 buildings have undergone significant changes to their facades. Various processes were identified, such as the installation of modern materials, particularly glass windows and doors, to improve visibility and accommodate the buildings' new functions. Additionally, the repainting of facades with specific colors in compliance with building control regulations demonstrates the attention paid to preserving the Lanna style. Furthermore, the integration of decorative elements, such as wooden lattices, *Kalae*, and brick walls, imitating traditional Lanna elements, serves to enhance the buildings' visual appeal while supporting a connection to the region's architectural heritage.

The revitalization process on Tha Phae Road exemplifies a successful balance between modernization and adaptation to new functions while preserving the cultural heritage and historical significance of the buildings. The blending of diverse architectural styles and meticulous attention to facade revitalization have contributed to the dynamic character of the area, making it an attractive destination for both locals and tourists. The findings of this analysis offer valuable insights into the architectural transformation of Tha Phae Road, and contribute to the ongoing development and enhancement of Lanna architectural principles in the modern urban context. This suggests that the revitalization process has not only focused on preserving the traditional colonial architectural style but has also integrated modern elements in terms of materials and construction to create a unique and contemporary aesthetic.

Moreover, it is worth noting that there is a scarcity of purely traditional Lanna architecture among the revitalized buildings on Tha Phae Road. This can be attributed to the influence of modernization and globalization on architecture, as well as the evolving demands and preferences of tourists and locals. Nevertheless, the incorporation of Lanna elements in contemporary design shows that the region still maintains a strong cultural identity and appreciation for the Lanna heritage.

Overall, the revitalization process on Tha Phae Road has yielded a harmonious amalgamation of cultural styles that blend traditional Lanna architectural elements with modern design, underscoring the ability to adapt and evolve while keeping a sense of cultural heritage.

## Case studies of the Facade Element and Urban Revitalization

The revitalization of buildings along Tha Phae Road has resulted in a distinct architectural style that harmoniously blends traditional Lanna elements with modern design features. Three case studies were selected based on specific criteria to represent the Modern-Lanna, Modern-Western-Lanna, and Modern-Western-Chinese-Lanna styles. The chosen buildings were carefully selected for their diverse and complex revitalization processes compared to others within their respective groups.










The primary objective of this study is to gain a comprehensive understanding of the design elements defining contemporary Lanna architecture, with a particular focus on analyzing the facade elements of the selected case studies: R-05, R-04, and R-15. The research aims to contribute valuable insights for the use of architects and designers, enabling them to effectively incorporate Lanna design elements in their work, further enriching and safeguarding the cultural identity of the area.

Each case study includes a brief historical background encompassing typology and previous functions. Illustrated figures of the identified architectural elements are presented to provide visual context and aid in a comprehensive understanding of the analysis. The three selected case studies, namely R-05, R-04, and R-15, serve as representative examples of the Modern-Lanna, Modern-Western-Lanna, and Modern-Western-Chinese-Lanna styles, respectively.







### Case Study R-05: An Example of Modern-Lanna Style

Case study R-05 illustrates how the Modern-Lanna style can be applied in contemporary architecture (Figure 6). Originally an art gallery named Lyla Gallery, the building was renovated in 2015 and transformed into a 3-star hotel called Ban Chang Tong Hotel. The revitalization process retained the concrete structure of the building while incorporating unique architectural elements, such as a parapet wall, flat roof, and

**Table 1***Comparative Analysis of Revitalized Buildings on Tha Phae Road*

Building	Elevation	Revitalization work				Style			
		Functional usage	Composition and compound	Structure and construction	Architectural elements	L	C	W	M
R-01		Conversion from electrical store to cosmetic store	Reduction in building height	Extension of steel structure for advertising canvas	<ul style="list-style-type: none"> <li>- Installation of glass windows and doors</li> <li>- Removal of old cladding</li> </ul>	✓			✓
R-02		Expansion from accounting office and clothing store to accounting office, clothing store, and café	Unchanged	Unchanged	<ul style="list-style-type: none"> <li>- Installation of steel and triangular shape decoration</li> <li>- Repainting of façade in yellow, black, and wooden colors</li> </ul>	✓			✓
R-03		Conversion from music shop to coffee shop	Unchanged	Extension of steel structured roof	- Installation of glass window and wooden-framed glass door	✓		✓	✓
R-04		Conversion from antique store to coffee shop	Unchanged	Unchanged	<ul style="list-style-type: none"> <li>- Installation of decorative brick wall, wooden-framed glass windows</li> <li>- Wooden-to-ceramic tile replacement</li> <li>- Repainting of white and wooden façade.</li> </ul>	✓		✓	✓
R-05		Conversion from art gallery to hotel	Unchanged	Extension of wooden structured roof and floating column	<ul style="list-style-type: none"> <li>- Repainting of white and wooden façade</li> <li>- Extension of metal sheet roof extension</li> <li>- Wooden column decoration</li> </ul>	✓			✓
R-06		Conversion from optic shop to souvenir shop	Unchanged	Unchanged	<ul style="list-style-type: none"> <li>- Repainting of white and wooden façade</li> <li>- Removal of old cladding</li> </ul>	✓		✓	✓
R-07		Conversion from selling agent office to abandoned building	Unchanged	Unchanged	<ul style="list-style-type: none"> <li>- White and green façade repainting</li> <li>- Removal of old cladding</li> </ul>	✓		✓	✓
R-08		No conversion of the restaurant and stores	Unchanged	Unchanged	- Repainting of white façade	✓		✓	✓
R-09		Conversion from travel services office to aesthetic clinic	Unchanged	Unchanged	<ul style="list-style-type: none"> <li>- Installation of glass cladding façade with Lanna pattern</li> <li>- Decoration of brick wall</li> </ul>	✓			✓

**Table 2***Comparative Analysis of Revitalized Buildings on Tha Phae Road (Cont.)*

Building	Elevation	Revitalization work				Style			
		Functional usage	Composition and compound	Structure and construction	Architectural elements	L	C	W	M
R-10		Conversion from restaurant to commercial building for rent	Height extension of two storeys	Conversion from wood structure to reinforced concrete structure	- Installation of glass door - White façade painting	✓			✓
R-11		Conversion from travel agency office to hotel	Unchanged	Unchanged	- Installation of wooden lattice - Installation of wooden-framed glass door - Repainting of wooden façade	✓	✓	✓	✓
R-12		Conversion from restaurant to convenient store	Extension of wooden façade structure	Unchanged	- Imitation of Lanna house element ( <i>Ka Lae</i> roof) - Repainting of white and wooden façade	✓		✓	✓
R-13		Conversion from jewelry shop to coffee shop	Extension to three-floor building with the addition of gable roof	Unchanged	- Installation of glass window - Installation of glass door - Repainting of white façade	✓			✓
R-14		Conversion from spa to abandoned building	Unchanged	Unchanged	- Installation of aluminum cladding facade				✓
R-15		Conversion of an abandoned building with only a souvenir shop in front of the building to a Lanna cuisine restaurant	Unchanged	Reinforcing wooden pillars by planting steel beams	- Installation of glass windows - Cleaning of façade - Polishing of wooden elements - Repainting of façade in the original yellow hue	✓	✓	✓	✓

Note: C = Chinese; W = Western; M = Modern; L = Lanna.

sunshade fin, to represent modernity. However, to preserve the Contemporary Lanna style, wooden-framed glass windows, wooden balustrades, and floating columns were installed, along with extensions of a wooden structured roof with metal sheet roofing.

The conversion from an art gallery to a hotel involved planning and organizational adjustments, with some facade extensions. The exterior color scheme features brown, white, and natural tones, in compliance with controlling regulations. The hotel's interior is decorated in Northern Thai Lanna style, with different room

categories reflecting Thai-northern style through brown colors and dedicated wood details.

This case study demonstrates how Lanna architectural principles can be adapted to modern construction, and how functional changes can impact a building's design while maintaining its architectural identity. The integration of modern elements, such as the parapet wall and flat roof, was carefully balanced with traditional Lanna design features, resulting in a harmonious blend of styles that reflect the building's history and current usage.

**Figure 6***Analysis of Facade Elements for R-05*

#### **Case Study R-04: An Example of Modern-Western-Lanna Style**

Case study R-04 exemplifies the Modern-Western-Lanna style through the adaptive reuse of an antique store that was transformed into a coffee shop named "Coffee-y" in 2015 (Figure 7). The revitalization preserved the building's original two-story structure, featuring a hipped roof and combination of wood and masonry. Distinct Lanna elements, including recessed columns, panel windows, wooden balustrades, and traditional wooden tiles (*Pan Kled*), were also retained. To represent the Lanna-Modern style, a gable roof with metal sheet roofing was added, extending towards the adjacent residential building that was present before the revitalization. With the functional change, the antique product showcase area was removed, and more seating and space were added to the café area.

The Lanna architectural elements of wooden brackets and brick walls were decorated to represent Lanna style, combining traditional and modern materials by replacing *Pan Kled* with ceramic tiles on the canopy. The earlier frameless glass doors and windows on the lower floor were replaced with wood-framed glass windows, representing Modern-Contemporary Lanna style. Additionally, the building's facade was repainted in white and wooden colors, maintaining the overall color scheme of the exterior, consisting of brown, white, and natural

tones. Over 70% of the colors used adhered to controlling regulations.

This case study highlights the successful integration of Lanna architectural elements with Modern-Western design, creating a unique style that accommodates contemporary functions. The adaptive reuse of the building as a coffee shop illustrates how historical structures can be repurposed to serve current needs while preserving their architectural identity and cultural heritage.

#### **Case Study R-15: An Example of Modern-Western-Chinese-Lanna Style**

The case study of R-15 highlights the distinctive combination of Modern-Western-Chinese-Lanna style architecture found in the Kiti Panit building (Figure 8). Originally built in 1888, this historic building exemplifies the fusion of Western, Chinese, and Lanna styles. As the first general store in Chiang Mai, it was established by Chinese immigrants and still remains under the ownership of their fifth-generation descendants. The building, which once served as an antique store, remained unoccupied for fifty years before undergoing extensive renovation. For the renovation, local artists and craftsmen worked diligently to restore the original woodwork, including ceilings, flooring, staircase, and panels. Presently, the Kiti Panit building operates as a Lanna Cuisine restaurant.



The building facade was repainted in the original yellow color. The Lanna architectural style is evident in the use of a decorative pole on the gable peak called *Sa Ra Nai*, as well as in the use of clay tiles (*Din Khor*), a floating column, a wooden roof structure, and wooden balustrades. Chinese influence is evidenced in the massive form, which represents wealth, as well as the folding doors, timber shutters, and window grilles adapted from Chinese architectural elements. Moreover, the building incorporates Western influences, such as a mixed gable roof with a wooden pediment, panel doors, and ventilation openings. Western decoration is further evident in gingerbread fretworks, wooden lattices, fixed wood carvings, and an arched doorway.

Following the renovation, glass doors with wooden frames were thoughtfully integrated into the traditional design, complementing the Contemporary Lanna style. These modern elements were harmoniously blended with the historic architecture, resulting in a seamless fusion of styles that embodies the building's history and current function. The Kiti Panit building serves as a testament to the idea that striking a delicate balance between preserving heritage architecture and integrating modern

design elements can lead to a distinctive and aesthetically pleasing architectural style.

The analysis of the case studies (R-05, R-04, and R-15) highlights their features across four distinct architectural styles: Lanna, Modern, Western, and Chinese. Specific facade elements were chosen during revitalization of these buildings to achieve design objectives and address practical needs (Tables 3,4). For example, wooden-framed glass windows balance modern aesthetics with traditional Lanna design, providing natural light and a connection between the interior and exterior. Wooden balustrades and floating columns maintain Lanna principles, enhancing the Modern-Lanna identity. Hipped roofs and transom windows contribute to the Modern-Western-Lanna style, ensuring architectural stability and increased light and ventilation. Wooden panel doors and pediments add an elegant Western touch and integration with Lanna features. The use of mixed gable roofs and wooden lattices emphasizes the Modern-Western-Chinese-Lanna style, creating an intricate design with decorative appeal. Overall, these choices create cohesive architectural styles, preserving cultural heritage while fitting into the contemporary urban context.

**Figure 7**

*Analysis of Facade Elements for R-04*



**Figure 8***Analysis of Facade Elements for R-15***Urban Impacts and Challenges**

The results suggest that contemporary architecture in Chiang Mai features a blending of traditional Lanna elements with Modern, Western, and Chinese architectural styles. Lanna features, such as wooden balustrades, floating columns, and traditional wooden tiles, are commonly found across the three case studies, reflecting influences from building regulations. Western design elements are evident in the use of gable roofs, panel doors, and ventilation openings, while Chinese architectural characteristics include folding doors, timber shutters, and window grilles preserved from the buildings' original historical use. Modern design elements, such as glass doors and frames, are also observed, reflecting contemporary trends in construction.

The conversion of buildings from their original purposes to new ones has resulted in changes in facade features. For instance, the conversion of the R-05 building from an art gallery to a hotel necessitated the addition of a wooden structured roof and metal sheet roofing. Similarly, the R-04 building, which was transformed from an antique store to a coffee shop, required the replacement of traditional *Pan Kled* tiles with ceramic tiles on the canopy and the installation of glass windows with wooden frames.

In terms of urban impacts, the revitalization process for the three buildings differed due to the functional changes undertaken by their respective owners; however, they all share the common goal of improving the visual aesthetic of their building facades to attract passing tourists and customers. Glass openings, such as doors and windows, are necessary for creating visual connections between the outside and inside spaces, and enclosing the interior spaces for air conditioning purposes.

One challenge faced during the revitalization process is the absence of specific policies supporting renovation projects, leading building owners to bear the costs while preserving the image of Lanna identity within municipal laws. Consequently, there is a unified color scheme for buildings on the western side of Tha Phae Road, restricted by conservation zone regulations. However, the lack of such restrictions on the eastern side has resulted in diverse building facades with varying colors, as seen in R-15, which is painted yellow to preserve the building's originality. Each shop along Tha Phae Road is independently owned and serves different purposes, leading to limited renovations to create open spaces for public use. Nevertheless, these adaptive reuse projects have played a vital role in revitalizing the historical area and preserving the cultural heritage of Chiang Mai.

**Table 3***Facade Elemental Study from Case Studies*

Elements of a building facade	Function of elements	R-05	R-04	R-15
<b>Traditional lanna</b>				
1. Gable roof extending towards adjacent residential building	A sloping structure that allows rainwater to drain efficiently. The extension towards an adjacent building helps to create a seamless connection between the two structures.		✓	
2. Wooden tile ( <i>Pan Kled</i> )	Roofing material that provides a natural and aesthetic look, offering protection from weather elements and enhance the overall appearance of the building.		✓	
3. Clay tile ( <i>Din Khor</i> )	Roofing material that provides good insulation and is durable. They are known for their heat-resistance and are commonly used in traditional Lanna architecture.	✓		✓
4. Gable decoration ( <i>Sa Ra Nai</i> )	A wooden decorative element added to the peak of a gable of a roof.			✓
5. Floating column	A decorative structure that creates the illusion of a column supporting a structure while being visually detached from the ground.	✓		✓
6. Wooden roof structure	The wooden framework that supports the roof and distributes its weight evenly to the building's walls. It adds a natural and warm aesthetic to the interior spaces.	✓		✓
7. Wooden balustrade	A safety railing made of vertical posts (balusters) connected by a horizontal rail. It is commonly used on balconies, staircases, and terraces for both safety and decorative purposes.	✓	✓	✓
8. Wooden window frame	The window frame made of wood provides the structure and support to hold the window pane in place.	✓	✓	✓
9. Recessed column	A column creating a visually interesting play of light and shadow. It adds depth and architectural interest to the building.		✓	
10. Wooden bracket	A decorative element that protrudes from a wall to support a structural or decorative load. It adds character and elegance to the building's exterior.		✓	
11. Brick wall	Load-bearing structures that provide support to the building. They are also employed as decorative elements, enhancing the aesthetic appeal of the building.	✓	✓	
<b>Modern</b>				
12. Parapet wall	An extension of the wall above the roofline. It provides a protective barrier to prevent people from falling off the roof and also serves as a design element.	✓		
13. Flat roof	A horizontal roof design that is easy to construct and provides usable space on top of the building. It is commonly used in modern architecture.	✓		
14. Sunshade fin	A projecting element designed to block sunlight and provide shading to the building's windows and facade, improving energy efficiency and comfort indoors.	✓		
15. Concrete structure	A structure that provides a strong and durable foundation and framework for the building. It is a versatile material used in various construction elements.	✓		
16. Glass window	Glass windows allow natural light to enter the building while providing a view of the surroundings creating a connection between indoor and outdoor spaces.	✓	✓	✓
17. Metal sheet roofing	A durable and lightweight roofing material often used in industrial and modern architectural designs.	✓	✓	
18. Ceramic tile	Ceramic tiles are used for flooring, walls, and roofs. They are durable, easy to maintain, and come in various designs and colors.		✓	

**Table 4***Elemental Study from Case Studies (cont.)*

Elements of a building facade	Function of elements	R-05	R-04	R-15
<b>Western</b>				
19.Hipped roof	A roof that has slopes on all sides, creating a pyramid-like shape. It offers good stability and is suitable for areas with high winds.		✓	
20.Transom window	A small window placed above a door or a larger window to allow additional light to enter and provide ventilation.		✓	✓
21.Vertical timber cladding	An exterior timber wall covering, providing both aesthetics and protection to the building. Vertical placement gives a distinct appearance.		✓	
22.Masonry structure	A building construction using brick, stone, or concrete blocks. It is sturdy and provides thermal mass for temperature regulation.		✓	✓
23.Genuine timber structure	A supporting structure system of a building where the main structural components are made of natural wood, offering a warm and organic architectural style.		✓	✓
24.Wooden panel door	Sturdy and aesthetically pleasing doors made of wood with panels assembled in various patterns.		✓	✓
25.Wooden pediment	A triangular gable decoration located above a door or window, often adorned with carvings or ornamental elements.			✓
26.Mixed gable roof	A mixed gable roof combines two or more gable roof sections with different pitches or orientations, creating an intricate roof design.			✓
27.Wooden lattice	A decorative framework of crisscrossed wood strips often used as a screen or support for climbing plants.			✓
28.Fixed wood carving	Ornate designs carved into wooden surfaces, adding a touch of craftsmanship and elegance to the building.			✓
29.Arched doorway	A curved top, adding a classic and sophisticated touch to the entrance of a building.			✓
30.Gingerbread fretworks	Intricate and decorative wooden elements used to embellish the exterior of buildings, especially in Victorian architecture.			✓
<b>Chinese</b>				
31.Wooden shutter window	Hinged panels that can be opened or closed to control light, ventilation, and privacy.			✓
32.Window grille	Decorative and security features made of wood or metal that are placed over windows for added protection.			✓
33.Massive form	The use of substantial and solid architectural elements, giving a sense of strength and permanence to the building.			✓
34.Folding wooden door	Doors that consist of wooden panels that fold together, creating a large opening and providing flexibility in connecting indoor and outdoor spaces.			✓

## DISCUSSION

The present study examines the intricate interplay between architectural facades and urban identity and provides valuable insights into the cultural revitalization of Tha Phae Road. The successful fusion of traditional Lanna elements with Modern, Western, and Chinese architectural styles has resulted in a dynamic and captivating urban landscape. This section discusses the implications of the findings in the broader context of cultural preservation, urban development, and contemporary architectural practices in Chiang Mai.

### Preservation of Cultural Heritage

A primary objective of the Tha Phae Road revitalization project is the preservation of its rich cultural heritage. The incorporation of traditional Lanna architectural elements serves as a tangible manifestation of the commitment to safeguarding the historical identity of the buildings. The adept integration of these elements with modern functionalities showcases the compatibility between historical preservation and urban development, contributing to the cultural continuity and authenticity of the city.

### Dynamic Urban Identity

The revitalization process has bestowed a vibrant and dynamic urban identity on Tha Phae Road. The amalgamation of diverse architectural styles, each echoing different historical influences, has resulted in an eclectic and visually captivating streetscape. The identification of three distinct revitalization styles exemplifies the adaptive and resilient nature of Chiang Mai's urban fabric, transforming the road into, not only a commercial hub, but also an architectural and cultural destination.

### Sustainable Design and Modernization

The integration of sustainable design features with modernization reflects a commitment to environmental responsibility in the context of

cultural preservation. This fusion contributes to the overall sustainability and resilience of the urban environment.

## Challenges and Opportunities

The case studies unveil challenges and opportunities encountered during the revitalization process. Building control regulations have been instrumental in preserving Lanna architectural styles, but the absence of specific policies supporting renovation projects poses financial challenges for building owners. However, these challenges also present opportunities for innovative architectural expressions, leveraging the diverse cultural heritage of the region.

### Cultural Identity in Contemporary Architecture

The integration of Lanna elements with contemporary architectural designs underscores the unwavering cultural identity of Chiang Mai. The revitalization projects exemplify the compatibility of cultural identity with contemporary urban environments, celebrating the unique heritage of the region and establishing a distinctive architectural identity.

### Contribution to Architectural Principles

The research findings contribute valuable guidance to architects and designers seeking to integrate cultural heritage into their projects. By understanding how diverse architectural styles can synergize and complement each other, practitioners can create contextually relevant and harmonious architectural expressions that resonate with the city's historical past and contemporary aspirations.

### Limitations and Future Research

The study acknowledges certain limitations, such as the lack of detailed plans and section data due to privacy considerations, which restricted the

analysis of spatial planning and organization in the buildings. Future research endeavors could delve deeper into this aspect to gain a more comprehensive understanding of architectural transformations. Furthermore, examining the perspectives of local communities, building owners, and tourists would enrich the discussion on the social and cultural impacts of the revitalization projects.

## CONCLUSION AND RECOMMENDATION

This study highlights the unique Contemporary Lanna style found on Tha Phae Road, achieved through a harmonious blend of traditional Lanna elements with modern, Western, and Chinese architectural styles. The three case studies illustrate the adaptability and evolution of architecture with changing times while maintaining a strong cultural identity. The research emphasizes the importance of preserving cultural heritage while adapting to modern needs and preferences, enriching the urban landscape, and fostering cultural tourism in the area.

To further preserve the remaining historical structures and cultural heritage of Tha Phae Road, continued efforts are necessary. The integration of Lanna design elements in contemporary architecture can support a strong cultural identity. The study also highlights the significance of building control regulations and heritage zoning in preserving the authentic "Lanna" identity, and recommends the continued enforcement of such regulations to safeguard the area's rich cultural heritage and unique architectural character.

In conclusion, the revitalization of Tha Phae Road stands as a remarkable achievement in preserving cultural heritage amidst urban development. The seamless integration of traditional Lanna elements with modern design features celebrates the diverse cultural identity of Chiang Mai, serving as an exemplary model for sustainable and culturally enriching urban development in the future.

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