

Preservation and Adaptation of Traditional Central Thai House

Architecture and civil engineering
Housing and Environmental Design

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1. Background

Traditional central Thai house derives the ancient knowledge from local people who live in the central area of Thailand as their shelters and space that suits for their occupations. Based on the relationship with a topographic and climatic condition, natural resources, social condition, and ancient beliefs, vernacular architecture in the area represents unique characteristics of community and environment, as well as providing sustainable, comfortable, and aesthetic space for people.

Nowadays, traditional central Thai houses are built, renovated, and extended without concern on original style, local environment, and the local way of living. A house surrounded by crowded neighborhood, modern systems, and technologies are added to create more comfortable and convenient living space which lead to the decreasing popularity of original style. By ignoring ancient knowledge, modern houses are gradually losing their quality of space and comfort factors.

Baan Khom and Baan Chin villages are an example that problem of decreasing popularity of original style occurred on a traditional house due to globalization. Agriculture is not the main occupation today in this area anymore and new road was paved and sand pit business was brought from outside. These factors lead to disappearing of an original landscape in the village. The canal has been one of living factor for central Thai people to be various uses in everyday life such as transportation and providing water for agricultural area but today is abandoned by local people themselves. Villagers seems to overlook their own natural environment and lack of awareness to preserve traditional architecture and original landscape.

According to such phenomenon, Baan Khom and Baan Chin village are considered to have a potential to be



Fig 1 Traditional central Thai house or known as
Siamese wooden house

studied in physical of traditional central Thai house, an original landscape, and its changes which are reflexed in local ways of living and also represent identities of local central Thai community.

This research aims to prepare the data to develop a traditional Thai house in order to make the house to be fit in the current and future context. That is one of the ways to preserve knowledge from ancient people and to forward it to the next generation.



Fig 2 Map of Research site

2. Objectives

Due to the crisis mentioned in 1, these below questions are the key factors to improve the popularity of the original style in appropriate way:

- What is the physical characteristics of traditional central Thai house?
- What is the relationship between house, landscape, and villager's way of living?
- How was the development of a traditional house in each period?
- Which is a necessary element of a traditional house which is remaining until today?
- What is the trends of traditional central Thai house in the future?
- What is sustainable design in a traditional house?
- How is it possible to utilize traditional design to improve quality of living while preserving knowledge from ancient people?

Those are the crucial questions that need to be realized and understood before choosing an appropriate design from a traditional house. After synthesized and evaluated, the result will be used in the design guideline for preservation of knowledge. It will also provide an appropriate design for extension, renovation, and building of a house in the area and can be applied to the area that has the same problem with central Thai house.

The design guideline will be divided into three

categories as follows: architecture guideline, landscape guideline, belief and culture guideline which will encourage and support traditional Thai house and traditional landscape in the current situation.

3. Scope of the research

Content Scoped

- Settlement history of Baan Chin and Baan Khom
- Relationship between environment, ecology, culture, and community
- Relationship between house and way of living
- Detail of house layout, plan, space, form, and elevation
- Knowledge in sustainable design and construction method
- Belief and culture which effected on traditional house and way of living
- Similarities and differences of each house
- Evolution of traditional house and changed factor

Area Scope

In Baan Chin village and Baan Khom village, community mapping and surveying houses were carried out from Thammachak temple to Bang Ban temple, both of which locate in Bang Ban sub-district, Bang Ban district, Ayutthaya prefecture, Thailand.

4. Research Methods

- Document research on the history of settlement, environment, ecology, and culture, and other factors that affect to architecture and landscape.
- Making map of Baan Chin village and Baan Khom village (Thammachak temple to Bang Ban temple).
- Survey a house in the chosen area and interview with villagers both in the past and present to understand factors changed (20 Houses, 20 Owners)
- Architecture element and space by making house drawing, floor plan, elevation, section.
- Analyze architectural characteristics, spatial organization and landscape characteristics of each house to understand the traditional house and landscape in the area.
- Analyze and compare the similarities and differences of each house.
- Evaluate the elements and characteristics of a house together with consideration of changed factor for choosing the appropriate design concept which can provide a comfortable and convenient space while preserving and reflecting the function and aesthetic.
- Implement the chosen design concept as a criteria guideline for prototypical design of a new traditional house, extension and renovation method, village site, house site.

5. Framework for Research

This research is focusing on similarities and differences of architecture elements as well as space and spatial organization of each house. Thus, this study uses comparative research methodology to compare a house in

research area. Traditional house in the village were selected for comparative analysis purpose; then a traditional house will be divided by area of house; less than 200 square meters house and more than 200 square meters house in order find the most characteristic of traditional central Thai house.

6. Analysis of Research

The two of traditional house were selected from each category for analysis and comparative study:

- Less than 200 square meters category
- More than 200 square meters category

Then selected traditional house from both category will be analyzed by characteristics of traditional central Thai house divided into 4 topic including:

- Physical side of the house
- Spatial organization of the house
- Landscape around the house
- Culture and Belief related to the house

7. Result of analysis

From the analysis, the characteristics of traditional central Thai style house and cultural landscape which can be used as a design to promote identity of the village are as below:

Architecture

- High pitched gable roof
- Long and Extended eaves
- Raised up house floor above the ground
- Ventilation of wooden wall
- Difference of floor level
- Verandah (transition area before get inside a house)
- Consist of cluster plan, surrounded center of the house
- Less of interior partition

Landscape

- Area for homegrown vegetable
- Area for banana forest or bamboo forest
- Area for rice filed (depends on owner needs)

Belief and prohibition

- Ceremony for first post installation
- Area for Buddha statute
- Area for landowner spirit shrine
- Area for ancestral spirit ashes
- Orientation of sleeping
- Direction of stair
- Do not step on doorsill

8. Reference

- [1] Wandee Piniijvarasin (Changes in Thai vernacular housing compounds) Kasetsart University, 2003
- [2] Poomchai Punpairaj, (The transformation of Traditional Thai house: steps toward recognition of changing vernacular forms) Silpkorn Uuniversity, 2010
- [3] Ruethai Chaichongrak, (Traditional Central Thai house) Silpkorn Uuniversity, 1975
- [4] Nicholas Walliman and Pratima Nimsamer(Development of Traditional House Forms in Riparian Communities in Thailand) Journal of the Siam Society, Vol. 101, 2013