



# Cultural Karen house for village revitalization in the national park: Case study of Karen tribe village in Kaengkrachan forest complex, Thailand

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## Abstract

The Cultural Karen House, as a part of “cultural housing network: CHN” 2 years project (2018–2020) in Kaeng Kra Chan Forest Complex, under collaboration with Chulalongkorn University, Pidthong Foundation and Department of National Park, has shown the possibility of revitalizing the original Karen house using villagers at the present time. Karen villagers can use their traditional knowledge in accomplishing traditional building in both soft and hard skills. Construction team comprising of a veteran, project carpenter and daily working carpenters could be used in preservation building procedure in the present day. However, the limitation of natural material supply due to regulations in the National Park could mean that only a few traditional buildings could be reconstructed within time based on the life cycle of a veteran carpenter and considering know-how succession.

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## Introduction

### General Background

Sustainable Development has been promoted for a few decades as an ideal concept for well-balanced management among socio-economic and environmental related tasks. To accomplish this, multi- dimensional consideration is necessary using the proper implementation of the most significant key-success factors, with the next step correlative key factors. However, on-site

implementation could be interfered with and affected by unexpected factors, including emerging unplanned projects by the central government, which is supposed to support sustainable development, but finally causes a terrible failure.

Kaeng Kra Chan Forest Complex (KKFC) is not an exceptional case. Besides past and present conflicts between the Department of National Park (DNP), as a part of the central government, and traditional Karen tribe villagers, supported by groups of conservative NGOs, various associations have been introduced into the area, both for natural resource protection and primitive settlement welfare, due to its significant role as the biggest well-preserved tropical jungle in the Indo-China region. This has escalated a lot more over recent years after an attempt for nomination of the whole KKFC to the status of a natural world heritage site. (Tachakitkachon & students of the Faculty of Architecture, 2018)

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Among the central government's introduced projects, the "cultural housing network: CHN" 2-year project (2018–2020), under collaboration with Chulalongkorn University (CU), Pidthong Foundation (PDF) and DNP, is considered to have high recognition from traditional Karen tribe villagers, due to its continual implementation driven by CU and PDF since 2013.

The main objectives of this study were to (1) clarify the cultural house construction process based on "cultural housing network: CHN" 2-year project, and (2) clarify the carpenter organizing during cultural house building. The findings from this study could support an evaluation for both a tangible and intangible preservation plan of Karen village cultural landscape in the National Park in the future.

### Project Background and Conceptual Modelling

Being selected as the ASEAN Heritage Parks in 2003 (National Park Office, 2015) the DNP has been trying to have KKFC designated as a natural world heritage site even though a significant conflict between the traditional Karen tribe villagers and the DNP has greatly affected the designation by UNESCO. Since the declaration of a National Park, many conflicts have taken place. While the DNP has accused the Karen tribe villagers of illegal immigration and forest encroachment, the Karen tribe villagers accuse the DNP of forced eviction and enforced disappearance. NGOs such as PDF, International Union for Conservation of Nature (IUCN), and Seub Nakhathien Foundation (SNF) have been invited by the DNP for conflict resolution by means of many engagements such as survey to clarify the right of land use and promotion of alternative agriculture instead of shifting cultivation.

### Agenda

An area of 2914 km<sup>2</sup> of KKFC was declared as a national park in 1981. This largest national park in Thailand, located in Phetchaburi and Prachuap Khiri Khan provinces, is a part of the Western Forest Complex covering 18,730 km<sup>2</sup> across 19 protected sites across Myanmar and Thailand. Since being listed in 2013, the Division of Student Affairs at CU has been invited by the PDF with the main purpose to encourage students from multi-faculties and also partner academic institutes to participate in the collaborative Karen tribe village revitalizing activities in Pong-luek Bangkloy village (PBV), located in the center of KKFC (as shown in [figure 1](#), [2](#), and [3](#).) Such activities have included

technology-based; such as modernized farming and irrigation system enhancement, to soft-skill-based; such as language improving for students in the village elementary school. The CU team is composed of 3 lecturers from the Faculty of Science; in charge of modernizing agriculture promotion, 3 lecturers from the Faculty of fine Arts; in charge of rediscovering cultural promotion, and 3 lecturers from the Faculty of architecture; in charge of redesigning traditional construction, re-evaluating the result of overall activities, and finding out if these actually lead to real problem solving for both Karen tribe villagers in PBV and the DNP in charge of KKFC preservation. The typical problem solving by utilizing only man power (local carpenters) and budget for total enhancement, without proper key-success factors, could not address the following agenda; from the village side: (1) Suspicious and Distrustful to the central government; (2) Insecure from life without stable income reinforcement; and (3) Loss of the local wisdom, especially the traditional carpentry skill which has been transferred by only learning by doing, and from the DNP side: (1) Illegal deforestation; (2) Human and drug trafficking; and (3) Less opportunity for world heritage site designation. After long discussions between the DNP, PDF and CU team, "Jungle-loves-villagers-loving-Jungle" or "Cultural Housing Network Project" (CHN) was set up with 2-year funding by the PDF, under special permission from DNP to test and evaluate.



**Figure 1** The location of Kaengkrachan National Park



**Figure 2** The aerial photograph of Pong-Luek Bangkloy village



**Figure 3** The plan shows housing in the village and the location of Cultural Karen house

## Methodology

1. Discussion with the veteran carpenter on setting village team for construction of the traditional building, named cultural Karen house, to support programs including; local wisdom information providing space, multi-purpose utilizing space for craftsmen and artists, local wisdom learning practicing and performance space.
2. Having the team design their own cultural Karen house that includes most of the original space of Karen house, based on the study of Karen house spatial features in the village.
3. Having the team conduct their own cultural Karen house construction starting from material preparing to finishing house interior.
4. Recording and raising agendas from the whole building procedure including both construction process and construction organizing.

## Results and Discussion

### *Spatial Features of Cultural Karen House*

There are 3 General types of Pa Pak Kyaw building, in PBV: (1) non-platform building; (2) low raised floor building; and (3) high raised floor building. The non-platform building is a local building type with less than 10 houses in the village. This building type includes residences, shop houses, and public buildings, such as Christian churches and arts and crafts centers. There are both one-story wooden buildings with cement footing, and two-story buildings with half brick and wood structure. The low raised floor building is a building with an elevation of not more than 1 meter. This building type consists of residential buildings and public buildings. Low raised floor residential buildings are usually not large. Low raised floor public buildings in the village include Por Lagi pavilion and the weaving pavilion. The high raised floor building is a building with more than 1 meter platform. This building type includes all residential buildings. The space under the building is used as a living space in daytime or a supportive space for other functions. The building structure is a wooden structure with Galvanized roof or Ta-Kor palm leaf thatched roof (Rawiwat, 2015).

Furthermore the naming of the interior space of Pak Kyaw houses in PBV is done in 2 ways; naming after function and naming after area feature, which are detailed as follows; (interview Praphan Craygee, Chief Construction Supervisor the house, 28 January 2019)

#### *Area named after function*

1. Kuala Dali refers to the area around a house. Pak Kyaw villagers in Ban Pong Luek-Bang Kloi usually use the area around the house for raising animals or livestock or for planting vegetables.

2. Glukoh means terrace, directly translated as ladder shelf, which is used to place the ladder before entering the house. The Glukoh flooring material is an arrangement of bamboo leaves. Since it is usually an area without a roof, the use of full bamboo cane will withstand the weather and can be changed easily when the structure decays.

3. Aohmiloh, meaning “kitchen” or “eating area”, is a continuous part of the “Phapu” (fireplace) and Riku (shelf). The flooring material is “split bamboo panel” which is full of gaps around the area it covers so that food waste can be easily swept down the wood gaps.

4. Demi means bedroom. It is a closed room with door used as a daughter’s sleeping room. The material used for flooring is split bamboo panel.

5. Phapu means a fireplace with a shelf on the top and a large clay tray underneath for cooking food.

#### *Area named after its feature*

1. De Pala means space under the house or literally, the room below. It is an area that is caused by the lift of the house.

2. Johla means a lower area or a deck before entering the living area of the house, which is often used as guest area. The flooring material is split bamboo panel.

3. Johku means the upper area, which is often used as a living area for a son or a guest. The flooring material is split bamboo panel.

The original building, referred to as a cultural Karen house, constructed by the village team, was a 2-meter-high raised floor house with a pole distance of 3 meters and 1.2 meters and with a Ta-Kor palm leaf thatched roof. The spatial size of the house is proper for 10 residences.

As for the construction of the house, the typical Paka Kyaw construction process can be divided into 4 stages according to the characteristics of the structure (interview with Praphan Craygee, Chief Construction Supervisor of the house, 15 January 2019), with each stage having the following details and as seen in [figure 4, 5, 6, 7, and 8](#): Stage1: topsoil work to install pole support; Stage2: bamboo scaffolding construction to finish the roofing work; Stage3: floor structural work and floor finishing; Stage 4: wall structure work and wall finishing.

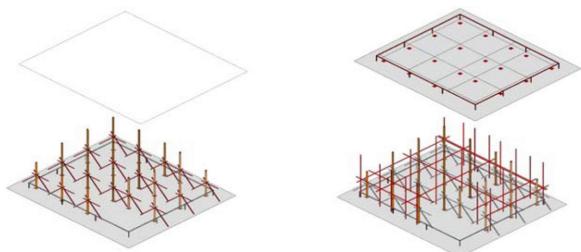
The order of accessibility in the house starts with Glu-koh (terrace), followed by Joe-La (living area), Joh-ku (male bed), Aoh-Mi-Loh (kitchen), Ri-Ku (shelf) Pha-Pu (fireplace) and De-Mi (daughter's bedroom) last, as shown in [figure 9](#) and [10](#).

#### *Construction Team Organizing*

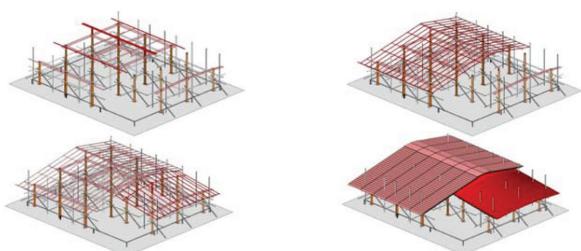
From the observation and data analysis of work processes, it was found that the skills of workers and the date of construction are related significantly.

Moreover, each type of worker had a different level of soft and hard skill know-how, and physical condition, summarised as in the following details and [figure 11](#):

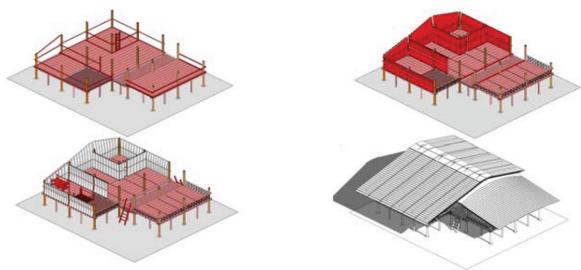
1. The veteran carpenter of the village is the position requiring skill and being responsible for controlling the construction standards and controlling the layout of the house to be in accordance with the traditional Paka Kyaw house style. The average age of the veteran carpenter was 40–50 years. The veteran carpenter must work on the days of the construction stage that requires expertise and complex skills such as digging, forging, setting up posts, roofing structures, floor structures, etc. ([Figure 11](#)).



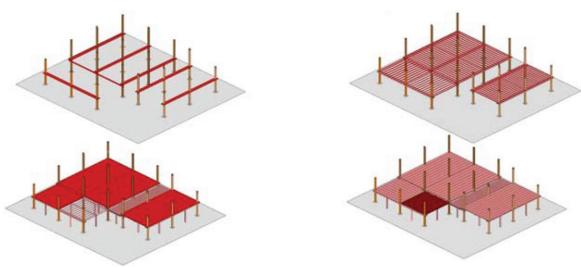
**Figure 4** Stage of topsoil work to installation of pole support



**Figure 5** Stage of bamboo scaffolding construction to the finishing of the roofing work



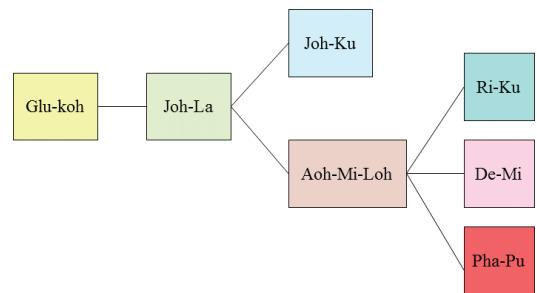
**Figure 6** Stage of floor structural work and floor finishing



**Figure 7** Stage of wall structure work and wall finishing



**Figure 8** Veteran carpenters and daily worker working on the site



**Figure 9** Diagram shows the accessibility of Cultural Karen house

2. The project carpenter is responsible for general construction throughout the construction, and for transferring carpentry wisdom and coordinating with all the workers. The average age of the project carpenter was 30–40 years. From the study, it was found that the attendance number of this type of carpenter was average throughout the construction time, except for the last 4 days, when there were fewer project carpenters (Figure 11), by means of Mr. Praphan Craygee who oversaw the construction as well as coordinated with the veteran carpenter and daily workers.

3. The daily workers are responsible for preparing materials such as thatch, rattan and split bamboo, therefore having work characteristics on a day that requires a lot of work but which does not use the complexity of skill such as looring, walling (Tumprueksa, 2006). According to figure 11, there were the highest attendance numbers of daily workers in the middle of the 2nd week and the end of the 3rd week of the construction period.

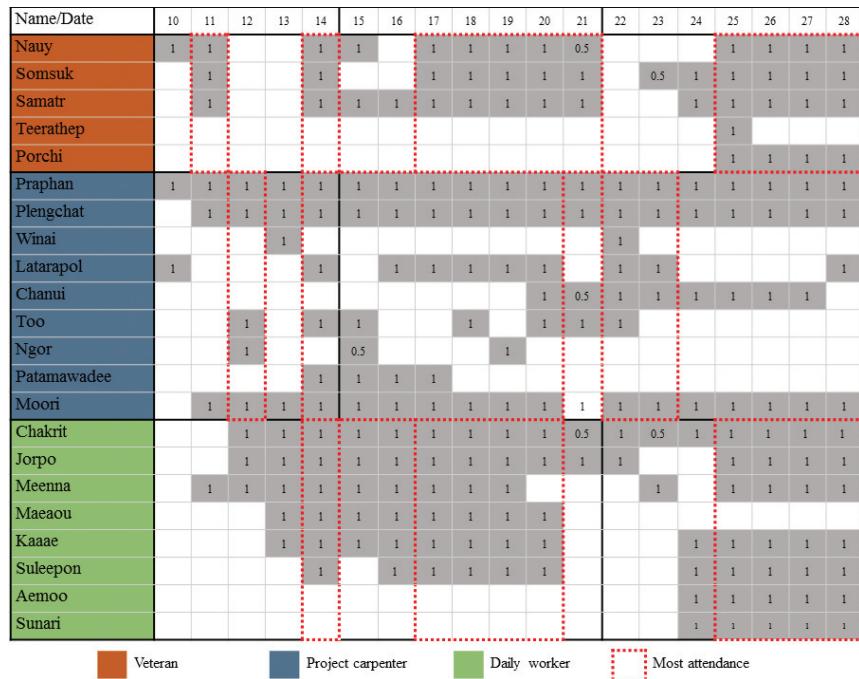
## Conclusion and Recommendation

1. Karen villagers maintain their soft skill (carpenter organizing) and hard skill (original spatial construction) in traditional house building. They could form a village team with specific roles in traditional house building. Considering the function of cultural Karen house, as multi-function building for numerous users, they could designate the maximized area based on traditional spatial features.

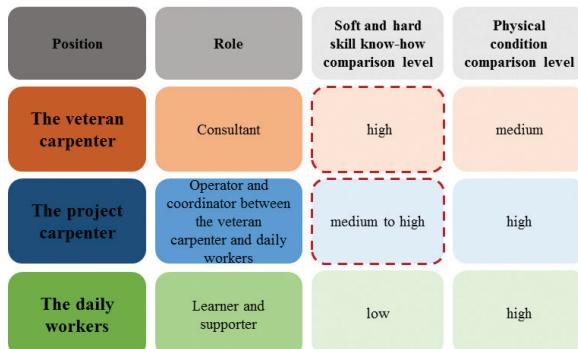
2. In terms of carpenter organization; including 3 role levels, namely, veteran carpenter, project carpenter, daily worker, it is considered that the knowledge of cultural Karen house could be successive, as long as there is a traditional house building activity in the life cycle of a veteran carpenter. However, based on limited material preparing process under strict regulations in the National Park, it is not practical to have all houses in the village being built in a totally traditional way. Having at least 1 cultural Karen house building project every 10–15 years could be a real option.



**Figure 10** Section and plan of cultural Karen house



**Figure 11** The observation of the attendance of the carpenters from the case study construction



**Figure 12** The relationship of carpenter position, soft and hard skill know-how comparison level, and physical condition comparison level

3. Introduction of a new method for proper house construction developed between the academic sector and villagers is necessary for control of housing being built with solely industrial material and construction process; otherwise, the original cultural landscape of the village will be completely changed with a modernized one.

### Conflict of Interest

There is no conflict of interest.

### Acknowledgments

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### References

- National Park Office. (2015). *ASEAN Heritage Parks in Thailand*. Nature Tree Co., LTD. Bangkok, Thailand.
- Tachakitkachon, T. & students of the Faculty of Architecture, Chulalongkorn University. (2018). *Heritage Map Pong Luek Culture - Bang Kloi*. Bangkok, Thailand. (Unpublished documents) [in Thai]
- Tumprueksa, P. (2006). *Karen house in Ratchaburi, Phetchaburi and Prachuap Khiri Khan* (Unpublished master's thesis). Faculty of Architecture, Chulalongkorn University. Bangkok, Thailand. [in Thai]
- Rawiwan, O. (2015). *House styles of ethnic groups in Southeast Asia* (3rd ed.). With Din Design Co., Ltd. Chiang Mai, Thailand: Chiang Mai University Press. [in Thai]