

# A Synthesis of Traditional Knowledge Used in the Construction and Restoration of Thai Buddhist *Ubosot* in Bangkok and Its Surrounding Provinces

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## Abstract

This qualitative investigation synthesises the use of traditional knowledge in the architecture of Thai Buddhist temples. The focus of this paper is on the main worship hall of the temple, the *ubosot*. The research was carried out between August 2010 and March 2013 using data collection tools of interview, observation, focus group discussion and workshop. The findings show that current restoration projects neglect traditional knowledge of *ubosot* construction in favour of more modern techniques. Six problems with traditional knowledge in this field were identified: lack of inheritance, insufficient funds, poor budget management, skilled labour shortages, lack of historical records and no standardisation. This paper synthesises traditional knowledge of *ubosot* construction and outlines five steps for the successful application of traditional knowledge in the creation and restoration of *ubosot*: a) planning; b) creation and restoration using traditional methods and processes; c) evaluation of construction and restoration; d) correction and improvement; e) recording of results for use as a future guide and model. These results can be used as a model for future restoration projects in Bangkok and beyond.

**Keywords:** traditional knowledge; Thai architecture, *ubosot*, restoration, Thai temples

## 1. Introduction

Thai traditional knowledge is a valuable heritage that originates from ancestral exploitation of the surrounding environment to enhance everyday life. The role of traditional knowledge in modern Thai society is under threat from modernization and must be conserved for future generations to benefit from and enjoy (Jaroenrot, 2000). The Thai government has emphasized the importance of Thai traditional knowledge since the first economic development plan in 1961 but the urgency of active inheritance has become increasingly apparent in the last decade (Tangsaku, 2004).

A Thai Buddhist temple comprises a number of structures, the most important of which is the worship hall, or *ubosot* (Jiratanakul, 2000). The *ubosot* is vital for maintaining the code of monastic discipline and the Buddhist beliefs of locals. It is still popular for community members to practice their faith in the *ubosot* on a weekly basis. For the most part, *ubosot* in Bangkok and its surrounding provinces are very similar and the only differences are in scale. This scale is determined by the number of resident monks who perform services, in turn affected by the amount of Buddhist idols housed within the temple.

Currently, the *ubosot* of Bangkok are in bad condition and are not adequately maintained by the government. There is a lack of community participation in restoration projects and the traditional knowledge used in the creation of the structures is being consigned to history. This knowledge is vital to successful and accurate restoration of the *ubosot*, yet has not been inherited in the community. Despite its importance, there has also been very little formal academic research on the traditional structure of the *ubosot* (Tongjiao, 2002). Given these problems, the research team began this investigation to examine the traditional knowledge used in restoration of Buddhist *ubosot* in Bangkok.

## 2. Methodology

This qualitative investigation was conducted between August 2010 and March 2013. The research had three aims: to detail the extent of traditional knowledge used in current restoration projects, to outline the problems with using

traditional knowledge in restoration and to synthesise the traditional knowledge used in creation of a Buddhist *ubosot*. The principal features of the *ubosot* that were considered during this investigation were the foundations, the main building and the roof. Data was collected from document study and field research. Tools used for the collection of data were: structured and non-structured interview, participant and non-participant observation, focus group discussion in groups of six to ten people and a workshop. There were four criteria for selection of the research area for this study. Firstly, the area must have a current or recently finished *ubosot* restoration project. Secondly, traditional knowledge must have been used during the restoration. Thirdly, the *ubosot* must be part of a public (not royal) temple. Finally, the temple must have been continually used for worship by local residents for over fifty years. After applying these four criteria, six temples were purposively selected for study:

- *Wat Luang Paw Opasee*, *Bang Mot* Sub-district, *Thung Khru* District, Bangkok
- *Wat Chomnimit*, *Bang Khru* Sub-district, *Phra Pradaeng* District, *Samut Prakan* Province
- *Wat Sahakorn Kositaram*, *Khok Kam* Sub-district, *Mueang* District, *Samut Sakhon* Province
- *Wat Kiertipradit*, *Bang Pakok* Sub-district, *Rat Burana* District, Bangkok
- *Wat Krunai*, *Bang Khru* Sub-district, *Phra Pradaeng* District, *Samut Prakan* Province
- *Wat Bang Krajow*, *Bang Krajow* Sub-district, *Mueang* District, *Samut Sakhon* Province

The research population included citizens in the fifty districts of Bangkok and the five surrounding provinces of *Nakhon Pathom*, *Samut Sakhon*, *Samut Prakan*, *Pathum Thani* and *Nonthaburi*. The purposive research sample of 110 individuals was divided into three groups: 15 key informants, 45 casual informants and 50 general informants.

Data was gathered and recorded according to the three aims of the research. All collected data was verified using a methodological triangulation technique (Chantachon, 2006). If there were any discrepancies found, further data was collected. Traditional knowledge used in the creation and restoration of the structures was analysed according to the part of the *ubosot*: foundation, building and roof. This data was then used to create a synthesis of traditional knowledge used in the creation of Thai Buddhist *ubosot*. Problems with the application of traditional knowledge were analysed separately and individually. The research results were presented at a workshop on Friday 8<sup>th</sup> June 2012 held at *Wat Kiertipradit*, *Bang Pakok* Sub-district, *Rat Burana* District, Bangkok. The findings of the research are here presented as a descriptive analysis.

### 3. Results

#### 3.1 The Application of Traditional Knowledge in the Creation of *Ubosot*

The creation of the *ubosot* at *Wat Luang Paw Opasee* applied traditional knowledge in *Garuda*-patterned stucco on temple boundary markers, gables, pillars and archways. The *ubosot* is ornamented inside and outside with decorative screens (Figure 1). There are four interlocking gables at the front and back of the *ubosot* (Figure 2). The ceiling has been drilled above the principal Buddha image of the temple to attach four corner orb lights with a large drooping chandelier in the centre. The ceiling in the middle of the *ubosot* is similarly drilled but with two orb-lights outside three chandeliers. Throughout the temple are historical Buddhist drawings. The symbol of *Wat Luang Paw Opasee* is the large Thai letter (equivalent to O and representing ‘*Opasee*’) on the roof and represented in the architecture around the *ubosot*; ‘whoever sees it knows they are at *Wat Luang Paw Opasee*’ (Phrakhru Sutiyanopat, 2012, interview). ‘Modern studies have been used to adapt the architecture and make the temple stronger, such as by driving in pillar piles by using a crane rather than by hand’ (Chaloempon Meesilarat, interview, 2012).



Figure 1. Decorative screens within the *ubosot* at *Wat Luang Paw Opasee*



Figure 2. Gables on the *ubosot* at *Wat Luang Paw Opasee*

The structure of *Wat Chomnimit* has been adapted to modern society by including three levels. The first level is used to park vehicles, the second level is used as multipurpose space and the third level is the *ubosot* proper. ‘Although the construction of three levels is still just one building, it allows three uses for the temple’ (Phrakhrū Sukom Seenkun, 2011, Interview). The roof is a pointed spire *chedi* and is filled with Buddha relics. There are four gables at each of the front corners of the *ubosot*. There are fire escape stairways from each level of the temple. The roof structure and handrails are all made from stainless steel (Figure 3). ‘The creation and design depends on the needs of the temple. Appropriate use and benefit of space should be determined by the government to ensure strength and beauty’ (Angsumalin Jutajindaket, 2012, Interview).



Figure 3. Stainless steel handrails on the fire escape stairways

Traditional knowledge was used in the creation of *Wat Sahakorn Kositaram* to create stairs from the earth. The stairs provide access to the *ubosot* and are 5.6 metres wide, the same width as the front and back of the *ubosot*. There are *chaw fa*, *bairaka* and *hang hong* (elaborately curved roof decorations) on the roof. These decorations are designed and created by local artisans using block or mosaic mirrors (Figure 4). There are three layers of roof because the *ubosot* is 33 metres long. The temple was made so long because there are ‘many monks and even more family members who come to worship within’ (Phrakhrū Sakorn Thammakosit, 2012, interview).



Figure 4. Local artisans creating roof decorations

Traditional knowledge was used to merge the old and new foundations of *Wat Kiertipradit*. Bricks have been used to link the old and new walls (Figure 5). *Bali* decorations have been used on the roof and a Naga head has been used instead of a *chaw fa* and *hang hong*. These changes 'have increased the beauty and image of the temple' (Phra Attikarnsutee Suntaro, 2012, interview). The temple interior has been restored by local artisans (Figure 6).



Figure 5. Merger of the old and new temple walls



Figure 6. Temple restoration by local artisans

The *ubosot* of *Wat Krunai* is decorated with ceramic tiles on the walls and ceiling rather than paint. Paint is reserved for the doors, windows and their frames, both inside and out. Lighting has been fitted inside the *ubosot* (Figure 7).



Figure 7. The interior decoration of *Wat Krunai*

Traditional knowledge has been applied to renovate the roof of *Wat Bang Krajow* so that the materials used are as similar to the original as possible. Local artisans were used to replicate the original wooden *chaw fa*, *bairaka* and *hang hong*. New coloured mirrors and paint were used to decorate the interior and exterior, while the eight *sema* stones and front and back porch pillars were each painted. ‘The temple is hundreds of years old and very dilapidated. However, we must renovate the areas that the monks use most first’ (Phrakhru Baitikasutin Sutinno, 2012, interview).

There are six problems with application of traditional knowledge in the creation and restoration of *ubosot* in Bangkok:

- There is no transmission of traditional building knowledge from one generation to the next.
- There are no standards for the construction of *ubosot*. Temple management employs external contractors to take full responsibility for construction and restoration, which reduces expression of the local community in the *ubosot* structure.
- There is a shortage of skilled labourers with experience in construction and renovation of *ubosot*.
- Budgets are managed incorrectly, causing construction and renovation projects to be delayed and abandoned.
- Historical records of *ubosot* creation and renovation are incomplete.
- There are insufficient funds to continuously repair and renovate *ubosot*.

### 3.2 A Synthesis of Traditional Knowledge Used in *Ubosot* Creation and Restoration

Traditionally, *ubosot* are single-level structures with high foundations. The weight of the building is supported by the pillars, beams and walls. Corbels are used to help support the roof. The *ubosot* faces east and usually has a three-tiered roof with four breaks. In the final break, an eaves jut out to meet the supporting porch pillars. The porch extends around the entire *ubosot* and it is possible to walk around the building on the porch. The gable ends are decorated with *chaw fa*, *bairaka* and *hang hong*. The door and window frames are traditionally decorated with stucco in a *monthop* style. There are two doors at the front entrance to the *ubosot* and two at the rear. There are five windows in *monthop* style on each side of the *ubosot*, placed between the pillars. Within the *ubosot* is a lobby with a replica image of Phra Buddha Chinnarat and various historical Buddhist paintings and murals. Outside the *ubosot* is a *kampaeng kaew* or ‘mirror wall’ and *sema* stones at each of the eight compass points to define the *ubosot* area. There are five steps for the successful application of traditional knowledge in the creation and restoration of *ubosot*: a) planning; b) creation and restoration using traditional methods and processes; c) evaluation of construction and restoration; d) correction and improvement; e) recording of results for use as a future guide and model.

## 4. Discussion

Apichai Pantasen argued that community culture is an expression of ancestral belief that has been inherited from generation to generation (Pantasen, 1998). The temple is the most important structure of that expression, in particular the *ked putthawat* or holy area of which the *ubosot* is a component (Jiramanee, 1981). If the temple management hire external constructors to complete renovations to the *ubosot*, the local culture will not be retained and external influences will be visible in the architecture, as consistent with the cultural diffusion theory

of Franz Boas (Boas, 1891). Indeed, local communities benefit most from a specifically designed local culture (Yodmanee, 1994). Therefore, in order to successfully restore *ubosot* in Bangkok, a basic concept of traditional knowledge is necessary.

Six problems were found with the application of traditional knowledge in the construction and restoration of *ubosot*. These six problems are all influenced by five primary factors. Firstly, the funding is limited by community and government donations. Secondly, material quality is limited by the budget. Thirdly, many companies employ migrant labourers, who have little understanding and experience of the Thai *ubosot*. Fourthly, labour costs must be paid up front and are limited by the budget. Finally, waste and debris from reconstruction is not managed correctly and affects the surrounding temple area and the local community. It is clear that there are not enough structures in place to manage the restoration programs and their relationship with the community (Radcliffe-Brown, 1940). The particular structure that would help the success of conservation projects is a plan or model, which this research aims to provide. Julian Steward identified the need for culture to adapt to its surroundings and this is something that temples must do to preserve the application of traditional knowledge in *ubosot* restoration (Steward, 1990).

The following suggestions can be made for future application of traditional knowledge in the restoration and construction of *ubosot* in Bangkok and its surrounding provinces:

- Government ministries and local institutions, especially the ministry of culture and the office of national Buddhism, should support and supplement temple restoration budgets.
- A local curriculum should be designed to incorporate traditional knowledge of *ubosot* construction. This curriculum should then be implemented by local municipalities to educate the community in correct restoration practices.
- Abbots wishing to construct or restore *ubosot* must consider the problems identified by this investigation.
- The results of this investigation should be presented to building contractors so that they are made aware of the specifics when constructing or restoring *ubosot* and the potential problems.
- Temples must introduce a system for storing and maintaining historical records, including details related to the construction and restoration of *ubosot*.

## 5. Conclusion

This is a unique synthesis of traditional knowledge used in the construction and restoration of Thai Buddhist *ubosot*. The significance of this study lies in its rarity. At present there is little emphasis placed on the traditional practices related to the *ubosot* during restoration. This has led to six problems with *ubosot* renovation. By using this research as a foundation, temple management committees may successfully integrate traditional Thai architectural knowledge in their reconstruction projects and ensure that Thai temples continue to reflect the essence of the local community for the foreseeable future.

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