


# Economic Factors Affecting the Changes in Temple Architecture in the Reign of King Rama IX

Pymporn Chaipayorn

Faculty of Architecture, Chulalongkorn University, Thailand

## ABSTRACT

 Economic factors reflecting the prosperity of foreign trades from the Ayutthaya to the Rattanakosin periods, brought about growth and changes in dwellings. These factors also supported and maintained Buddhism by restoring, reconstructing, and building temples. Traditions changed in the reign of King Bhumibol Adulyadej, Rama IX, due to a capitalist economic system. This system, which has expanded its influence over land use planning, tourism development, and economic revitalization, led to different directions in the development of temple architecture. This article studies the roles of an economic system which affected the design of temple architecture during the Buddhawat area. The research was conducted through case studies of temples which represent the present time.

**Keywords:** *economic factors, temple architecture, patronization, changes*

## INTRODUCTION

The area of a temple is usually divided into two zones; *Buddhawat*, and *Sangkawat*. *Buddhawat* is where the important structures of the *stupa*, *mandapa*, *ubosatha*, and *vihara*, are located. These buildings and structures function as places for enshrining sacred objects and performing religious ceremonies by monks and laypeople. The design features of these are subject to changes in architectural styles influenced by economic factors as seen in the sizes of the layouts and buildings.

Politics and the economy are inseparable. The previous kings, in an absolute monarchy system, were responsible for creating a peaceful society in which people lived contentedly. They had sufficient

resources and income suitable for improving social status. Furthermore, the administrative and labour allocation systems had to be managed to help strengthen the economy which was important for developing the country. Changes in temple architecture, therefore, are affected by both factors. Before the reign of King Rama IX, from the beginning of the Rattanakosin period in 1782, to the end of the reign of King Rama VIII in 1946, these factors were not complicated, and changes happened gradually. Such conditions and the environment of the country continued until well after the change to constitutional monarchy and to the beginning of the King Rama IX's reign. The overall influence of economic factors affecting changes in temple architecture is explained in the following sections.

## THE ROLE OF KINGS IN PATRONIZATION OF TEMPLES

During the reigns of King Rama I – VII ending in 1932, the country was administered by an absolute monarchy system and temples were centres for labour and for the community. The king had an important role as a patron of Buddhism, with the responsibility to build, restore and reconstruct temples. When new construction and reconstruction of existing temples was continuous, in the course of time, the average number of temples built in each reign was three to four new temples and 15-20 temple reconstructions. In King Rama III's 27 year reign, the highest number of temples were built, there were as many as 27 temples built and reconstructed.<sup>1</sup> These royal temples were usually larger than general temples, and had a distinguished order in their layout and architectural features, as well as displaying elaborate decorations reflecting the status of the builder. When temple construction was completed, the king assigned labourers to maintain the temple as well as giving allowances to monks. As for temples built by the general populous the size and style usually reflect lower amounts of labour allocated and lower budgets. These temples were maintained by the local community. Both forms of temples' support and maintenance show that temples were sustained either by patrons or supporters. Furthermore, temples played important roles as centre of community and labour.

In the reign of King Rama V, when the administration system was changed to a centralized absolute monarchy, the country was developed in several other aspects. Temples became less important because they were replaced by other public organizations including schools and hospitals. Most of the country's budget was used for the construction of government buildings and the country's infrastructure. Subsequently, in the reign of King Rama VI, construction of new temples was terminated, however, restoration and reconstruction of important temples still continued.

The administrative reformation brought about the re-ordering of *Sangkha* and the founding of Sangkha Supreme Council to act as a responsible body for the management of Buddhism and Buddhist monks throughout the country. Formerly, these incidents did not play important roles in the changes of temple architecture, but their roles became more prominent during the reign of King Rama IX.

## CHANGE IN THE ECONOMIC SYSTEMS

The economic system of Rattanakosin went through an important turning point in the reign of King Rama IV when Siam signed the Bowring Treaty with England. The traditional economic system was changed to export-oriented production, which resulted in moving of labour from temples to the production sector. Temples lacked caretakers, and acquisition of labour was not sufficient even though the King raised the allowances for temples. Consequently, temples and buildings in this reign were built smaller so that monks would not be burdened by temple maintenance.

In the reign of King Rama V, the title deeds were issued as official documents concerning land ownership, and abolishing slavery, therefore, the government could not assign labourers to serve temples as in former times. Consequently, temples were encouraged by the government to acquire income by land management. This was carried out in various forms with an example being building row houses for rent.<sup>2</sup> Later on, these row houses have become the cause of various problems e.g. visual disturbances, intrusions on and illegal occupying land.

Several temples in Bangkok tend to manage their land to generate income. One method of obtaining income is leasing land to people to build houses.<sup>3</sup> In the case of Wat Kalayanamit, problems occurred

<sup>1</sup> Netnapi Nakavachara, Piyanart Bunnag and Julthusana Byachranonda, Buddhist temples in Bangkok (1782 A.D.-1982 A.D.), (Bangkok: Chulalongkorn University Press, 1982), p.19-38.

<sup>2</sup> Outit Juengniponsakul, The Development of The Economy of The Wat, (Bangkok: Sangsan, 1985), p.239.

<sup>3</sup> *ibid*, p.240.

when the community expanded and intruded onto temple lands causing a visual disturbance. Another case is Wat Debsirindravas, from which the main income is derived from funeral ceremonies thus leading to the construction of new crematorium halls, gathering pavilions, a morgue, and a parking lot, until the temple grounds are crowded and disquieted.<sup>4</sup> Furthermore, temples built in early Rattanakosin period generate income by charging parking fees.<sup>5</sup> An example is Wat Chanasongkhram, its location is intrusive to people who come to enjoy nightlife in Khao San road. Therefore, the temple changed the open ground in front into a parking lot, thus the temple lost its dignified view and peaceful atmosphere.

Before the reign of King Rama IX, temples were one of the country's consolidating factors, and were sustained by outside parties, namely, the king and the community because temples were important and played the role of community centres. In an economic point of view, temples were centres of labourers and production. When economic and political factors changed, decreasing the roles and significance of temples, labour was moved to other sectors, thus temples had to adapt themselves by depending on their own means for survival. Monks, unavoidably had to earn income for the temples to survive. Such situations were the beginning of changes resulting from economic factors<sup>6</sup>.

In the reign of King Rama IX, the country began its movement for economic development in earnest. Economic factors included those which were continued from the past and the newly developed factors. During this time PM Field Marshal Sarit Thanarat imposed policies involving various organizations in economic development that brought about changes in all sectors.

The following is an example of newly developed policies:

The Act on Sangkha B.E. 2505 (1962), was declared. Its important contents concerning temples are found in Chapter 5, Section 31,

*"There are 2 types of temples,*

1) *Temples with royal granting of land*  
(*วิสุงคามสีมา*).

2) *Temples without royal granting of land.*

*A temple is considered a juristic person, the abbot represents the temple in general matters."*

Sangkha Supreme Council of Thailand, Act on Sangkha and roles of temples and monks.

In order to obtain the Royal Granting of Land, the temple must have an *ubosatha* or a plan to build one in the future.<sup>7</sup> The plan must include the land acquisition document and budget plan enclosed with the Form for Obtaining Royal Granting of Land. The money for a budget mentioned is donated by the people, therefore, the abbot is comparable to an owner of a company. The donations were made as a tribute of good faith by people in a community and used in building tangible elements so that a temple would obtain the Royal Granting of Land, which in turn would attract more people to come and make merit by donation. This cycle has been going on until the roles of temples and monks, as well as architectural features of the temple, have changed dramatically through time.

## Capitalist economic system and high land price

Current capitalism, with its export-oriented production, affected changes on a wider scale than in the reign of King Rama IV. In 1961, the National Economic and Social Development Plan was initiated emphasising export industries based in the area of Bangkok and its perimeter. This resulted in a continuous movement of labour from the agriculture sector to Bangkok and urban areas. The physical developments and prosperity of urban areas attracted an influx of people, bringing about the problems of population density. The requirements for land dramatically increased, resulting in ever-increasing land price. An example

<sup>4</sup> ibid, p.185.

<sup>5</sup> ibid, p.240.

<sup>6</sup> ibid, p.65.

<sup>7</sup> Form for Obtaining Royal Granting of Land. Office of National Buddhism.

is Sukhumvit road, the main road that connects Bangkok to the eastern industrial area, on which houses, commercial buildings, and office buildings have been continuously built. Phra Wiriyaamongkhon Maha Chedi Si Rattanakosin, Wat Thammongkhon Thao Bunyanonwihan, Phra Khanong, Bangkok, is a remarkable example of change in land use, architecture, and interior functions that were influenced by these economic factors.

The light industry centred in urban areas not only affected the towns, but also the local way of life. The countryside lacked labour and continuity in the wisdom of original agricultural production. Families lacked the efforts of young people, which were the main source of labour. Moreover, temples that were maintained by local people were also affected by the decrease of supporters and caretakers. New traditions evolved; people who gained high income from working in towns returned home once or twice a year and spent some money in merit making by building luxurious temples. Many of these were left unfinished.

## New means of income, tourism

From 1967 onward, there has been an increase in Buddhism-related currents that is centered on the faith of Aranyavasi practices. The Aranyavasi believe in the supernatural powers of Buddha through votive tablets and talismans, beliefs in blessings from sacred objects.

As faith in monks of the Aranyavasi school continuously increased, people grouped together to make pilgrimages to the places where the monks dwelled. Newly organized 'pilgrimage tour groups' traveled to listen to Dhamma preaching and to practice Dhamma. Some civil servants and high-ranking soldiers believed that the Aranyavasi monks possessed mystical powers and special sacredness, therefore, they asked those monks to make Buddha votive tablets and imbue them with spiritual powers.<sup>8</sup> Later on, those votive tablets have become popular among people as sacred objects. As for temples in

urban area, it was popular for people to visit temples where Buddha images which were believed to have a special sacredness were enshrined to ask for blessings or granting of their wishes.

The government saw an opportunity to generate income from the popularity of temple tours amongst foreign tourists.<sup>9</sup> Therefore, during 1977, tourism promotion campaigns were invented using temples as important destinations, resulting in the commercialization of temples. In 1979, the Tourism Authority of Thailand was founded specifically to be responsible for tourism and related matters. Policies on art and cultural tourism has always given the highest priority to temples.<sup>10</sup> Therefore, new cults, rituals, sacred objects were invented to generate income for the temples with merit making and beliefs in good luck as incentives. Some of the temple campaigns included the installation of large billboards to attract tourists. Temples built for tourism are usually very large in order to attract public interest and to facilitate a high capacity of visitors. Furthermore, new temple designs were invented, each with a special identity that is easily recognized and remembered by tourists. An example of this case is the ordination hall and *vihara* of Wat Sothonwararam, Chachoengsao province.

## CONCEPTS INFLUENCED BY ECONOMIC FACTORS AND CONSUMERISM

Economic development that inclined toward capitalism, emphasizing excessive accumulation and spending money; large amounts of advertising resulted in a consumerist society. Many temples have been influenced by consumerism as seen in the promotion of new Buddhist practices that intend to attract great numbers of people. These tourists have become a massive source of income to such temples. These temples generally own large pieces of land on which huge buildings were built to accommodate the masses of people. An example is Wat Phra Thammakai, Pathumthani, which owns

<sup>8</sup> Pasuk Phongpaichit and Chris Baker, Thailand Economy and Politics, (Bangkok: Silkworm Books, 2003), p.397-398.

<sup>9</sup> Ibid, p.191.

<sup>10</sup> Department of Tourism, Strategic Plan and Strategy of Tourism Development, Department of Tourism (2014 A.D.-2017 A.D.) [online], 14 April 2018. source [www.tourism.go.th/assets/portals/1/files/vision-mission.pdf](http://www.tourism.go.th/assets/portals/1/files/vision-mission.pdf)



Figure 1 and 2:  
Comparative aerial photographs: Wat Phra Thammakai and Wat Yanawesakawan in the same scale.  
(Photograph credit: Google Maps)

approximately 200 rais (3.2 sq. kms) of land, and the largest building on temple grounds covers approximately 1 sq. km. area. Nevertheless, in the reign of King Rama IX, anti-capitalist concepts were initiated in order to redirect society to the correct path. King Rama IX had Wat Phra Ram 9 Kanchanaphisek temple built in Bangkok as an example of this new direction. Furthermore, Venerable Prayut Pyutto, a monk who has diligently and continuously worked on teaching this new concept to society, has founded Wat Yanawesakawan in Nakhon Pathom province to provide an option to Buddhists. The Wat is a small temple, about 27 rais (0.4 sq. km.) in area, with small buildings as necessary for the minimal requirements.

### Case studies: Temples influenced by economic factors in the reign of King Rama IX

Examples of temples in the reign of King Rama IX, built during 1957-2012, which were clearly influenced

by the following economic factors. These factors include rising land prices, government's promotion of tourists, and anti-capitalism.

#### Results from continuous rising of land price

Since 1973, land prices in Bangkok have continuously increased. In 1976, the abbot of Wat Thammongkhon Thao Bunyanonwihan, Phra Khanong, Bangkok, wanted to build Phra Wiriyamongkhon Maha Chedi Si Rattanakosin. It was originally intended to be the tallest *stupa* in Thailand for enshrining the Buddha's relics from Sri Lanka.<sup>11</sup> Mr. Pinyo Suwankhiri, the architect, perceived that the location of the temple is in an urban area where land prices will certainly appreciate.<sup>12</sup> Thus building the *stupa*, which did not have appropriate interior functions, would not be worth the value of the land. Therefore, the *stupa* was designed to be 90 metres high, with interior functions of a 14-storey building, connected by elevators and stairs. The architect applied the

<sup>11</sup> Piyanuch Suwankiri, Life and Works of Assoc. Dr. Pinyo Suwankiri, (Bangkok: Amarin Printing and Publishing Public Company Limited, 2018), p.117.

<sup>12</sup> Pussadee Tiptus, Siamese Architects: Foundation, Role, Works and Concept (1932 A.D.-1994 A.D.) Vol.2, (Bangkok: The Association of Siamese Architects under Royal Patronage, 1996), p.763.



design of Bodh Gaya in India to this *stupa*. The interior was divided into functioning stories, an unprecedented design in *stupa* traditions. These functions are, for instance, Dhamma practicing area, library, computer learning room, meditation room, Buddhist Canon study room, and exhibition area.

Building a *stupa* which appears as a high-rise building, with elevators for vertical connection, has destroyed the hierarchical perception of areas and the sequence of access to the most sacred area. As for the exterior, the *stupa* is a landmark which can be clearly seen from a distance, however, close up there is no suitable viewpoint for appreciating the dignified view. Furthermore, the *stupa* is remarkably gigantic compared to other buildings on the temple grounds, causing a striking contrast of scale.



Later, when some buildings were removed and the temple had new buildings which are built higher than one story, the temple became crowded and its orientation lost.

### Results from tourism promotion initiated by the government

In 1987, the government commissioned Mr. Prawet Limparangsi, architect from the Fine Arts Department to design the *Ubosatha* of Wat Sothonwararam. The architect initiated the design concept that "... the building is an ordination hall with religious identity that can be understood by foreigners based on universal philosophy being another means for tourism promotion of the region".<sup>13</sup> The original *Buddhawat* area

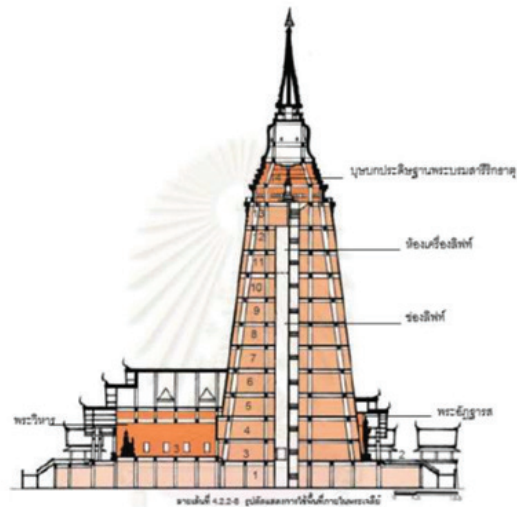


Figure 3 and 4:

*Phra Wiriyamongkhon Maha Chedi Si Rattanakosin View from BTS and section drawing*

(Drawing credit: Napas Kwanmueang, *Study of Stupas with Interior Functions in Rattanakosin Period for the Design of Phra Mahathat Chedi Pasak Cholasit, Lop Buri*)

<sup>13</sup> Objectives of the building of Ubosatha and Vihara of Wat Sothonwararam are:

1. To be a development of Thai traditional architecture, which is suitable for the period, and has aesthetic values.
2. To be a building which is grand and dignified, to honour the merit of "Luang Pho Phra Phutthasothon".
3. To be the building that serves Buddhist functions, which is an important objective.
4. To be a building built with durable materials, with the applications of practice, methodology, and construction science based on sound reasoning that was the foundation of principles.
5. To be an ordination hall with religious identity that can be understood by foreigners based on universal philosophy, being another means for tourism promotion of the region.

From: Report on Construction of New Ubosatha and Vihara, Wat Sothonwararam Worawihan, Chachoengsao province. Unpublished document.

was small, located with other buildings, which limited the design of the grand and dignified new ordination hall. Therefore, he redesigned the area by combining all the important buildings into one building. Furthermore, the new edifice was intended to be a landmark and a tourism destination. Thus, the size of the building is 44.50 x 123.50 metres, the centre is a four- porched hall with a spire roof approximately 85 metres in height, which expresses the features of a *stupa* emphasizing its vertical axis. The function of the central part is an ordination hall with a square plan for enshrining Phra Phutthasothon at the centre. This enables performing religious ceremonies by monks who sit around the Buddha image with an eight-storey high open space. Entrances are from both north – south and east – west axes. This is a new form of temple architecture that has clearly changed from the former traditions in terms of both form and function.

This change in style emphasises the sacredness of the ordination hall by a vertical axis, focusing on the Phra Phutthasothon Buddha image which is enshrined at the centre by both by horizontal and vertical axes. As for the exterior, the *Buddhawat*, which was originally comprised of small buildings, has changed to be dominated by a large edifice. Located in an open space, it is seen as a grand and dignified landmark. The building of a large hall to accommodate a great number of Buddhists and tourists has resulted in considerable income to the temple. However, it also attracts vendors to the area around the temple, causing problem of untidiness. Moreover, building Wat Sothon's new ordination hall has resulted in an increase in tourism to Chachoengsao province, thus encouraging other temples to build large buildings and sacred statues, both in Buddhism and other religions, to attract tourists.

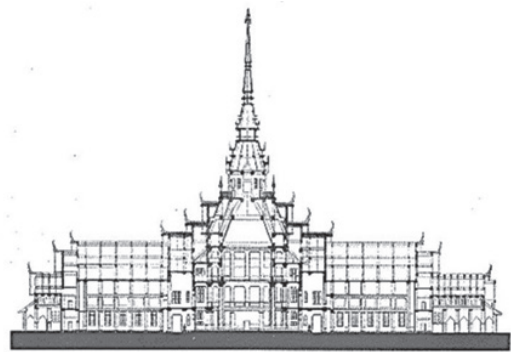


Figure 5, 6 and 7:

*Ubosatha and Vihara, plan and rectangular section of Wat Sothonwararam*

(Drawing credit: Wimonsit Horayangura, *Roles and Concepts of the King in Development of Towns, Communities, and Royal Initiated Architecture*)

## Results from anti-capitalism concepts

### The King's concept

From the declaration of National Economic and Social Development Plan in 1961, Thailand has followed the capitalist economic system. The King perceived that such an economic system was not suitable for the conditions of Thailand, and he used to say that "... capitalism promotes the value system that destroys the principles of humanism laid out in Buddhist Teachings"<sup>14</sup>. Therefore, the King proposed the Sufficiency Economy Theory starting in the year 1974,<sup>15</sup> and initiated the founding of royal projects to develop the quality of Thai lifestyles, and of Thai people and which have amounted to more than 4000 projects.

One of these projects is the Wat Phra Ram 9 Kanchanaphisek, which was intended to build a community with an all-round good quality of life. This would be done with mutual support and cooperation between the community, the temple, and the school as in the past. From the King's visits to all provinces in Thailand, he observed that "Several temples were left unfinished because they were too large and luxurious and required a very high budget"<sup>16</sup>, therefore, this temple was intended as an example of an appropriate sized temple that is in harmony with the living conditions of the community as well as being cost-saving. The architect, Arvuth Ngoenchuklin, thus designed the *Ubosatha* in a simple architectural style, using durable materials which do not require high maintenance, and with minimal decorations. The size of the hall is suitable for a small community temple. The ordination hall was construction around the year 1991, which was not long before the Tom Yum Kung economic crisis broke out in 1997, indicating the foresight of the King in anticipation of the approaching economic problems. Wat Phra Ram 9, therefore, is a tangible example of temples built by the King's concept.



Figure 8:  
*Ubosatha of Wat Phra Ram 9*

The ordination hall of Wat Phra Ram 9 is a manifestation of the concept which is contrary to the temples built by past kings. This temple is a small building with simple design instead of a large hall with elaborate decorations. The style clearly reflects the concept and political status of the King Rama IX. Although the temple was originally intended to be a small community temple, the love and faith that people had for the King resulted in large numbers of people who come to make merit, especially on religious days. The numbers of people have caused problems because the size of the temple is not sufficient to accommodate the people and the peaceful atmosphere has been lost. Furthermore, the concept of an economical ordination hall has been adopted by other temples, however, in many cases, only the design of the building was adopted but the concept was neglected resulting in building large ordination halls with expensive materials.

<sup>14</sup> Chris Baker, and Phasuk Phongphaichit, *Contemporary Thai History*, Bangkok: Matichon, 2014, p.280.

<sup>15</sup> Wicha Khwam Suk (Subject of Happiness) television programme, part 1, broadcasted 5<sup>th</sup> May, 2018, Thai PBS.

<sup>16</sup> Interview, Arvuth Ngoenchuklin, *Roles and Concepts by King Bhumibol Adulyadej in Development of Towns, Communities, and Royal Initiated Projects*, (Bangkok: Faculty of Architecture and Planning, Thammasat University, 2008), p.176.



### The monk's concept

Venerable Prayut Pyutto, a monk who has been a leading figure in proposing new ideas and opinions concerning the anti-capitalism concept, expressed that he disagreed with allowing Buddhism to blend with capitalism. His remarks concerning the capitalist economic system after the 1997 economic crisis, "We failed because we developed by depending too much on outside factors. Why did we not depend on ourselves?", which is a concept based on Buddhist way of life. He, therefore, founded Wat Yanawesakawan in Nakhon Pathom province as a place for learning from nature. The layout of the temple was designed to be like a forest, abundant with big trees and a large pond, and is without an axis as seen in traditional temples, however, the zoning of *Buddhawat* and *Sangkhawat* is clearly specified. The only main building in *Buddhawat* is an *ubosatha*, which is simple, without decorations, and using durable materials. An emphasis on the practical use was noted by the application of the traditional Thai house design with an open underfloor space that serves as an additional function area. During ceremonies, the upper floor can be used for monks and the underfloor for laypeople.

This concept emphasises the importance of use being adapted to suit present requirements rather than the architectural style. At present, a considerable number of Buddhists visit temples on

religious days to make merit or attending religious ceremonies, which indicates people's need for a new religious practice that emphasize the Buddhist core values.

### CONCLUSION

From the research of the economic dynamism that has affected architecture of temples in the reign of King Rama IX comprises several diverse factors, which initiated architectural changes. These changes incorporated styles which are almost totally different from those of former periods. Additionally, it is observed that economic influences have not only affected the physical features of the temples, but also affecting the survival system of temples. The adaptations by the monks have always been related to political and other factors. Furthermore, another apparent aspect is that economic conditions have no effect on creating new temples, which are continuously being built.

The case studies show that economic factors have indirect influences on the design and use of temple architecture in the *Buddhawat* area. Thus resulting in developing conceptual designs and the surrounding setting not only by architects but also by special interest groups of patrons, monks and the general public. These changes can be summarized as follows:



Figure 9 and 10:  
Ubosatha, and layout plan of Wat Yanawesakawan

## Change in the layout

There are two important concepts, first, designing for maximum use of the temple area, and second, the idea of creating a natural environment that reflects important tenets of Buddhism, both concepts are at the extreme opposite.

1. *Maximum use of the land:* This concept is normally applied to urban temples where land price is high. The usable area of the temple is always limited thus the layout of buildings cannot be spread horizontally as in the past. Therefore, it is necessary that the design is laid on vertical axis, resulting in a gigantic scale building that is in critical contrast to the existing buildings. The vertical axis and scale do not harmonize with the traditional layout, overall atmosphere, and visual quality of the temple. Most of the urban temples tend to follow this direction.
2. *Creation of natural environment:* A natural environment is an important concept that reflects the Buddhist Teachings, as seen in Wat Yanawesakawan, Nakhon Pathom. This theory emphasizes the benefit people gain from perceiving the changes in nature within the temple grounds. Most areas of the temple, therefore, are planted with trees which are allowed to grow naturally. The main objective is instilling spiritual values in the minds of people; monetary worth is not an aspect for consideration. Specially built temples that are based on this concept are small in number. However, the number of people who agree with this direction have continuously increased, resulting in the crowding of such temples, especially on religious days.

## Change in the interior space and functions

The concept of combining diverse functions into one building can be divided into two types; first, the vertical layering of interior space and vertical functions, and second, the horizontal connection of interior space and functions.

1. *Vertical layering of interior space and functions:* The need for maximum use of the temple area necessitates the construction of vertical buildings, as seen in Phra Wiriyamongkhon Maha

Chedi, Wat Thammongkhon. Since the area was limited and the temple required buildings that served various activities but could not spread the buildings horizontally in such a small area, the functions of different types of buildings were combined. The architect decided to apply the features of Bodh Gaya in India, which is a *stupa* that represents the place of Enlightenment of the Buddha, and the functions were divided into vertical floors, which are accessible by elevators, as seen in high-rise buildings.

2. *Horizontal connection of interior space and functions:* Combining functions of all buildings into one building was necessitated by the limited area of *Buddhawat* and resulted from the intention to create a grand and dignified *Ubosatha* that is suitable for enshrining the principal Buddha image. The architect, therefore, integrated the functions of all buildings in *Buddhawat* area into one building, resulting in the architectural design which expresses the important buildings, namely, *Ubosatha*, *Vihara*, and *stupa*. The influence of this concept is reflected in the floor plan and interior space and form that have changed, especially in the interior of the ordination hall that emphasizes the centre and vertical axis, surrounded by the ceremonial area. This is different from traditional design plans that emphasizes the horizontal axis and focuses on the importance of the Buddha image that is enshrined at the end of the line of vision. Thus, peoples' perceptions and understanding of the interior space of an ordination hall has changed from traditional styles.

Changes in the interior spaces and their uses reflects the popularity of combining functions into one building. Not only is this an answer to the requirements that a building maximizes its use as well as being an adaptation to the change of temples' land use, but also conforms to the concept of modern society that favours conveniences that can be acquired in one place. Furthermore, it is an expression of design concepts that is not attached to traditional norms. Yet the new architectural creations can effectively convey meanings and preserve the essential contents of the *stupa*, which serves to enshrine sacred objects, and the *Ubosatha*, which serves the performing of religious ceremonies as specified in the Buddhist Vinaya (Code of Conduct).

## Change in architectural styles

Architectural styles, which have changed can be seen in three forms; first, the adaptation of religious architecture in accordance with the use of interior space, second, the creation of unprecedented design, and third, the application of architectural design of other building types based on the concept of the temple.

1. *Adaptation of religious architecture in accordance with the use of interior space:* As seen, Phra Wiriyamongkhon Maha Chedi, Wat Thammongkhon reflects the concept set by architects who perceived the relationship between the form of interior space of Bodh Gaya and the vertical layering of functions within a high-rise buildings. Combining the forms effectively answered the requirements of maximum use, with the construction technology that enabled the creation of such building.
2. *Creation of unprecedented design:* An example of an unprecedented design approach is the *Ubosatha* and *Vihara* of Wat Sothonwararam. Generally, an ordination hall and a *vihara* are rectangular buildings emphasizing horizontal form, located separately on the temple grounds. Whereas a *stupa* is a vertical structure. However, combining these three types of buildings resulting in the *Ubosatha*, which is the most important and most sacred building. It is designed as a building integrating the *stupa* spire roof with a *mandapa* roof, however, the scale and order of elements in traditional Thai architecture, as seen in general temples, are respected. This has resulted in a unique Thai style that is memorable to both Thai worshippers and foreign tourists.
3. *Application of architectural design of other building types:* The abbot who proposed religious ideas that differ from the popular current styles noted that traditional Thai house designs are simpler than the temple. He felt that temple designs should reflect this simpler architectural vocabulary as symbolizing simpler/traditional practices.<sup>17</sup>

## Other changes resulting from economic factors related to the building of temples

- Even though the roles of monarchy institution has been reduced since democratization, the return of the King's role and changes concepts in building temples reflect the changing context of the society. The *Ubosatha* of Wat Phra Ram 9 is an example of the King's idea in problem-solving and improving people's quality of life. Another interesting aspect is, traditionally, royal temples must be built with architectural features that reflect the highest hierarchical rank, as seen in the large size, numerous elements, and elaborate decorations. However, King Rama IX, on the contrary, had a temple built in the style which is in contrast to former traditions. It was seen as a declaration of his views that temples should be suitable for the people's way of life, rather than emphasizing the King's status.
- Involving people who are eligible to participate in the determination of design. In the past participants were only monks, abbots, and architects. Presently whoever has money may commission an architect and have a temple built the way they wish, therefore, changes in temple designs are instigated and set by the patron, leading monks, and the architect.
- Evolution of religious concepts, both following and going against the current of capitalism, results in forming new roles for the temples and monks who attempt to adapt themselves to the changing social context. Such attempts may be done merely for generating income for the temple, or for preserving the pureness and stability of Buddhism.

This study focuses on the influences of economic factors, however, it should be noted that there are other elements that can be included in the discussion that influence design concepts. Some of these influences could be; the concepts of

<sup>17</sup> Interview Ruethai Chaichongrak, 4 October 2017.

monks and architects, the advancement in construction technology, or limitations occurring during construction of temples. These must be taken into consideration so that a complete and accurate analysis of change can be achieved.

Saksi, N. (1994). *Architectural heritage of Rattanakosin 1*. Bangkok: Rong Phim Krungthep. Bangkok: The Association of Siamese Architects under Royal Patronage.

Tiptus, P., Chaiboon, S., & Issarathamnoon, W. (2006). *Architecture after 1997: crisis and alternative jobs/professions for Thai architects*. Bangkok: The Association of Siamese Architects under Royal Patronage.

## GLOSSARY

Aranyavasi: Forest temples

Buddhawat: The area of the Buddha where religious ceremonies were performed by monks and laypeople, considered as a public zone

Mandapa: A hall for enshrining sacred object. Sangkha: Buddhist monk institution Sangkhawat: Monks' residential zone

Stupa: A structure for enshrining Buddha's relics or relics of important person.

Ubosatha: Ordination hall where monks perform the ordination ceremony and other ritual ceremonies, surrounded by boundary stones (sima).

Vihara: Assembly hall where enshrining an image of the Buddha or other sacred object.

## REFERENCES

Baker, C., & Phongpaichit, P. (2014). *A history of Thailand*. Bangkok: Matichon Publishing.

Horayangkura, V. (2008). *His Majesty the King's roles and concepts in royally-initiated urban, community and architecture development*. Bangkok: Faculty of Architecture and Planning, Thammasat University.

Juengniponsakul, U. (1985). *The development of the economy of the wat*. Bangkok: Sangsan.

Kanlayanamit, C. (1996). *Traditional Thai architecture*. Bangkok: The Association of Siamese Architects under Royal Patronage.

Nakavachara, N., Bunnag P., & Byachranonda J. (1982). *Buddhist temples in Bangkok (1782 A.D.-1982 A.D.)*. Bangkok: Chulalongkorn University Press.

Phongpaichit, P., & Baker, C. (2003). *Thailand economy and politics*. Bangkok: Silkworm Books.