

The Study of Private Modern Houses in Boeung Keng Kang Area in Relation to Public Modern Khmer Architecture and Urban Development of Phnom Penh in the 1960s

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Abstract

“Modern Khmer Architecture” was an architectural movement that occurred in Cambodia between 1953 and 1970. This movement was a negotiation between the modern and the traditional and the international and the local. Yet, it is also a reflection of the ambition of the government to modernize the national image. Although this movement is mostly thought of as buildings designed by well-known architects, private buildings such as private houses also play an important role to compliment this movement. Unlike public architecture that was sponsored by the government and was intended to be a political symbol of national achievement, private houses were built based on family resources, which thus exposed their socio-economic factors. This research aims to explore the inspiration of public building on private houses located in Boeung Keng Kang, a sub-district that was considered as one of the best locations for living in Phnom Penh. Having said that, this study uses aspects of urban development, architectural modernization and social modernization



Modern private house
of the 1960s in Boeung
Keng Kang

of the post-independence period as lenses to look at twenty houses located in Boeung Keng Kang neighborhood in Phnom Penh. These houses are qualitatively analyzed based on six aspects: roof design, decorative features, materials, climatic adaptation features, spatial arrangement, and structural design. The study interprets these houses as borrowing modern aesthetic from public architecture, and reflecting ways of living during the post-independence period.

Keywords: Phnom Penh, Boeung Keng Kang, Khmer modern architecture

Introduction

The time of the post-independence period (1953-1970) is regarded as the golden age in modern history of Cambodia because it was when Cambodia began its social modernization after being under French colonial rule for nearly a century. However, from 1970 to 1979, political turmoil, civil war, and eventually the atrocities of Khmer Rouge regime severely devastated these achievements. The tragedies have obscured the understanding of social modernization during the post-independence period to today's generation. What is even worse is that legacies of the post-independence era, such as architecture, have been disappearing due to lack of legal protection and conservation. Even though many buildings, mostly large-scale projects and buildings designed by well-known architects of the time, namely Vann Molyvann, have been documented and studied such as by Helen Grant Ross and Darryl Leon Collins¹, Claire Ashbrook², and The Vann Molyvann Project*, a lot more buildings are overlooked and lack attention. Therefore, this study focuses on the modern private houses of the post-independence period in Boeung Keng Kang of Phnom Penh (Figure 1).

The interest in these modern private houses also stems from the lack of a comprehensive study on modern housing architecture in Cambodia. One recent study about housing architecture in Cambodia was conducted by a Cambodian researcher on the theme of Southeast Asia Housing Forum. Yet, the study only identifies the typology of housing in Cambodia.³ Apart from the fact that such architecture receives less attention, a study on these modern private houses could also offer new

Figure 1. Houses in Boeung Keng Kang



perspectives such as why there are a lot of these houses located in Boeung Keng Kang neighborhood, what their connection with the development of public buildings was at that time, whether these houses share some ideology embedded in the built forms of modern architecture, and what their implication on social modernization during the post-independence period was. Thus, unleashing these historical values will help raise awareness and promote the appreciation of modern architecture heritage, as well as leading to a conservation effort.

Objective of Study

This research aims to:

1. Explore the inspiration of public buildings on private houses in Phnom Penh during the 1960s.
2. Analyze the relationship between modern private houses and urban development as well as social modernization during the post-independence period.

Research Methodology

1. Identifying Location

The research by Southeast Asian Housing Study above suggests that it is the area along Monivong Boulevard, which is Boeung Keng Kang area, where one could find houses in the modern style of the 1960s.⁴ Additionally, looking through the development of the city, Boeung Keng Kang is an area that was developed during the early 1930s and was designed in a grid pattern that aimed for efficient use of the land. As the city continued to expand, this location became part of the center of the city, which made it attractive to wealthy families to live. The development of city infrastructure, the national sports stadium, and public space in the area around the location also helped raise the value of Boeung Keng Kang. Therefore, this study focuses on modern private houses located in Boeung Keng Kang area (Figure 2).

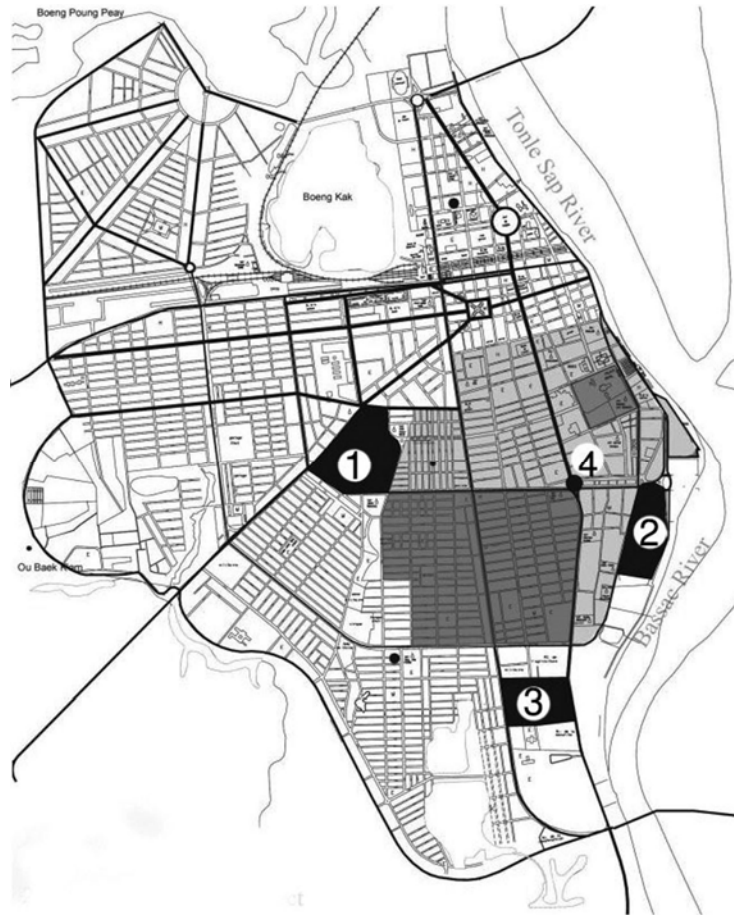


Figure 2. Location of Boeung Keng Kang in Phnom Penh city

2. Scope and Limitation

The tragedy of the Khmer Rouge was unimaginable. After the Khmer Rouge took control of the capital on 17 April 1975, people in Phnom Penh were forced to move out of the city to work and live in the countryside. Under the control of the regime between 1975-1979, the casualties caused by execution, over work, disease and other causes were estimated to be over a million. The Khmer Rouge regime was defeated in 1979. Due to the many deaths and the lack of social-order, the new government canceled all property ownership. Land and houses in the city belonged to whoever managed to occupy them after returning to the city and the government also granted the land and houses in the city to public servants and military personnel.

During the early 1990s, the arrival of the United Nations Transitional Authority in Cambodia (UNTAC), whose purpose was to intervene in the process of political change, had led to a rush to build villas to supply rental demand.** A considerable a number of houses were built in Boeung Keng Kang during the 1990s. These new private houses adopted the design and architectural elements from those private houses built in the 1960s.

It is important to mention that it seems to be impossible to identify the original owner of the houses or the exact date of when the houses were built, and by whom. As mentioned earlier, due to the economic and political downturn of Cambodia, those who were able to get to Boeung Keng Kang and to occupy a house could become the new owner and started a new life. Yet, based on general observation and comparison of the style and materials of the private houses to public buildings in the city, we can make an assumption that some of these houses were built in the 1960s. The way in which these 20 houses (Figure 3-1, 3-2) were selected was based on the limited number of the remaining houses and their visible condition of having no explicit modification and transformation to their form.

Figure 3-1. Houses selected for this study





Figure 3-2. Houses selected for this study

Information of the physical features of houses was recorded by photographing the house from the outside only, due to the limitations of accessing the interior of the houses. The technique of taking photos is conducted by keeping the angle of the camera at eye-level so that images of the building will have a uniform format. The images then were projected onto a two-dimensional elevation in order to remove vegetation and other objects obscuring the view. Various researchers have used a similar approach to architectural analysis. One such work by Chris King examines the structural and architectural elements of a group of preserved houses⁵ and uses exterior clues to determine interior spatial arrangement. The physical exterior features analyzed can be summarized by 6 elements: roof design, decorative features, materials, climatic adaptation features, spatial arrangement, and structural design.

Despite the limitation of interior access, architects who were appointed to renovate the houses by the owners provided the plans of two houses. The architects made surveyed drawings and detail photographs inside of the houses. Additionally, two interviews were conducted. The first interview was with an owner of a house in Boeung Keng Kang. The owner claimed that her family has been living in their house since the early 1980s. Another interview took place with a former civil engineer who used to work in the construction sector during the 1960s.

3. Research Approach

Houses are not only studied by architects, but also by other practitioners such as sociologist and anthropologists. For example, sociologist Alice T. Friedman looks at three Elizabethan country houses in England to explore the role of gender in relation to architectural design.⁶ Helene Furjan also looks into Soane's house-museum in London in order to explore the implicated history in Soane's collection of various types of mirror tools and plaster casts and his contemporary work. These ways of looking into houses give us more perspectives on how to examine houses beyond their built form.⁷ Therefore, this study qualitatively analyzes the information from the houses, interview, and literature

review to identify the characteristics of the houses in relation to urban, architectural, political, socio-economic and cultural development during the post-independence period in Cambodia.

Development of Cambodia during 1960s

1. National Policy

The post-independence government, the *Sangkum Reastr Niyum* led by Prince Norodom Sihanouk, had two main agendas: national and international policy. These two political policies were crucial to the development of Cambodia at that time. On the one hand, the national policy of the post-independence government adopted a customized socialist ideology, called “Khmer Buddhist Socialism” which was formalized around Buddhist customs, traditions, and morals, and combined with the features of the ideology of Marxist Socialism that were appropriated to the Cambodian context. This political ideology valued the importance of social equality and social order, and promoted good governance of the ruler demonstrated by offering the people good public service, health care, and social freedom. By rejecting the economic doctrine of Western socialism that aimed for equally sharing the benefits and wealth of the society, Buddhist Socialism also encourages individual’s success that included success in wealth, businesses, and higher position in society.⁸ Importantly, this policy regarded the development of education as a core in social development, thus resulting in the construction of educational institutions, and the increase of educated people and labor resources for driving economic and industrial sectors.⁹ On the other hand, the international policy of the Cambodian government was to adopt a neutral political stance that not only aimed to keep the country from becoming a battle field of the Cold War, but also to attract foreign investment to create jobs for people and to gain economic benefit. This policy attracted international financial assistance from both sides to support the construction of important infrastructure, such as international seaport, railway, cement factory, oil refinery, etc.¹⁰

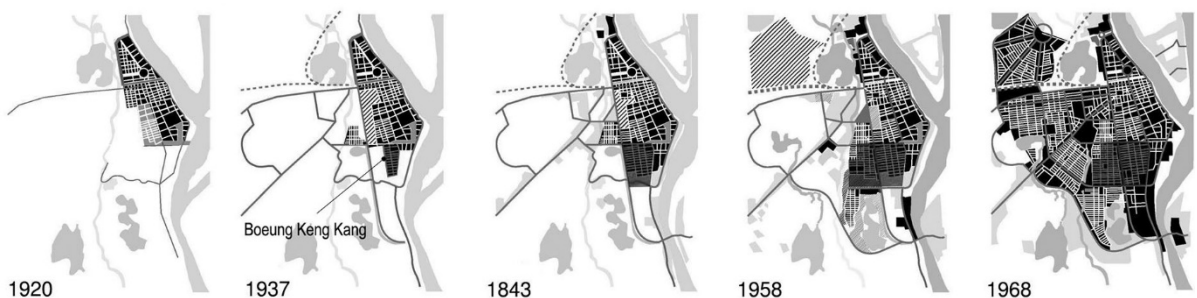
With good national and international policy, the society could live in peace and development. While the socio-economic standard of the country significantly improved, people could also have more income and enjoy a higher living standard. As a result, there was significant growth in art and culture such as cinema, music, and theater. New products made locally or imported from abroad were made more available, especially clothing, food and household appliances. With the construction of infrastructure such as roads, airports, the seaport and new cities and towns, travel became more common. Phnom Penh thus became the economic, political, educational and cultural center of the nation.

2. Urban Development

Phnom Penh has gone through different stages in its development process. The most important steps of development were during the French Protectorate (1864-1953) and the post-independence period (1963-1975). During the French Protectorate, the traditional town was urbanized into a modern grid pattern and was devised in quarters based on ethnicity and the roles of people in the city. These quarters included the French quarter, Chinese quarter, Vietnamese quarter and Khmer quarter.¹¹

Upon regaining independence in 1953, Phnom Penh grew exponentially over a short period of time. New public institutions such as schools and universities, arts and cultural centers, public services facilities, infrastructure development, gardens, public spaces, and sports facilities had been added to the city. This development profoundly enhanced the quality of living for people in the city (Figure 4).

Figure 04. Phnom Penh from 1920 to 1968 and the location of Boeung Keng Kang



As Phnom Penh developed, Boeung Keng Kang, which was urbanized during the French Protectorate, became one of the most important urban spaces of Phnom Penh for the residence of upper-class families, including those of government officials. The grid roads and plots of land suited very well to the way of life of wealthy families. With the development of major state projects around Boeung Keng Kang neighborhood during the 1960s, namely the Bassac Riverfront Project, Chamkarmon State Compound, the National Sports Stadium and Independence monument and garden, the urban space of Boeung Keng Kang become the center of the city where residents could enjoy a privileged urban life.

3. Modern Architectural Development

Architecture played an important role in asserting the achievement as well as new identity of post-independence society. To cope with and to support the growing economic and social need, there were significant construction of educational institutions, hospitals, government offices, housing, and sport facilities. These new buildings were both in their large and durable structures built to meet the need and to last into the next generation, as well as their expression of a new architectural style. As Chang Jiat Hwee argued the political condition of Prince Norodom Sihanouk was reflected in modern Khmer architecture. The Prince's policy had an integral role in encouraging the development and modernization of architecture.¹²

Investigating the design of important buildings of the 1960s which were comprehensively achieved by Helen Grant Ross and Darryl Leon Collins in their book "*Building Cambodia: 'New Khmer Architecture' 1953-1970*,"¹³ modern Khmer architecture consisted of three main characteristics: modern construction technique, climatic adaptation, and the connection between new and old tradition. Modern construction technique included the use of concrete, steel, and reinforced concrete as structure. Climatic adaptation technique included having a lot of openings for good cross ventilation, having large roof overhangs and sunscreen walls for sun protection, and the consideration of

building orientation. Finally, modern Khmer architecture combined new architectural philosophies of well-known architects, such as Le Corbusier and Frank Lloyd Wright, with traditional features to manifest connection with the past, for example, the use of traditional roof styles, reinterpretation of knowledge learnt from vernacular architecture, and importantly, the use of architectural concepts borrowed from the ancient temple of Angkor.

The discussion on the political ideology, social development, the urban development, and architectural modernization, significantly illuminate the process of social modernization of Cambodia during the post-independence period. Theoretically, social transformation after independence could be described through the concepts of Post-colonial theories, which aim to examine the intricate connections and influences between the colonized countries and their colonizers. In particular, such theories can enlarge an understanding of the authentic cultural development as well as the need for asserting a new identity. As Bill Ashcroft pointed out, the capacity to change and adapt as a means of social modernization was one of the most important characteristics of the post-colonial societies.¹⁴ It is important to mention that this research has come across the concept of post-colonial theories at the end. This research does not intend to take the concepts of those theories and re-describe every finding in response to them, but rather to use such theories to support the findings of how Cambodia's social modernization has been constituted historically. This topic of how Cambodia's social modernization can be theorized and re-described through the notion of post-colonialism needs to be explored and carefully elaborated further.

Research Results

This research aims to explore the inspiration of public building on private houses in Boeung Keng Kang through the lenses of public architectural modernization, urban development, political ideology, and social development. The interpretation focuses on

two main aspects: modern aesthetic and the way of living of residents.

1. Modern Aesthetic

Looking through the lens of public architectural modernization, modern private houses of Boeung Keng Keng shared many characteristics of Modern Khmer Architecture such as architectural elements, climatic design consideration, and connection to tradition.

Modern public buildings expressed stylistic shape and form, materials, structural elements, and a high level of details. Similarly, the design of houses employed modern architectural language that included a combination of simplified geometrical forms such as having vertical fins, diagonal columns, and having no use of traditional ornament. House forms are organized in a balanced way to achieve modern aesthetic. Examining from the top, the roofs have simple designs which commonly are composed of a combination of gable roof and flat roof. Some houses have a flat roof design, while others express a more stylistic design by having a half gable roof. The roof edge and gutter are nicely constructed from concrete. The bodies of the houses demonstrate a play of forms contrasting open and enclosed, in and out, extrusion and subtraction (Figure 5).

One of the most recognized elements of modern public buildings was the zigzag-shape feature that was extensively employed in many public buildings. The zigzag-shape feature could be seen on many buildings constructed during the post-independence period, but the most expressive use was on the Chamkarmon State Palace which was designed by Vann

Figure 5. The four main roof styles of houses in Boeung Keng Kang



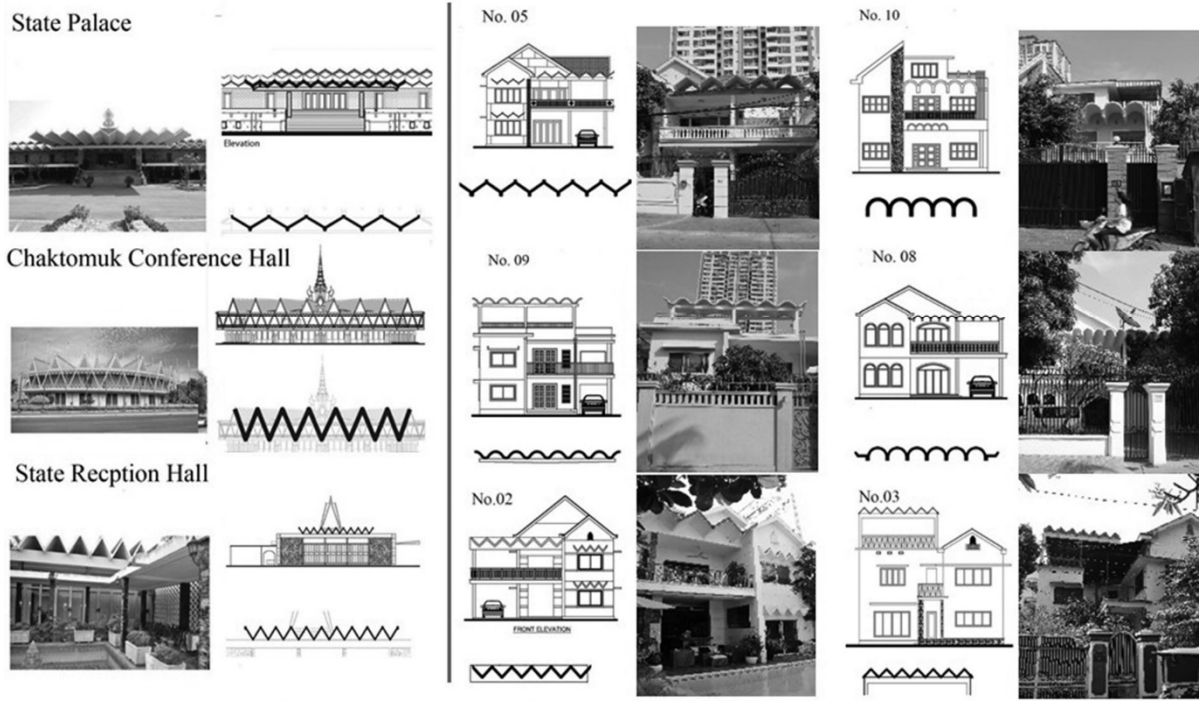


Figure 6. Inspiration from public building on private houses

Molyvann and completed construction in 1962. These zigzag-shape features had become the iconic architectural element that was adopted to private houses. Figure 6 shows the similarity of architectural elements of modern public buildings and those of private houses.

Another feature of modern architecture of the 1960s is climatic adaptation that was widely employed in the design of public buildings. The design of public buildings employed many strategies such as large windows or openings, building orientation, large roof overhangs and sunscreen walls. Likewise, elements such as shading devices, large overhangs, window canopies and verandas could help offset the impact of sun light on the wall and direct penetration into the house. Verandas do not only provide gathering spaces for families but also become a place for enjoying the sunlight of the morning, cool air of the evening, and protect the indoor climate from the intense heat of the day time. Space in front of the house could be used for planting trees and when the trees grew tall enough they could offer shade,

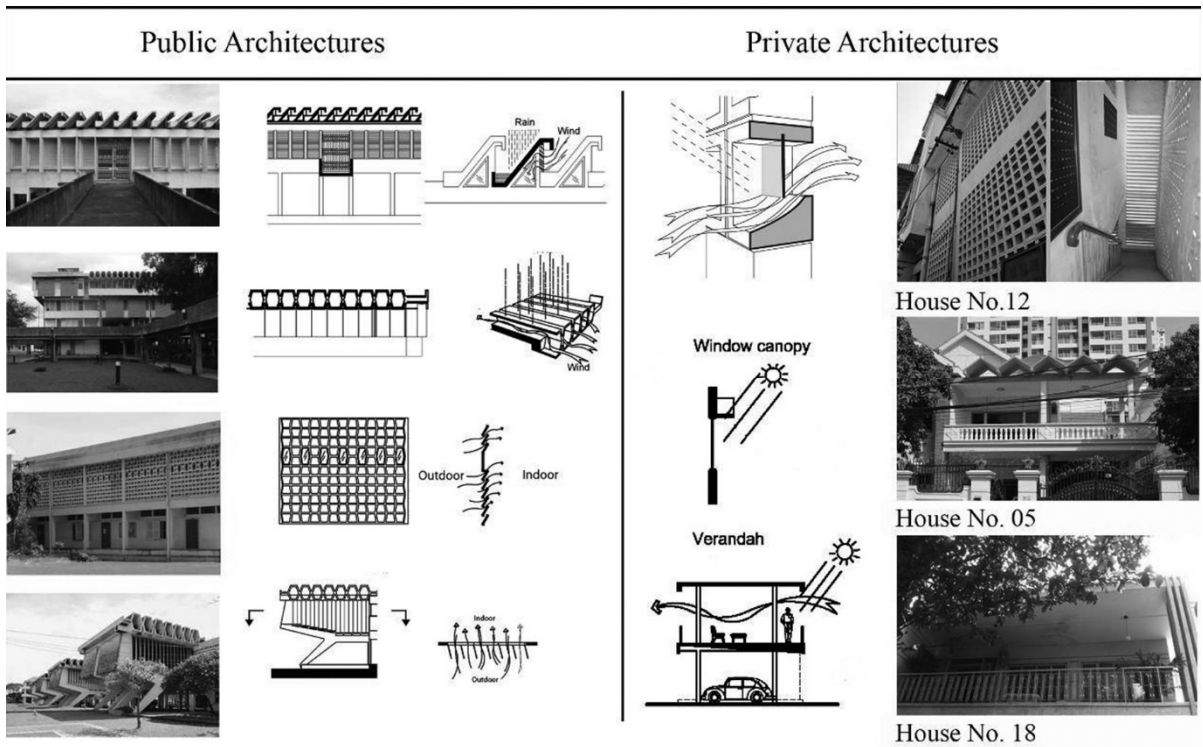


Figure 7. Inspiration of public building design on private houses

further cooling the house. Large doors and windows of the houses improved cross ventilation and indoor lighting (Figure 7).

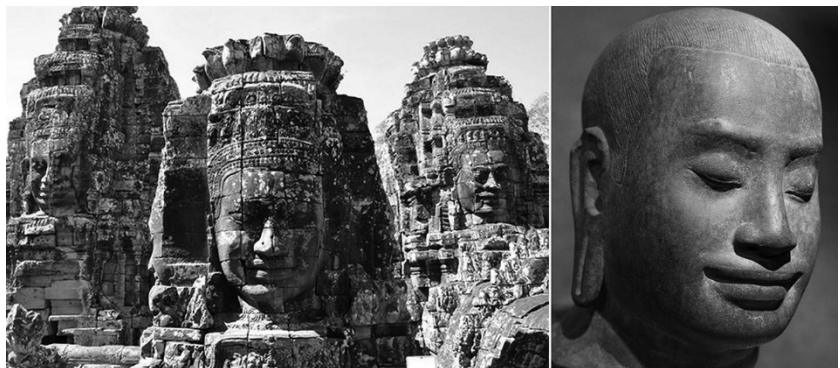
Some of the modern private houses use the symbols of ancient temples as decorative features, possibly indicating the effort to connect modern architecture with the glorious history of the Angkor era (Figure 8). To understand this, we need to look at Bayon temple, which was a well-known Khmer temple of Angkor era. Constructed during the early 13th century, Bayon was an official state temple of the Mahayan Buddhist King Jayavarman VII located at the center of Angkor Thom.¹⁵ The most distinguished feature of Bayon temple was the multitude of serene and smiling stone faces on the many towers that stood on stone platforms and clustered around its central tower. Bayon temple was an Angkorian state temple built primarily as a Mahayana Buddhist shrine to dedicate to the Buddha as well as to local deities who were considered as representatives of the various districts and cities.¹⁶

Figure 8. Symbol of temple on private houses



Some people assume that the smiling faces of the temple belong to the Bodhisattva of compassion called Avalokitesvara or Lokeshvara,¹⁷ whereas, George Coedès, French historian who studied about Angkor, speculated that the faces resemble the face of King Jayavarman VII (Figure 9).¹⁸ Therefore, the sculpture of Bayon temple closely relates to the belief in Buddhism as well as the virtue of the temple in representing the glorious king of triumph of ancient Angkor.

Figure 9. Bayon temple and face of King Jayavaraman VII
Source: Wikipedia, *Bayon* [Online], accessed 22 June 2017. Available from <https://en.wikipedia.org/wiki/Bayon>



Additionally, A study by Masaaki Iwamoto on the 16 years of Vann Molyvann's architectural practice during the post-independence period, which highlighted the shift in his career from government work to his private architectural office, could

offer another perspective on how the design of public building was adopted to private houses.¹⁹ When Vann Molyvann started his private architectural office, he hired many architects and engineers to join the office. Even though there is no clear evidence that Vann Molyvann's private office offered house design that was similar to those found in Boeung Keng Kang, such private architectural practices could be a way from which public architectural features could have been integrated in private projects by architects who used to work in public building design. Thus, it is worth mentioning that other well-known architects during this period also used zigzag-shape features in their design, such as Lu Ban Hap and Mam Sophanna. These architects also worked for the government to design public buildings, and they also designed private projects.

2. Ways of Living

The urban space of the Boeung Keng Kang was characterized by an urban grid that divided the land into plots for privacy and effective access to each plot of land. Fences were built for bordering and protecting internal space. Within the land, trees that grew in front of the house further isolated the house from the public, while providing shade and fruits for the occupants. Thus, each plot of land also suggests the change from agricultural life. In traditional society, living was based on agriculture and people worked the fields on their land. When the family grew, houses could be extended to enlarge living space. In contrast, people living in the city had to go to work outside of the house and their land was very limited. Houses in Boeung Keng Kang were tightly built on each plot. House footprint of the observed houses almost fills the area of the land making it impossible to extend the house for more living space when the family size grew. People had to buy a new plot of land for building a new house, otherwise the family had to add a new floor to an existing house.

Urban expansion and development of provincial towns and new cities extended the need for private transportation, namely cars. In other words, in the new era of economic,

industrial, and urban development, traveling became necessary for people. For wealthy families, cars played a vital role for transportation. Private transportation was necessary for long trips, comfort, and for expression of wealth. When designing the houses, car drop off or car parking as carefully located so as to provide easy and convenient access. Modern private houses in Boeung Keng Kang clearly suggest the increased role of cars for modern living. The house shared the space on the side for parking and the architects integrated car drop-off and garage into the design. The design of a car drop-off or car parking carefully considers the easy and fast access of cars and the distance of walking when people get out of their car to go into the house. The entrance gate of the modern house in Boeung Keng Kang had direct access to car drop off and parking space (Figure 10).

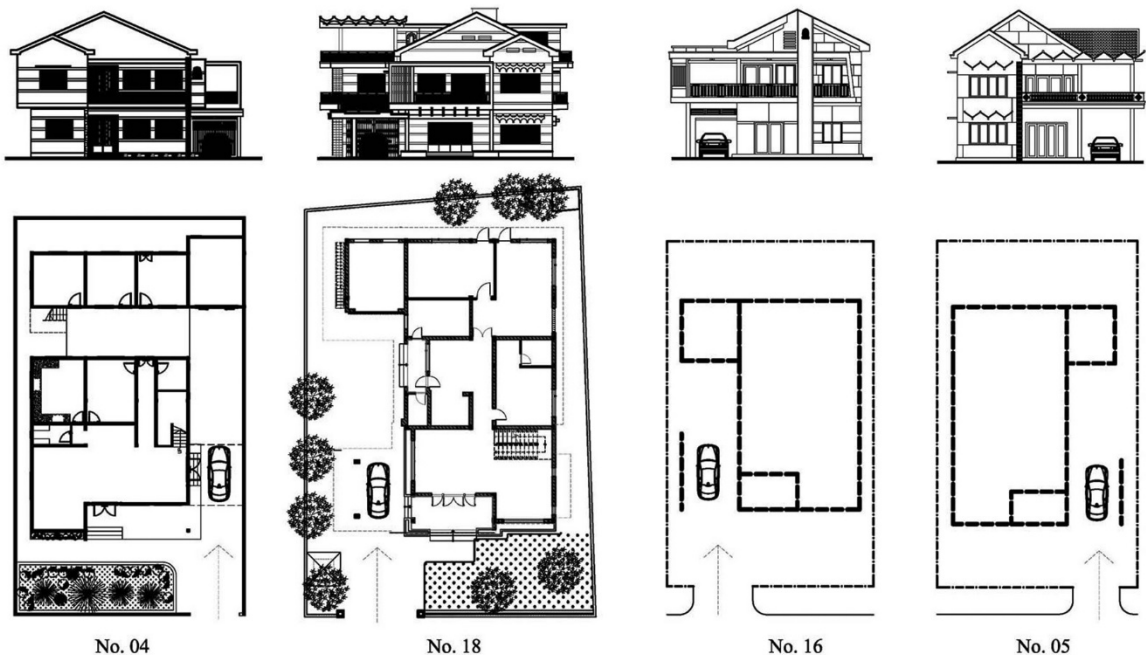


Figure 10. House footprint relative to land size and access road

Spatial planning also suggests the change of lifestyle, which was possibly influenced by westerners. Examining the spatial planning of a house (Figure 11), the kitchen and living room of this house were located close to each other, although the kitchen was fairly separated by a small space and wall.

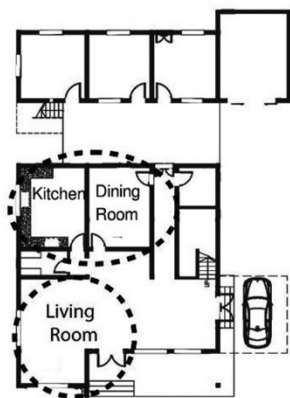


Figure 11. Analysis of planning of houses in Boeung Keng Kang

This floor plan arrangement was similar to the arrangement of a western house floor plan in which the kitchen was considered as part of the living room. However, for Cambodians, the kitchen was considered an unclean and smelly place because Cambodian meals mainly comprised of fish, and especially fermented fish. By having an isolated kitchen hidden from the sight of guests, yet connected to living room, this floor plan was an example of a new living space in modern houses.

Comfortable living is undeniably the ideal of modernization. This comfortable living could be achieved with the use of concrete, which is a construction material that offers stylistic design, climatic comfort and hygienic living. After the cement factory in Kampot province was built during the early 1960s, cement played a vital role in the construction sector. Infrastructure development, especially the completion of an international seaport and the highway and railway systems from the seaport to Phnom Penh, facilitated the importation of foreign construction materials.

Using cement as a material, the architects and builders could realize complicated architectural forms that were designed to be aesthetic and to protect from the unpleasant environment. These features included concrete overhangs, large spanning cantilevers, and concrete louvers. Generally, houses that were built from concrete and bricks were more climatically comfortable than wooden houses because concrete and bricks have more effective heat resistance than wood. A home-owner who has been living in a private house in Boeung Keng Kang that was constructed before the Khmer Rouge said that the house was very climatically comfortable. She and other family members rarely turned on an air-conditioner during the summer season, except for when the weather was extremely hot.²⁰ In addition, using concrete also helped architects and home-owners to arrange a floor plan more efficiently to include bathrooms inside of the house. Concrete has good fire-resistance thus reducing the risk of fire that was apparent in wooden architecture. New finishing materials such as ceramic tiles and bathroom fixtures could lay on a concrete surface. Smooth surfaces are easy to clean and therefore contribute to hygienic living.

In short, the investment in the cement factory, the construction of seaport, the roads, and railways, made new construction materials more available and affordable for construction sectors. The availability and the affordability of cement and other construction material promote modern and healthy living in the city.

Conclusion

In summary, using government policy, urban development, and social modernization as lenses, modern private houses of the post-independence period in Boeung Keng Kang can be interpreted as borrowing the modern aesthetic, yet without carrying the ideology from public architecture. In addition, most of the houses reflect ways of living during the post-independence period. Boeung Keng Kang where modern houses are located can be referred to as one of the best places to live during the post-independence period because both urban space and architecture indicate healthy living, order, and convenient access. The study of modern private houses in Boeung Keng Kang finds the missing link of private architecture and public architecture and broadens our knowledge of the urban space, architecture and social development in Phnom Penh during the 1960s.

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* A team of architects who make documents and an archive of modern Khmer Architecture, especially those buildings designed by Vann Molyvann. www.molyvannproject.com.

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