

## CHAPTER 5

### Analysis

Modernity is the idea that is inspired by the success western people in improving the way of living in which modernity is characterized around the concept of simplicity, freedom, reduction of unnecessary elements and rejection of tradition. During the post-independence, Cambodian people manifested their way of modernity through dressing, thinking, and built form. One aspect of these was houses that were built forms of modern living. The stylistic design of modern private houses in Boeung Keng Kang clearly exemplified how modernization was implemented by Cambodian people at the time when social development, economic growth, and western influence occurred. The physical features of modern private houses in Boeung Keng Kang are interpreted as the following.

#### 5.1 Modern Aesthetic

Self-presentation is one of the aspects of modernity. People of Phnom Penh have adopted western way of dressing that appreciate simple and elegant look. The same idea was applied to houses which were the built form of where people live and show how their living should be looked like. The design of houses employed modern architectural language which included a combination of simplified geometrical forms such as having vertical fins, diagonal column, and having no use of traditional ornament. Houses' forms were organized in a balance way to achieve modern aesthetic. Examining from the top, the roofs had simple design which most houses had a combination of gable roof and flat roof. Some houses had flat roof design, while others expressed stylistic design by having half gable roof (Figure 5.1). The roof edge and gutter were nicely constructed from concrete. Body of the houses were not just a mass of wall and windows. They were a play of form, open and enclosed, in and out, extrusion and subtraction. In over all, the design used modern design composition, such as the play of forms, materials and details to achieve modern look.



Figure 5.1 the differences roof style

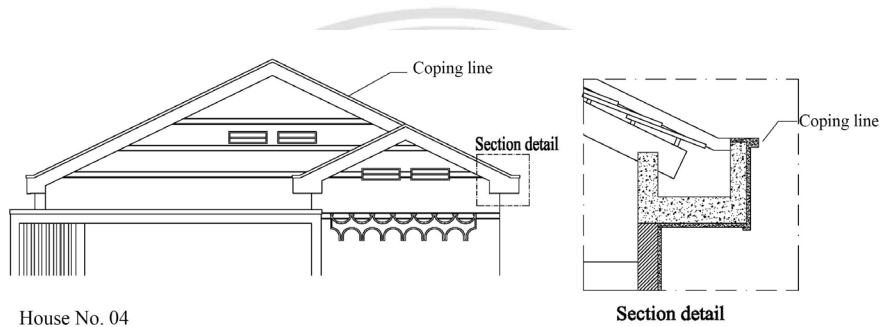


Figure 5.2 Example of roof design with simple gable roof line and coping

The modern aesthetic of these houses could also be inspired by modernist architects, particularly public buildings in the city which were designed by well-known architects. Modern public buildings expressed stylistic shape and form, materials, structural elements, and high level of details. There are numerous features of public building that are also found on modern private houses. One of the most recognized elements of modern public buildings was the zigzag-shape feature which was extensively employed in many public buildings (Fig 5.3).

As highlighted in chapter 3, the so-called zigzag-shape element could be seen on many buildings constructed during the post-independence period, but the most expressively use was Chamkarmon State Palace which was designed by Vann Molyvann and completed construction in 1962. The expressive zigzag-shape roof Chamkarmon State Palace overwhelmingly dominates the appearance of the building.

A study by Iwamoto on the professional practice of Vann Molyvann during the post-independence period which highlighted the shift in his career from government work to his private architectural office could also offer another perspective on how the design features of public building were adopted by private architecture. Vann Molyvann

hired many architects and engineer to join the office.<sup>107</sup> Even though there were no clear evidence that Vann Molyvann's private office offered house design that was similar to those found in Boeung Keng Kang, yet such private architectural practices could be a way from which public architectural features could be integrated in private project for their clients by architect who used to work for public buildings design. Thus, it worth mentions that others well-known architects during this period also used zigzag-shape feature in their design, such as Lu Ban Hap and Mam Sophanna. These architects also designed public buildings for the government, and they also designed private projects.

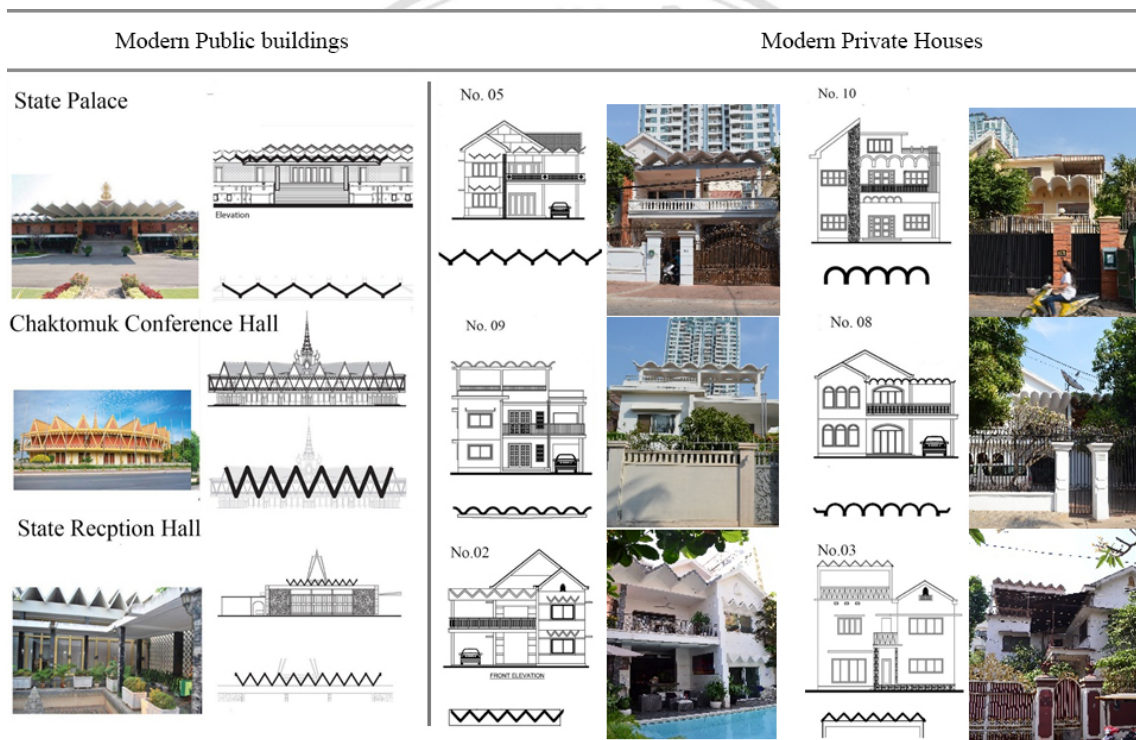


Figure 5.3 Similarity of architectural element of public buildings and those of private buildings

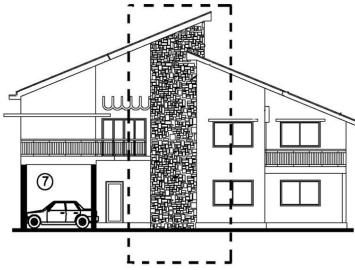
With open markets, the construction of infrastructure to facilitate import and export, and importantly the investment in cement factory during the 1960s, construction materials became more available on the market. Materials such as concrete, stones, bricks and terrazzo plastering which were mainly used on public buildings, could also be available for private use. In addition, as mention earlier, private architects could use their design skill from public buildings design in private projects, therefore were some similarity on how the material was used on the private houses (Figure 5.4).

<sup>107</sup> Masaaki Iwamoto, p. 29.

## Private Houses

Stone

No. 11



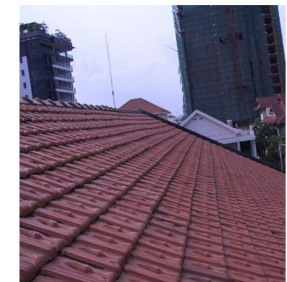
Brick

No. 19



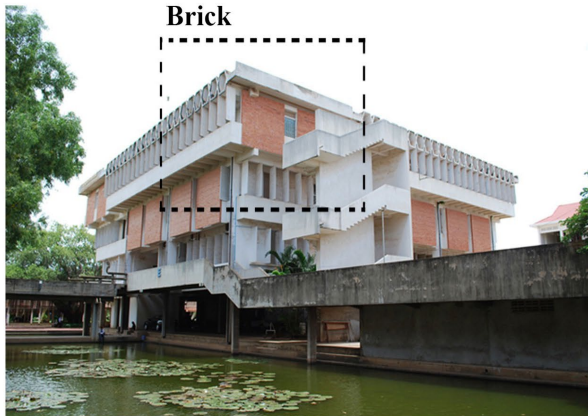
Roof Tile

No. 04



## Public Buildings

Brick



Institute of Foreign Languages

Roof Tile

Stone



Staff Houses of National Bank

Figure 5.4 Material used in public buildings and private houses



## 5.2 Cultural Identity

In Cambodia, showing cultural identity is always an important expectation. During the post-independence, Prince Sihanouk, the leader of Cambodia, wanted this former French colonial country to be recognized as a modernized country that still expressed an origin from the glorious past of Angkor. The ambition of the leader was materialized by modernist architects that designed new architectures through combining Western architectural design principles, traditional symbol and climate conditions of Cambodia. Traditional symbol was inspired by ancient temples, hydraulic systems of the Angkor and vernacular architectures, whereas climatic adaptation techniques include the use of natural ventilation: large opening, louvers and orientation, the use of water evaporation, roof chimney for releasing hot air from indoor; sun heat barrier, double walls and sunscreen. The harmony between these design principles produced a uniquely Cambodian modern architectural movement which was distinguishable from other architectural movements of the period.<sup>108</sup>

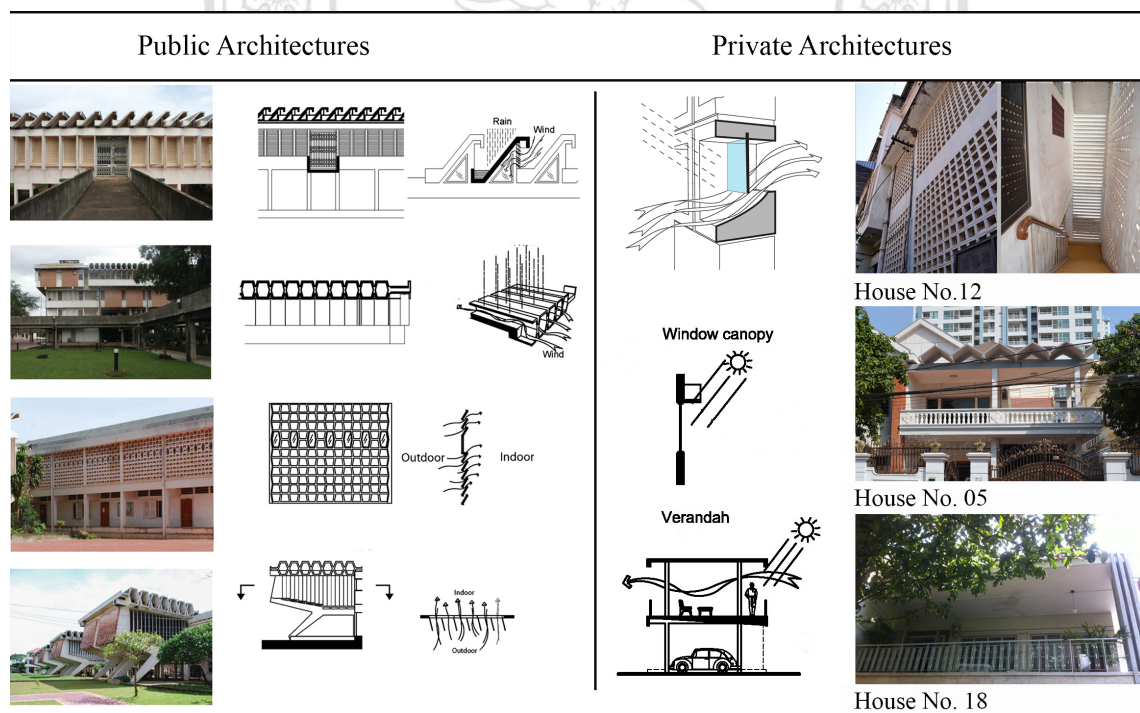


Figure 5.5 Similarity between public building design and private house design

Modern private houses of Boeung Keng Keng shared many aspects of these characteristics. The houses expressed climatic adaptation which was regarded as one of

<sup>108</sup> Clair Ashbrook, p36

the characteristics of tropical architecture and was one of the features of public buildings. Shading devices such as large overhang, window canopy and veranda could help offsetting the impact of sun light on wall and direct penetration into the house. Veranda not only provided gathering space for the family, but became also a place for enjoying sunlight of the morning, cool air of the evening, and protecting indoor climate from intense sun heat of the day time. Space in front of house could be used for planting trees that when the tree tall enough they could offer shade for relaxing and cooling the house. For instance, house No. 08, 14 and 18 (Figure 5.6) were almost hidden from sight because of trees grew in front of these houses. Furthermore, these houses were designed with doors and windows that could help the building to have good cross ventilation and ample lighting. This was clearly expressed in the floor plan of the house No. 04 and 18 (Figure 5.7).



Figure 5.6 Example of house having trees in font

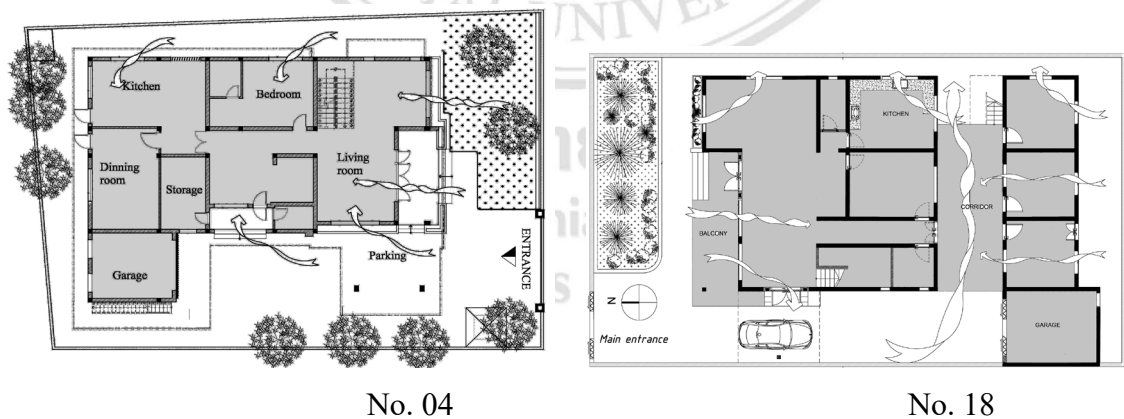
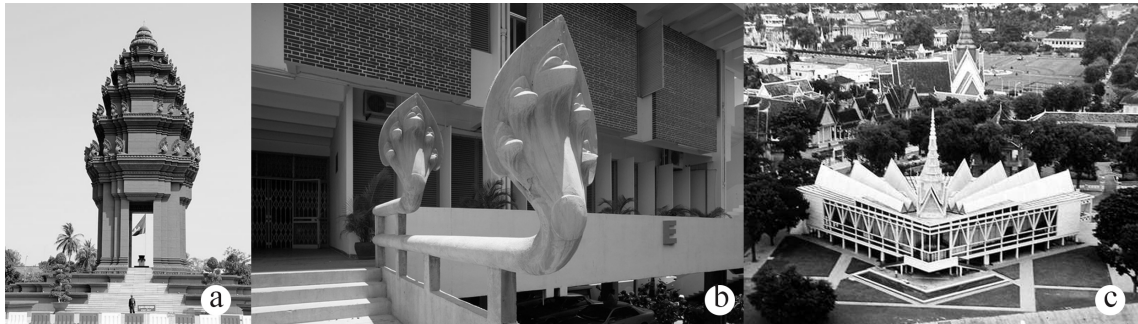


Figure 5.7 Conceptual air flow pattern of in the house of house No. 04 and 18

Some of modern houses of Boeung Keng Kang such as house No. 02, 03, 06, 16, 18 and 19 (Figure 5.19) integrated traditional symbol of Bayon temples on their front gable to show connection with traditional symbol. Such idea could be inspired by modern public architectures. As stated earlier, modern public architectures tended to

manifest connection with traditional post through employing idea and built form. Figure 5.8 shows how traditional element was used in modern public buildings designed by Vann Molyvann.



(a) Independence Monument, (b) Institute of Foreign Languages, (c) Chaktomuk Conference Hall

Figure 5.8 Modern architecture that employed traditional features

Political ideology of Prince Sihanouk who was the state during the post-independence was an ideology that was characterized by a marriage of Buddhist doctrine and ideology of Marxist socialism to make a political system that was appropriated to Cambodian context. In a similar move, Vann Molyvann, who worked as the chief architect of construction and urban planning department, designed modern public buildings that harmoniously integrated the wisdom of ancient of Angkor, which was highly considered as a traditional symbol of Cambodia.<sup>109</sup> For instance, in the design of independence monument, Molyvann employed recognizable features of ancient temple, namely the symbolic lotus and naga sculptures, to include with modern design. Similarly, in the design of the Teacher Training College (today Institute of Foreign Languages) and National Sports Stadium, Vann Molyvann used abstract symbolic idea of bridge of Angkor Wat.

Because decorative features of modern private houses seemed to be imitate from ancient temples, these features may indicate the significant of the glorious history of Angkor era. So, we need to look at Bayon temple which was a well-known Khmer temple of Angkor era. Constructed during the late early 13th century, Bayon temple was an official state temple of the Mahayan Buddhist King Jayavarman VII which

<sup>109</sup> Claire Ashbrook,



situates at the center of Angkor Thom.<sup>110</sup> The most distinguishing feature of Bayon temple was the multitude of serene and smiling stone faces on the many towers which stood on the stone platform and cluster around its central tower. Bayon temple was an Angkorian state temple to be built primarily as a Mahayana Buddhist shrine dedicated to the Buddha. The temple was also dedicated to local deities who were considered as representatives of the various districts and cities.<sup>111</sup> Some people assumed that the smiling faces of the temple belong to the Bodhisattva of compassion called Avalokitesvara or Lokeshvara,<sup>112</sup> whereas, George Coedès, French historian who studied about Angkor, speculated that the faces were similar to the face King Jayavarman VII.<sup>113</sup> Therefore, sculpture of Bayon temple might closely relate to the belief in the Buddhism as well as the virtue of the temple in representing the glorious king or triumphs of ancient Angkor.



Figure 5.9 Symbol of Bayon temple on gable of modern house

<sup>110</sup> Higham, C., 2001, *The Civilization of Angkor*, London: Weidenfeld & Nicolson

<sup>111</sup> Coedès, George and Walter F. Vella, ed. *The Indianized States of Southeast Asia*. trans. (Susan Brown Cowing, University of Hawaii Press, 1968). pp. 173–17.

<sup>112</sup> Coedès, p.137.

<sup>113</sup> Coedès, p.147.



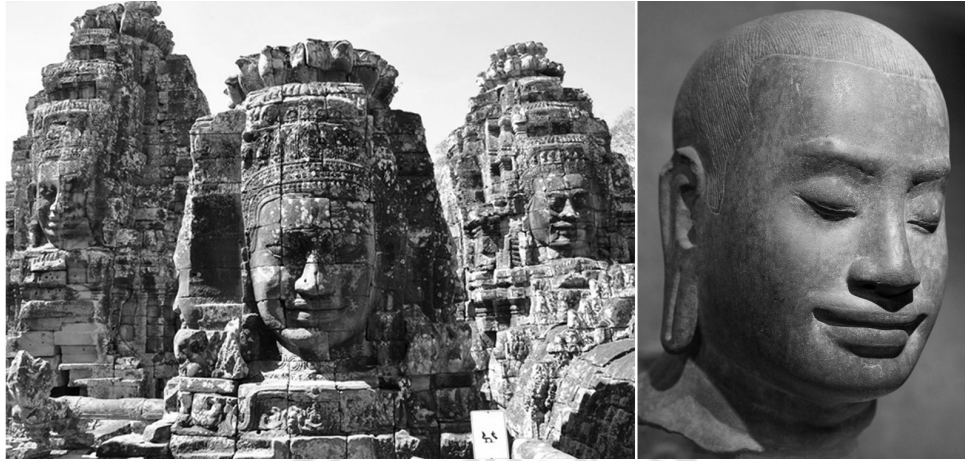


Figure 5.10 Bayon Temple and face of King Jayavarman VII

### 5.3 New Technology

Comfort living is undeniably the ideal of modernization. This comfort living of the people was achieved with the use of new construction material that offer stylistic design, climatically comfort and hygienic living. The most important material for construction was cement that was used for concrete structure and wall. An investment on construction of a cement factory during the early of 1960s in Kampot province played a vital role in construction sector. Likewise, the infrastructure development such as the construction of an international seaport, a highway and railway system from the seaport to Phnom Penh also helped the process of importing of foreign construction materials. In other words, the investment in cement factory, the construction of seaport, the roads and railways, made new construction materials more available and affordable for construction sectors.

These new construction technique and materials such as reinforce concrete structure, cement, ceramic tiles, and ceramic bathroom fixtures offered ideal comfort and hygienic living for people of the new era. Having used for construction material, the architects and builders could realize complicated architectural form that were designed for aesthetic and protection from the unpleasant environment. This included large concrete overhang, large spend cantilever, and concrete louver. Normally, 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 house owner who has been living one private houses of Boeung Keng Kang which was constructed before the Khmer Rouge also said that the house was very climatically

comfortable. She and others family members rarely turned on air-conditioner during summer season, except the weather was extremely hot.<sup>114</sup>

Construction techniques and material such concrete and tile help improve living condition of people. Concrete made possible of complex design which allowed architect or house owner to arrange floor plan more efficiently and included bathrooms inside the house. Even though the most concrete evident was from floor plan of house No. 04 and 18, the similarity of space arrangement could be guess from the outside of the house. For instance, small window or louvers on the wall may suggest bathroom inside the house. In addition, concrete material also had good fire resistance property which could reduce concern on risk of fire when people were working outside. New finishing material such ceramic products such as ceramic tiles and bathroom fixtures had smooth surface that is easy for cleaning thus contributed to healthy living.

#### **5.4 Ways of Living**

The urban space of the Boeung Keng Kang is characterized by urban grid which divides the land into plots for privacy and effective access to each plot of land. Fence can be built for making space and protection for family. Within the land, trees grown in front of the house further isolate house from public, while providing shading and fruit for the occupant, for instance, house No. 08, 14 and 18 (Figure 5.6)

Each plot of land also suggests the change from agricultural life. In traditional life style, living was based on the agriculture and people had large families and busy working in the field to take care of the land. When the family grew, house could be extended to enlarge living space. In contrast, people living in the city needed to go to work outside of the houses and land was very limited. Houses in Boeung Keng Kang were tightly built in each plot of land, such as house No. 04, 05, 16 and 18 (Figure 5.11). House footprint of the observed houses almost filled the area of the land making it was not possible to extend the house for more living space when the family size grows. So, people had to buy a new plot of land for building a new house or add a new floor to an existing house.

City expansion and development of provincial town and new city extend the need for private transportation, namely cars. In other words, in the new era of economic,

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<sup>114</sup> Interview with house owner on 28 January 2016.

industries, urban development traveling was very necessary for every living. For wealthy families, car played a vital role for transportation in saving time, providing comfort, as well as expressing of wealth. So, when building the house, car drop off or car parking space were carefully located. As seen from house No. 04, 05, 16 and 18 (Figure 5.11), houses devoted one third of the land width for parking space. In addition, the direct access from entrance gate into car drop off and parking space could also suggest the easy and fast access of car from the road into the house thus saving the distance of walking when people getting off from the car into house.

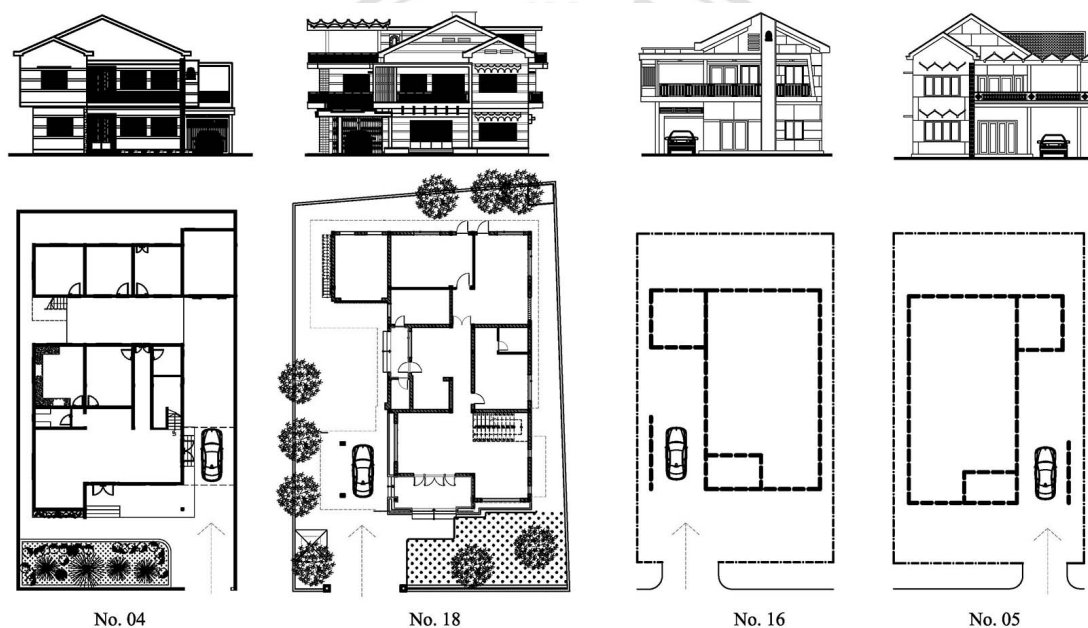


Figure 5.11 House foot print relative to land size and access road

The surveyed floor plan of the two houses (No. 04 and No. 18) point out the differences and similarity on space arrangement in the domestic living of the 1960s. The two most recognizable aspects of two floor plans are the location of kitchen and how public space and private space were organized. In the house No. 18 (Figure 5.12), kitchen was arranged to locate close to the living room, although they were fairly separated by a small space and wall. This planning may suggest the influence of western way of living on way of living of upper class people. In house planning of modern westerner, kitchen is part of living space. Kitchen is where food was prepared and served for the family, thus well design and clean kitchen show the healthy living of the family. However, in Cambodia kitchen was regarded as unclean and having bad smell



place. This is because Cambodian diet is mostly made with fishes<sup>115</sup> and spices which make the kitchen smell bad, especially *Prahuk* (fermented fishes) which is used as main ingredient for Cambodian food. So, kitchen is generally located at the rear of the house. Learning from the spatial planning of the house, even though modern way of living located kitchen close to living room, it was still separated by wall and the kitchen possibly be equipped with exhaust fan to absorb the smell out. On the contrary, floor plan design of house No. 04 (Figure 5.12) maintained traditional way of distancing kitchen and living room. Kitchen and dining room located at the rear of the house. Therefore, these house plans could suggest that modern way of living of during the post-independence still maintained traditional way of spatial arrangement.

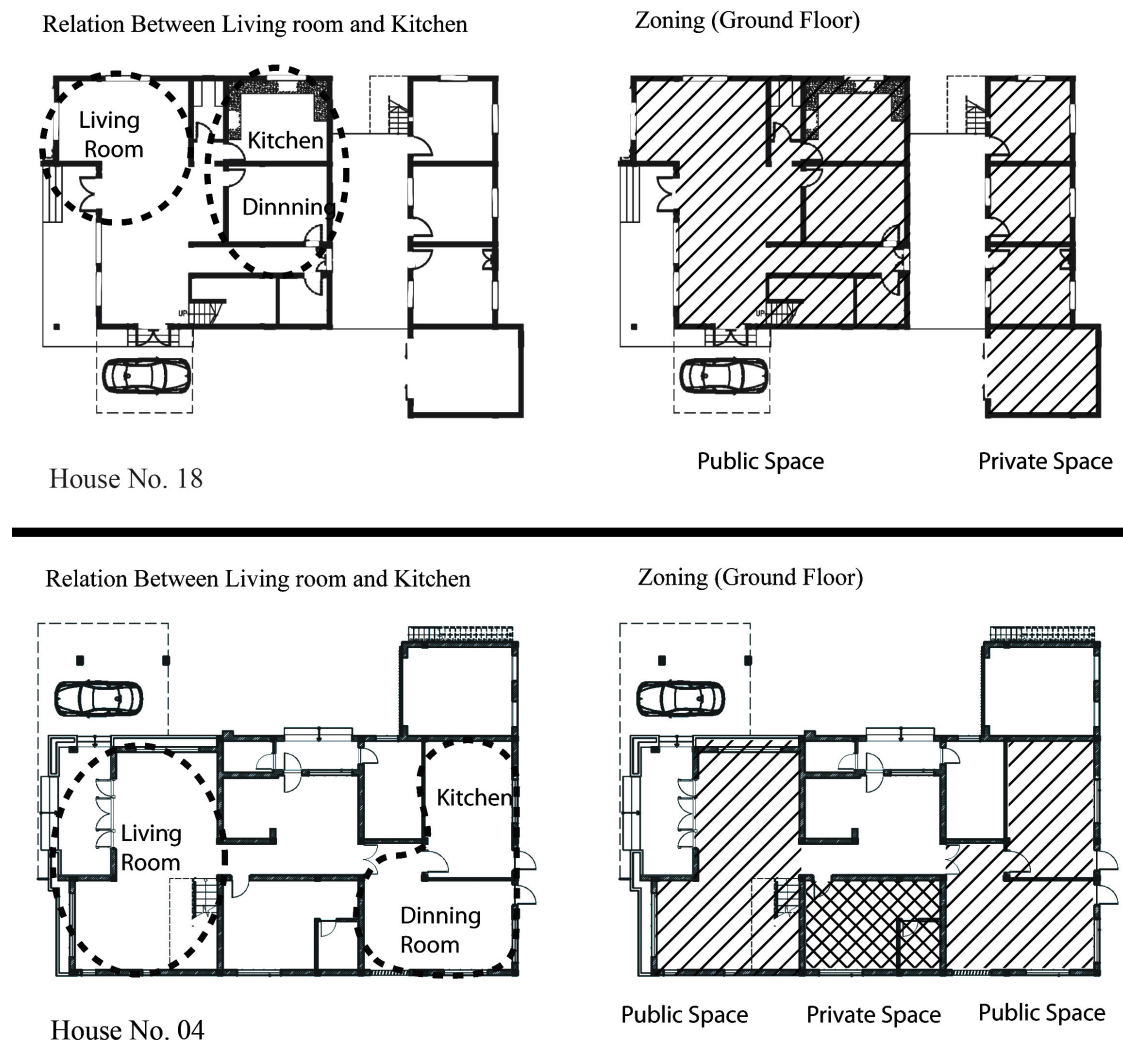


Figure 5.12 Analysis of planning of houses No. 18 and No. 04

<sup>115</sup> Fishes are well abundant in Cambodia due to the extensive river system and are the mains source of proteins.

## Conclusion

In summary, using the city development and social modernization as lenses, modern houses of the post-independence in Boeung Keng Kang can be interpreted as a good example for learning about modern life style of people during the post-independence. These modern houses are design using modern architectural languages to manifest the modern aesthetic. In spite of modern design, some houses still used traditional ornament and symbol to show connection with the past. With the more availability of new construction materials, the living of people enjoys more comfort and hygiene. The design of house that integrates a garage and a car drop-off, indicates the important of car for traveling. Finally, these houses showcase the change of family life from the traditional family life to modern life style in spite of the change in floor plan and house size.

These houses also embody the connection between public modern architecture and private architecture. Public buildings designed by well-known architects became an inspiration for private building. Private houses also showed the connection to tradition through the use of symbol of traditional temple. Also, modern private houses also suggest that modern architectural style was popularly appreciated by people. Public modern architecture became a source of inspiration for private design. Rather than modern architecture that conformed to the political ideology, as public architectures did, modernity of private houses can be regarded as stylistically modern, for the design conforms to the need of livings and economic condition of the family and the architectural language of house is less expressive than those of public architecture.

Boeung Keng Kang where modern houses located can be referred to living ground for modern living. Both urban space and architectures were designed for healthy living, order, convenient access and traveling.