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Soviet-Style Apartment Complexes in Hanoi
An Intellectual Exchange in Architecture

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Collective residential apartment complexes (*Khu tập thể*, KTT) have existed as a feature of Hanoi since the early 1960s. Although the new housing blocks, which became such a striking feature of the Hanoi cityscape in the high-socialist era, have been widely represented as a product of one-way knowledge transfers creating unhappy replicas of Soviet design and planning ideas, their construction involved a much more fluid process of interaction and exchange between Vietnamese architects and planners, and the foreign experts with whom they studied and worked. What our research uncovered in particular is a strikingly bold insistence by Vietnamese designers and builders that there were ways to benefit from the novel ideas about cities and urban planning that they were absorbing from their Soviet and other foreign consultants, while advocating the need to reshape what they were taught to fit the distinctiveness of their homeland's unique aesthetic and practical needs. This chapter attempts to elucidate some aspects of this international intellectual exchange that helped Vietnamese architects to become more mature and confident in the process of making residential blocks more relevant to the situation in Vietnam.

This architectural revolution is the result of a process of intellectual exchange between architects of the Soviet Union, North Korea, China and Poland with Vietnamese leaders, managers and particularly architects. Studying this process reveals a consistency with the key themes of the volume and brings a contribution to Susan Bayly's study on how Vietnamese intellectuals connected with Eastern European countries (Bayly 2004). While Bayly points out that Vietnamese intellectuals may possess different kinds of cultural capital, and some of these derived from the French colonial era, she argues that many people do not see it as part of their identities and they, during their employment as development experts in former French and Portuguese colonies in

Africa, leaned towards the relationship with peers from socialist countries in Eastern Europe.

The case of Vietnamese architects in this chapter shows that they actively learnt and creatively changed the acquired construction methods to suit the conditions of Vietnam, particularly the tropical climate and the shortage of building materials during the war (1955–75). With the close relationship between the two socialist countries, North Korea sent a delegation of architects to Hanoi to help make a masterplan for the city. The Korean experts also took the lead on the planning, design and construction of Kim Lien KTT. A team of Vietnamese architects, engineers and construction workers directly participated in this process. They learnt about and received the transfer of technology through many different forms. Moreover, over time, many Vietnamese architects who trained in the Soviet Union, China and Eastern European countries gradually returned. They were able to use the knowledge and methods they had acquired from their professors in different countries to build their home country. So, from the initial passive mode of receiving the new model of neighbourhood units, and the design and construction of Zone A and Zone B in Kim Lien, Vietnamese architects gradually progressed and took the initiative in the design of the residential apartment complexes. The revised plans consisted of four- to five-storey residential blocks, organized into smaller and self-contained apartments more suitable to the living conditions of Vietnamese families. They also used the large panel method of assembly to construct blocks that were more durable and quicker to build. This was the result of a process of exchange, learning, absorbing and creativity for the Vietnamese architects.

When talking about KTTs in Hanoi, many people take for granted that this refers to the Soviet-style apartment blocks. Many of these have been demolished in the last ten to fifteen years to make way for structures considered more modern and appropriate for the city's future. Yet the common view of them as 'Soviet' structures, and as the product of a one-way transmission of alien and inappropriate ideas about urban housing to a set of uncritical and passive Vietnamese recipients, is very far from the reality of how those actually involved in the building projects conceived of their work and aims. Each KTT has its own story that distinguishes it from the original concept. This chapter will explain the formation of KTTs in Hanoi and show how they have been the result of intellectual exchange between Vietnam and other socialist countries.

Background and Context: Housing in Hanoi

Until 1954, when President Ho Chi Minh's victorious liberation forces made Hanoi the capital of the revolutionary nation state, the Democratic Republic of Viet Nam (DRV), the city had been the French colonial government's administrative headquarters, with a comparatively small permanent population

concentrated mostly in the densely populated commercial area called the Old Quarter. Thus, what the city urgently needed at the end of the nine-year anti-French Resistance War (1946–54) was residential accommodation for a growing wave of incomers from the countryside and the Viet Bac northern resistance zone, including young people recruited to serve as state officials and factory workers. Increasing numbers of both teachers and students also arrived as the city became a major centre for the country's fast-expanding educational initiatives. The DRV initially used requisitioned colonial-era residences for schemes of state-run allocation housing. But by the mid-1950s the idea of purpose-built, multi-storey apartment blocks became an increasingly attractive prospect for those engaged in these ambitious city planning initiatives. The first apartment blocks, called *nhà tập thể* and *khu tập thể*, were completed in 1956 on greenfield sites outside the Red River dyke embankment that had previously marked the outer boundary of the city.

From 1954 to 1955 the city entered a period of economic recovery, renovation and socialist construction. For the first time, North Vietnam, especially Hanoi, gradually transformed into a new socialist society. The important task for the development of Hanoi was to turn a city, with a low levels of production and service, into a political and cultural centre, balancing the development of industry and agriculture (Le Van Lan 2010: 33). In general, Hanoi at that time had formed two distinct zones with different architecture and lifestyles. First, the Old Quarter neighbourhood, located to the north of Hoan Kiem Lake, was formed. It was the place for people earning a living by trade, service and handicraft production to serve the lives of Hanoi residents and later the French. The houses in this neighbourhood were often built to have one or two storeys, with the first floor dedicated to streetside shops or manufacturing facilities. Second, the French Quarter (*khu phố Tây*), to the south of Hoan Kiem Lake, which stretched west to the West Lake, was formed at the end of the nineteenth century and was almost completed in the 1930s–40s. This area was planned, designed and built by the French during the colonial period (1884–1945) (Phan Phuong Thao and Nguyen Thi Binh 2017: 33–35). This was mainly an office area, where French officials and their families lived: upper-class Vietnamese, mandarins, officials working for the French, doctors, engineers, architects, physicians or emerging rich people. They lived in French-style villas, with gardens and fences, in neatly divided land plots, with each plot about 300–600 or 700 square metres (Phan Phuong Thao and Nguyen Thi Binh 2017: 36; Ta Thi Hoang Van 2017: 290). Shops, services and cultural institutions such as theatres, museums and galleries were built separately from residential areas. These two quarters were surrounded by villages and rice fields. Being the two main areas in the city, the Old Quarter and the French Quarter helped create the image of Hanoi until 1955.

The concept of collective apartment blocks was born in this period in 1955. The government had many ways to provide accommodation for the increasing number of cadres, workers and state employees. On the one hand, the state used abandoned villas whose former owners who had moved to the South, or

houses that had belonged to the bourgeoisie, or large houses that had been distributed to officials. Many of these single-owner, one-family villas were turned into houses with many subjects and families living together. On the other hand, the city government started to build new residential areas separate from the Old Quarter and the French Quarter. The first collective apartment blocks were built in a space near the city centre, outside the Red River dyke. The Riverbank collective residential area (*khu tập thể Bờ sông*), designed by the architect Tran Huu Tiem (1912–84), was completed in 1956. These were two-storey blocks, all with large rooms, arranged in parallel to accommodate a group of people in a collective, or areas that were later divided between families (Dang Thai Hoang 1985). Each house had a common auxiliary area (kitchen, toilet, bathroom) separated by a yard (Le Van Lan 2010: 33–34). Nearby were one-storey collective apartment blocks on the banks of the Red River, in An Duong and Phuc Xa (north and northwest of Hanoi).

The period from 1959 to 1960 was the starting point for the construction of new-style urban centres in Hanoi. New collective apartment blocks (KTTs) were built on a larger scale in suburban areas. Some were small areas of about 3–6 hectares, and others were larger at about 40–50 hectares. The basics of the neighbourhood unit model in the Soviet Union as described in Buchli's and Humphrey's work can be observed in these buildings in Hanoi (Buchli 1998, 1999; Humphrey 2005). The process of implementing this model of housing subdivision lasted for four decades (1960–1990s). Under the command economy, the state implemented a subsidized housing policy for officials, workers and employees from the state budget. The construction of KTTs only ended when the renovation era (*Đổi mới*) began in 1986 (this era lasted until around 1990). The country then entered a new period, the period of socialist-oriented market economic development. The state also terminated the distribution of housing for officials and employees. KTT apartments owned by the state were gradually sold to tenants. The development of this type of housing subdivision basically came to an end at this point.

From the 1960s until 1990, Hanoi built about forty KTTs housing nearly two hundred thousand people (Duong Duc Tuan 2005: 4). These KTTs occupied an area of about 750 hectares in Hanoi city. In terms of living floor area, the total space of these apartment blocks was nearly five million square metres, roughly 50 per cent of the city's housing supply (Duong Duc Tuan 2005: 4). Most KTTs were planned for outside the core of the capital. During this period, a new, large and important space of the capital Hanoi was formed (Duong Duc Tuan 2005: 24). The KTT quarters became a new structural element of the city along with the Old Quarter and the French Quarter. The network of KTTs became the new residential areas, the new urban centres of Hanoi.

The following section will continue to unpack the concept of KTTs in Vietnam and shed light on the ways in which each KTT was constructed. First, the chapter discusses the way in which the KTT model was introduced into Vietnam and emphasizes the role of Vietnamese architects in the process of design and in exchanges with Soviet architects. It then moves on to discuss the

transfer of a building method from North Korean experts to Vietnamese architects and engineers in the case of Kim Lien KTT. With diligence and proactiveness, Vietnamese architects invented new ways to produce prefabricated panels for quick construction. The new construction method helped to save time, money and labour, and also resolved the problem of housing in the 1970s–80s. The chapter ends with a section discussing how the KTT has been the product of intellectual exchange between foreign and Vietnamese experts.

Towards a New Architecture

In the years 1959–60, the issues of capital planning were raised frequently, but urban planning was a relatively new field for city officials and many architects. Therefore, the Government of Vietnam, for the first time, invited a delegation of Soviet experts from Moscow to help plan the city of Hanoi and a delegation of Chinese experts to help design the National Assembly house, following a new plan for the capital near the West Lake (Le Van Lan 2010: 49–50). The number of Vietnamese architects at that time was very limited. There were only eighteen architects in North Vietnam who had been trained in the French colonial period, fourteen of whom were working in Hanoi's Department of Architecture.[1] Four architects worked for the Section on Urban Affairs in this Department.[2] The architects of the department were assigned the task of drafting the plan for Hanoi. Architect Hoang Nhu Tiep (deputy head of the department) along with Ngo Huy Quynh, who belonged to the generation of French-trained architects (having graduated from the Indochina College of Fine Arts in 1943) and was also the first architect in Vietnam to earn a graduate degree from a university in the Soviet Union (1951–55), participated in the drafting of the central planning for Hanoi in 1959 with the help of Soviet experts (Ngo Huy Quynh 2020: 19). Because Vietnam was very inexperienced within the planning field, architect Demmetkovsky, the head of the Hanoi expert delegation from the Soviet Union, organized a training course for urban planning officials, leaders, architects and engineers of the Ministry of Architecture and Hanoi City. The concepts, principles and urban planning of the socialist system, the theory of neighbourhood units and sub-zones as a basic component in the urban structure, and experiences in the Soviet Union were widely introduced.[3] After a short period of close coordination between Soviet and Vietnamese architects, a draft plan for the capital's centre was presented to President Ho Chi Minh and other leaders in 1960 (Le Van Lan 2010: 46). In the same year, a draft plan was also created for the capital by the West Lake, chaired by architects Demmetkovsky and Ngo Huy Quynh, and a plan for Ba Dinh Square was developed by Ngo Huy Quynh and Le Van Lan (Le Van Lan 2010: 49). These plans became the foundation for the establishment of residential areas, industrial areas and river ports.

The birth and development of apartment buildings in Hanoi in the 1960s was greatly influenced by the theory of planning from the housing subdivision

model or the neighbourhood unit. This was a completely new model of residence and housing that was different from the Indochina architecture during the French colonial period. While the French villas and the chessboard design of the streets were the key points of the French design in Hanoi in the early 1900s, the housing subdivision model was the predominant one from 1960 to 1990. At this time, the Soviet Union and other socialist countries were relying on this neighbourhood unit theory to implement the settlement of housing and urban development after World War II (Buchli 1998; Humphrey 2005). The neighbourhood unit theory was developed at the beginning of the twentieth century to create housing complexes consisting of many groups of houses gathered in one area and which contain essential social infrastructure facilities such as schools, playgrounds and shops. It created many subdivisions of urban settlements in a larger city. Clarence Perry was the person who put this model into practice in New York (USA) in 1929, and since then this model continued to be developed in European countries. In the 1950s, the Soviet Union absorbed and developed the theory of neighbourhood units from European countries and the United States and then expanded its application to China, Korea and other socialist countries (Tran Minh Tung 2016: 34). The model of housing subdivisions allowed millions of people to settle in the Soviet Union and other countries after World War II (Han Tat Ngan 1990: 32). Vietnam also received such assistance, and the planners, architects and engineers of the Soviet Union, North Korea, China and Poland worked and exchanged information with Vietnamese architects in Hanoi in the years 1958–60. KTTs or the collective housing complexes in Hanoi were born in such a context.

The idea of planning and building apartment complexes in the model of subresidential housing was completely new to Vietnamese architects. However, in the process of learning and absorbing experience in planning and design from other countries, Vietnamese architects wondered how to build a new urban architecture while still maintaining some of the inherited architectural traditions of the nation. More than sixty years have passed, and only a few articles and documents have shared in detail how these concerns were handled while new construction plans were implemented in Hanoi. Fortunately, recently, the family of Ngo Huy Quynh, who participated in the planning of Kim Lien KTT, handed his personal files over to the Center for Heritage of Vietnamese Scientists (Ngo Huy Quynh 2020: 140). Studying these files revealed two valuable documents related to this situation.

The first of Ngo Huy Quynh's documents was the *Draft of Opinions Exchanged with Architectural Workers in Poland – Outline* (hereafter abbreviated to *Polish Outline*) of the Vietnamese Architectural Delegation for a trip to Poland before 1960. The trip was organized for a group of Vietnamese architects aimed at cultural exchange activities, mainly learning about experiences in planning and architecture. Studying the *Polish Outline* helps illuminate the thoughts of architect Ngo Huy Quynh in particular and Vietnamese architects in general on issues of planning and developing new urban areas. The *Polish Outline* also displayed the intellectual exchange with experts from socialist

countries in creating a modern, socialist Vietnamese architecture. The surprise was that the author of the *Polish Outline* clearly identified the attitude of Vietnamese architects in exchanging knowledge with foreign experts, which was seen not as one-way, but more as 'critical' learning. The document demonstrates that it was a very open and equal way of working. This equal status was mentioned in Ngo Huy Quynh's words to the delegation: 'In general, [our] attitude is mainly to study modestly. But the examination of the problem and, above all, the application of the Polish cultural and artistic experience must be seen with a critical mind' (Ngo Huy Quynh 1960: 1). In the context of underdeveloped urban architecture and construction, Ngo Huy Quynh showed a very proactive attitude in exchanging knowledge and studying with colleagues abroad. He wanted to interact with the Polish architects by introducing 'the inheritance of the Vietnamese national architecture and draw[ing] lessons to help us create the new architecture, develop a new life, a new technology' (Ngo Huy Quynh 1960: 1)[4] 'as a basis for the initial discussion on the direction of new architectural creation in the architectural world in Vietnam' (Ngo Huy Quynh 1960: 8). He expressed his hope that in this dialogue, Polish architects would 'contribute more, give opinions on theory', and on 'how to use inherited capital in architectural and urban design work' (Ngo Huy Quynh 1960: 8).

Architect Ngo Huy Quynh expressed his support for a Vietnamese typicalization approach in architecture. The typicalization approach was understood as utilizing traditional methods to design and construct architectural work in Vietnam. He tried to argue that typical houses or same-styled houses did not always make the city look boring. He told the Polish architects that, 'With new construction, it is necessary to promote the tradition of typical construction' (Ngo Huy Quynh 1960: 6). Not only developing the concept, he also gave an idea of how to create an identity for the city when building typical types of houses with trees and water. Ngo Huy Quynh voiced a desire for a modern city in the future: 'Extensively using trees and water as factors not only creates a comfortable life in hot climate conditions but also makes the city more beautiful, having its own nuances of a tropical city' (Ngo Huy Quynh 1960: 8). This idea is shared by Ross King (2009) who discussed how architecture must adapt to the climate, and temperate conditions in Malaysia. Moreover, King also mentioned that *kampong* (the village) in Kuala Lumpur was seen as a dynamic part of the urban condition rather than something that was to be ignored. In fact, Ngo Huy Quynh's concept of typical design was later accepted widely, becoming a way to rapidly develop architectural works in urban areas in Vietnam. Architect Le Van Lan assessed the idea in the following way: 'The typical design work has contributed to speeding up construction significantly. Models of large slab houses, schools, kindergartens, cinemas … have been built in many places' (Le Van Lan 1984: 15).

In the *Polish Outline*, Ngo Huy Quynh also emphasized the compatibility between architecture and people. From there, he made the following observations, which are in fact two very important orientations for Vietnam's urban architecture: '(1) Architecture with an intentionally largescale, frivolous

design in an urban setting is not compatible with Vietnamese architecture. It can't be the way for new architecture and urbanism. (2) Vietnamese architecture is inseparable from nature, merging into the scenery of rivers, mountains and trees; renovating nature into a new setting for human life … architecture uses rivers, mountains, trees (landscape) as an important part of architectural work' (Ngo Huy Quynh 1960: 7). His observations were crucial in discussions with Polish architects as it showed that Vietnamese architects did not passively accept the experience of international colleagues, but also had a critical view towards the global trends and the local, natural conditions in Vietnam.

The second document to explore is the outline of the talk on 'Nationality in Architecture and Urban Architecture' (hereafter abbreviated as *Hanoi Outline*) by architect Ngo Huy Quynh. He prepared this outline in December 1961 to present to Vietnamese architects. The *Hanoi Outline* consisted of only two pages but still showed the continuation of his thoughts and concerns about nationalism in modern, urban architecture. If the context of the *Polish Outline* was 'we had little experience in construction, not yet summed up', then at the end of 1961 the *Hanoi Outline* stated 'we have constructed quite a lot, there is merit in the new structures, but they do not demonstrate clear national characteristics'. What he hoped for was the development of a new kind of architecture for Hanoi that was both modern and recognizably Vietnamese in sensibility. Ngo Huy Quynh wanted to share with his colleagues the direction he envisaged in order to clarify 'the unclear national characteristics'. In this document, he specifically analysed the experiences of creativity in architecture in Vietnam, the Soviet Union and China. He pinpointed five aspects for thinking about national architecture: (1) The curved roof is a characteristic, but it is not the only one; (2) National characteristics can be seen in many other durable elements: climate, heat, cold, traditional aesthetics; (3) Nationality can be seen in the daily lifestyle of the people; (4) There is a fluid change on the surface/outside of national architecture; and (5) There is a need to avoid formalism, and the wasting of material. Still with a critical spirit, he not only mentioned successes but also pointed out some aberrations in architecture in other countries through the introduction and analysis with pictures, and at the same time pointed out the causes of the five points above (Ngo Huy Quynh 1961: 1). Unfortunately, we do not have the details of the specific analysis and criticism on record.

The last part of the talk focuses on a particularly important point that he wanted to make to the audience, which was suggestions for the direction of constructing a national architecture. In promoting the national spirit, he was particularly interested in three factors: '(a) Climate research to improve or adapt to the climate of houses and cities. (b) Using nature, trees, lakes and ponds, monsoons and sunshine. (c) Utilising previous experiences in houses, villages and ancient architecture' (Ngo Huy Quynh 1961: 2).

With the spirit of both learning and actively absorbing international experience, Ngo Huy Quynh wanted to 'adopt the achievements of the world's

progressive architecture' (Ngo Huy Quynh 1961: 2). On the one hand, he called for a criticism of cosmopolitan architecture, constructivism, a form of architecture in the Soviet Union in the 1920s–30s, aiming to construct spaces for the creation of the new socialist utopia. On the other hand, he requested others to 'learn from experience in renovating and adapting to the climate in socialist countries, and tropical countries in Africa, and South America' (Ngo Huy Quynh 1961: 2). Ngo Huy Quynh's vision towards the future perspective of national architecture showed his interests in learning with a critical mind. However, it was not only Ngo Huy Quynh who had this vision; other Vietnamese architects also took this approach. In a newspaper interview, architect Le Van Lan made positive comments about the intellectual exchange between architects of the Soviet Union and other socialist countries and Vietnamese architects:

> Being Brother countries, first of all, the Soviet Union helped us design and build many buildings of important economic, political, cultural, and scientific significance. In general, the authors of the projects have made great efforts to understand the nature and people of Vietnam, expressing sincere feelings and responsibilities. Certainly, our colleagues also encountered many difficulties when solving architectural problems for a humid tropical area, approaching a series of problems about buildability, manageability, usage habits, and aesthetic tastes … The most precious thing for us is that in addition to receiving great material and technical value, we have acquired relevant concepts, thoughts and methods to resolve issues boldly and resolutely; ingenious proportions in large and modern building scales; including the use of new materials and equipment. … Through such support, the team of architects and technicians grew larger, more experienced, and able to use advanced computing and research tools. (Le Van Lan 1984: 17)

This section has shown an important aspect of intellectual exchange through the case of Vietnamese architects. It has demonstrated the attitude of early participants in training and learning sessions with foreign socialist experts, indicating that they considered themselves to be partners in a process of interaction and dialogue, rather than passive recipients of rules and inflexible models. The case of architect Ngo Huy Quynh has helped to point out the role of the French-educated generation in the postcolonial period in Vietnam. The point is that Ngo did not passively receive knowledge from the Soviet, Polish experts, but rather he actively contributed to the vision of both foreign and Vietnamese leading architects in promoting a vision of nationality when proposing architecture projects. The next section will examine the case of the Kim Lien housing complex, from which readers can see the stream of intellectual exchange between two socialist countries. It discusses how these perceptions were applied in the process to the actual construction of new housing complexes, showing that when the new initiatives got underway, there continued to be a dialogic process of exchange in what the planners and architects thought and did.

Apartment Blocks Built with North Korean Advice

As mentioned above, KTTs in their current form started to be constructed from 1959 to 1960. This opened a new era in terms of residential organization and lifestyle. The demand for quick construction of a series of buildings to meet the urgent need for accommodation raised many problems not only in planning but also in architectural design, construction techniques and building materials. Because Vietnam had no experience in constructing four- to five-storey buildings, President Ho Chi Minh and the Government of Vietnam invited North Korean experts to help design and build a residential housing complex in Hanoi to be called Kim Lien KTT. It was the first neighbourhood unit or subdivision to be constructed in Hanoi. The North Korean government sent architects, engineers and construction workers, led by Kim Pong Su, General Architect, to Hanoi to implement this task from 1959 to 1965. The North Korean group of architects and construction engineers worked mainly with Vietnamese architects from the Department of Urban and Rural Affairs, Ministry of Construction. At that time, the director was the engineer Nguyen Van Than, and the deputy director was the architect Hoang Nhu Tiep. Ta My Duat was in charge of the Hanoi team. This was the first group of foreign experts to help design a modern housing project in Hanoi and transfer the construction technique for building four-storey houses into the North of Vietnam. The case of Kim Lien KTT helps us to explore the ways in which Vietnamese architects acquired knowledge and technology from a socialist country.

The Kim Lien KTT area, which was originally the rice field of Kim Lien village on the outskirts of Hanoi, was about fifty hectares in size (Kim Lien People's Committee 2012). It is now located in Đống Đa, a central district of Hanoi. Korean experts and Vietnamese architects planned, designed and built the Kim Lien apartment complex. In 1959, architect Ta My Duat signed the planning document for the Kim Lien area.[5] According to the original design, this area consisted of 22 four-storey buildings/blocks. Several blocks were grouped into a neighbourhood divided into zones, named with the letters A to E. This area now has 67 four-storey buildings, of which Zone A has five buildings, Zone B twenty-five buildings, Zone C eight buildings, Zone D twelve buildings, and Zone E seventeen buildings.[6] It is said to be home to 2,600 households. The initial housing construction area was 84,400 square metres, and was arranged in the form of neighbourhood units, with residential apartment blocks, kindergartens, schools, stadiums, department stores and sewerage water systems (Le Van Lan 2010: 37).

North Korean experts directly designed and built the blocks in Zone A according to North Korean standards. The average distance between two blocks according to the original design is about 30 metres (Duong Duc Tuan 2005: 130). For the first time, a complete neighbourhood unit model, with functions including residential apartment blocks, canteens, department stores and schools, was transferred to Vietnamese architects. Thanks to the experience of

designing and building Zone A with Korean experts, blocks in other zones of the Kim Lien area were redesigned by Vietnamese architects in Hanoi, forming a new urban face of the capital. Dao Ngoc Nghiem, former chief architect of Hanoi, commented, 'The architecture of the neighbourhood unit brought into play its strengths. Zone A, in particular, built entirely by Korean experts, had a spacious layout, a lot of greenery, creating conditions to build into the current Kim Lien hotel.'[7]

In 2012, Kim Lien People's Committee published a book entitled *Revolutionary History of the Party Committee and People of Kim Lien Ward* . It devoted a section to how Kim Lien KTT was built. It states: 'At first, officials and construction workers were very worried because their technical skills were still low and they had no experience in constructing multi-storey buildings by modern assembly methods' (Kim Lien People's Committee 2012: 29). Understanding the worries of the Vietnamese team, comrade Kim Pong Su, general engineer of the delegation of Korean experts, said: 'We were like you, but we had received technical help from the Soviet Union, so we knew how to assemble before you. But in order to have the assembly industry, we had to invest a lot of money for equipment. Therefore, we will share the technical factors, and the experience of North Korea and the Soviet Union, with all our Vietnamese comrades' (Kim Lien People's Committee 2012: 29). With the dedicated help of North Korean experts and the learning spirit of the command team and the site workers, in a short time a complete construction site was organized in the following manner: 'self-manufacturing material components on the spot and putting them into construction and installation right at the construction site, without having to buy them abroad or process them at other establishments; This is also the first pilot project of prefab construction in Hanoi' (Kim Lien People's Committee 2012: 29). The process of making prefabricated panels for Kim Lien KTT reflected the intellectual exchange between Vietnamese engineers and foreign experts. This issue will be discussed in the later section on large panel installation.

In our interview with Prof. Nguyen Quoc Thong, vice chairman of the Vietnam Association of Architects, he told us that Kim Lien KTT was the first complete model of apartment blocks designed by North Korea (personal interview, 21 April 2021). This model still exists in Pyongyang, North Korea. The Trung Tu, Nam Dong, Giang Vo, Thanh Cong and Thanh Xuan KTTs were later designed and built by the Vietnamese in the 1970s, incorporating certain improvements to suit the natural conditions, the climate and specific socio-economic conditions. In terms of planning, groups of residential blocks with kindergartens at the centre were designed to be more diverse in space, while paying attention to natural environmental conditions. For example, more buildings were constructed to be able to utilize the south or southeast wind; or there were different sizes of apartment to suit the diverse range of household sizes.[8] In certain conditions, a lake, a social communication space – as in the case of Giang Vo KTT – was deemed suitable for the climatic conditions and lifestyle of the residents, creating the characteristics of the urban area. In terms of interior

architecture, the apartments with full facilities such as kitchens and bathrooms were diverse in size. The architecture of the blocks also changed. Vietnamese architects studied and contributed to the diversity and unique characteristics of each KTT (personal interview with Nguyen Quoc Thong, 24 April 2021).

Even in the present day, the residents of Kim Lien KTT often praise North Korea's architectural standards. They were especially impressed by the wide spacing between the blocks, considering it an important highlight left by Korean architects in Kim Lien. The Trung Tu area, built around the 1970s, designed by Vietnamese architects ten years after Kim Lien KTT, essentially kept the requirements for space between the blocks. The distance between the blocks was transferred from the Korean architects. Therefore, when looking from one block to another, it does not seem too close.

The case of Kim Lien KTT shows that the network of socialist countries was very effective in exchanging knowledge among intellectuals. Not only did Vietnamese intellectuals benefit from learning in universities and at convocational schools, but techniques, machines and other materials were also transferred. The Vietnamese architects were first the receivers of knowledge in Kim Lien KTT, but they actively applied this acquired knowledge to the particular conditions of Vietnam in the latter phase when building Trung Tu, Giang Vo and Thanh Cong KTTs. The next section delineates the struggle of Vietnamese architects for more privacy and convenience in these later KTTs.

Shared or Private Kitchen, Toilet and Bathroom: A Long-Term Struggle

Comparing the interior design of each apartment in Kim Lien KTT with other, later KTTs such as Trung Tu or Giang Vo, reflects the dynamic exchange involved in the planning and construction. For the living space in Kim Lien, according to the design of the Korean architects, on each floor there were two apartments on each side of the stairs. Each two-room apartment had a kitchen and a toilet, a bathroom separate from the living room in the entrance area. The area of each room was 18.2 square metres, with two large gable rooms, about 19.7 and 21.1 square metres (Dang Thai Hoang 1985: 39). The apartments were distributed by the state to officials, workers and public employees, initially according to salary and position, later taking into account the number of family members.[9] In fact, at that time only mid-level officials (department heads) could be allocated a two-room apartment, senior officials (deputy ministers) two apartments each, while the majority of officials and employees often lived together in shared apartments, or two families shared an apartment or even shared a room. In the early 1980s, the proportion of households sharing apartments/rooms in Kim Lien was about 61 per cent (Dang Thai Hoang 1985: 39). Certainly, single people living in the same room or apartment had to share kitchen, toilets and bathrooms. Many collective apartment blocks built later catered to the same lifestyle. This was the result of housing being built without

fully considering the acceptable standard of living and actual usability. While many residents considered the KTTs to be desirable alternatives to the rural or urban accommodation they were familiar with, it was the sharing of bathrooms and kitchens, intended as a basis for the creation of a collectively-minded new socialist person, that were thought of as alien to the Vietnamese way of life with its emphasis on the values and virtues of the family. Consequently, this was widely resented and is still remembered as an unwelcome and problematic part of KTT life.

In 1968–69, during the anti-American war, architect Truong Tung and his colleagues were assigned the design of a new housing complex project for Hanoi. He and his team took the opportunity to insert a totally different plan for interior spatial design into the scheme. Drawing on Kim Lien KTT's experience, he did not design a space of four to five large rooms; instead he built an apartment with two small rooms, designed with its own private kitchen and bathroom. According to the design standards at that time, six square metres were allocated for the common kitchen, so when he designed six households with separate kitchens, toilets and bathrooms, the private kitchens were only one square metre. Truong Tung became a pioneer in creating the self-contained apartment with a separate kitchen, toilet and bathroom in KTTs. In our interview with him in 2021, Truong Tung explained that he was prompted to make this decision because he had actual experience of sharing a kitchen, toilet and bathroom, and understood the inconvenience for people who had to share ancillary facilities. He said that after gaining his doctoral degree in the Soviet Union, and returning home in 1966, for the first four years he lived in a three-storey block in the Van Chuong residential apartment blocks. He and his wife had one bedroom, sharing the kitchen and bathroom with four to five other households. Every morning he had to wait for someone else to finish cooking before he could take his turn; not to mention that he had to wait in line to use the toilet. He recalled: 'So at that time, I thought a lot, I just want to make separate kitchens, toilets and bathrooms for each family so that the people won't suffer' (personal interview, 29 July 2021). On the other hand, Truong Tung not only experienced self-contained apartments when he studied in the Soviet Union, but he also studied self-contained apartments in many other countries. He still keeps a very valuable file that he brought back from the Soviet Union, which includes twenty-one floor plans of prefab houses according to the different types of apartments. Most of the space layout drawings in these self-contained apartments are houses from towns or cities in non-socialist countries such as Rotterdam, the Netherlands (1934, 1949), Chicago, USA (1952), London, England (1953), Antwerp, Belgium (1954), Kember, England (undated) and Karacas, Venezuela (undated). Thanks to these diagrams, he persuaded Vietnamese leaders to try to popularize the advanced method of building prefab houses and organizing apartments. The design of a self-contained apartment with a separate kitchen, toilet and bathroom was built as an experiment in the Van Chuong collective area, then in Truong Dinh, Trung Tu and in many other areas.

Truong Tung's design of the self-contained apartments was not an easy process. Architect Trinh Hong Trien later summed it up: 'The road to the "self-contained apartments" suitable today was a long struggle of exploration, experimentation, summary, policy formulation, and developing standards' (Trinh Hong Trien 1984: 22). In fact, the design standards issued in 1969 still stated that two small apartments should share an auxiliary area (kitchen, toilet and bathroom). However, many designs from this period until 1976 included the private auxiliary area in large apartments.

After the pilot period, in 1973 in a housing design contest, the State Construction Committee and the Ministry of Architecture (now the Ministry of Construction) selected seven residential models in the style of 'independent apartments'. A year later, in 1974, this committee and the Institute of Construction Science chose six designs for households. Hanoi became a pioneer for the study and construction of housing complex projects (Tran Minh Tung 2016: 20). In 1977, the government officially introduced the design standards for housing construction in which 'each allocated family must have an individual kitchen and washroom' (Government of Vietnam 1977, Decree No. 150-CP).

The struggle for the inclusion of private auxiliary areas in an apartment for one household took about ten years. Architect Tran Minh Tung also considered it as the creative acquisition of Vietnamese architects in terms of adjusting the small area to suit the living standards in Vietnam. He pointed out that in the traditional space organization of the Vietnamese people, the kitchen, toilet and bathroom were secondary spaces, often arranged separately from the living space. In the beginning in the collective residential houses, therefore, this auxiliary zone was arranged separately from the main residential block. Later, it was integrated into the main residential block but still separated from the living space. Finally, the new kitchen, toilet and bathroom were included in the apartment, forming a self-contained apartment (Tran Minh Tung 2016: 21). In the process of dealing with the relationship between the living rooms and the space for the kitchen, toilet and bathroom, there has been a step-by-step change over several decades. This relationship clearly shows the transformation from the riverside collective houses to the Kim Lien, Nguyen Cong Tru and finally the Trung Tu and Giang Vo KTTs. Tran Minh Tung calls it the process of becoming 'more Vietnamese' or 'Vietnamization', and a move towards 'modern' apartments (Tran Minh Tung 2016: 20, 138). This process reflects the active role of Vietnamese architects and engineers in adapting an apartment design from foreign architecture to meet the needs and usage of Vietnamese people.

The Story of Large Prefabricated Panel Construction

The design of living space was not the only arena in which Vietnamese architects showed ingenuity; aspects of the construction process were also subject to inventive reformulation. This section will highlight the innovative ideas of

Vietnamese architects under the conditions of a country in wartime. It helps show the clever application of Soviet construction knowledge in Vietnamese conditions.

In 1960, the first four-storey house in Zones A and B of Kim Lien KTT was built with small prefabricated concrete panels, 20 cm thick load (Dang Thai Hoang 1985: 39). This was the first project to apply mechanized construction methods with the help of North Korean experts. The prefabricated structure was made of large-sized cinder-concrete wall blocks and reinforced concrete floor and roof panels. Meanwhile, four-storey houses in Nguyen Cong Tru KTT and other areas at that time were mainly built with brick walls and floors with reinforced concrete cast.

In 1970, nearly ten years after the first building of Kim Lien KTT, architect Truong Tung and his colleagues creatively applied the method of assembling large-panel houses with concrete frame slag. In 1966, Truong Tung had defended his PhD thesis entitled 'Design and Construction of Industrialized Houses in Hanoi' in Moscow, Soviet Union. At that time the Soviet Union was in a boom period of large-panel house assembly. The construction technology here was highly mechanized, manufacturing panels in the factory and assembling large-panel houses by mechanization. Truong Tung was able to intern in many concrete casting factories in Moscow and Kiev. When he arrived in Tbilisi, Georgia, he learned how to cast concrete at the site, on the ground, using the heat of the sun.

When he returned to Vietnam, many buildings including residential structures in Hanoi had been destroyed by American bombing raids. He said that if the government wanted to build quickly, they would have to use a prefabricated technique. However, construction in Vietnam was still being done by manual labour. He proposed and chaired the implementation of a pilot project for a two-storey building constructed from prefabricated concrete panels to be built on the campus of Hanoi's University of Science and Technology in Bach Khoa commune in 1970. Truong Tung said that he once went out onto the banks of the Red River and saw that people had thrown away excess coal slag from a power plant. He said: 'They throw away what I need!' (personal interview, 29 July 2021). He proposed making the panel out of concrete and slag. This new prefabricated slab combines concrete and slag concrete rather than only slag concrete, because a slag concrete slab could not withstand bombing. But how to make these large panels without a factory? He applied his experience from Georgia, taking advantage of the hot and humid climate in Vietnam to cast large slabs of concrete on the ground at the construction site, creating prefabricated structures that could be installed immediately. Truong Tung commented: 'Compared to the building panels that North Korea made for us in Kim Lien, our panels are much larger. We can build one room for every four panels. As for the North Korean way, they built large blocks of bricks into a room. They also made slag concrete, about 20 cm thick, while our concrete slab was only 10 cm thick, but very sturdy' (personal interview, 29 July 2021).

To assemble the large concrete slabs at that time, Truong Tung only had a wheeled crane used to salvage collapsed buildings after the war. This wheeled crane needs be anchored with a stone to keep the base heavy to prevent it from tipping over. After the completion of the house in Bach Khoa, this team started piloting in Van Chuong and then Truong Dinh, Trung Tu and many other places. In 1972, during construction of a two-storey house in Truong Dinh, the area was bombed by the US. The main area affected by the bomb was the second floor, but the house did not collapse. Truong Tung said: 'While we were cleaning the scene, people kept rushing in. I asked them, "What are you wanting to see?" They replied: "To see if the house is durable!"'.

Truong Tung's memories are supplemented with a document written at the time of the implementation of his projects. Fortunately, within the files from Professor Dr Nguyen Van Huong (1927–96), which are kept at the Center for Heritage of Vietnamese Scientists, there is a handwritten paper titled *The Problem of Building Housing for People and Officials in Hanoi*.[10] This paper was written by Professor Nguyen Van Huong to present at the National Assembly meeting on 24 March 1972. Professor Nguyen Van Huong at that time was Vice Rector of Hanoi University of Civil Engineering (1971–77), where architect Truong Tung was a lecturer. From 1969, Truong Tung was the head of the experimental research team on prefabricated houses in Hanoi, with close cooperation between the University of Civil Engineering and the University of Architecture. Professor Huong said that this team had 'the task of researching [everything] from building materials to the design and construction of houses and then setting out the industrial procedure for construction sites to construct a series of factories' (Nguyen Van Huong 1972).

This paper presented the methods for building new houses and ensuring that they could be constructed quickly as well as being durable and economical; this was what the research team of Dr Truong Tung had been implementing. It pointed out that if the experiment was successful, it would contribute to speeding up the construction of a modern city. Professor Huong assessed the situation: 'This is a modern method that is different from the usual pour-in-place method, allowing large batches of wall and floor panels to be cast at the construction site and then reassembled without the need for moulds and scaffolding at the site. It helped overcome the lack of materials such as wood and plank. The assembly was mostly done by mechanized methods, implementing lines and specialist techniques at some stages. As a result, it is possible to increase construction speed, which cannot be achieved by traditional methods, as well as reduce the time to train workers' (Nguyen Van Huong 1972). He pointed out that in Kim Lien KTT, with the help of North Korean experts, the blocks were built by small plate assembly. This was not as good as the new method.

In fact, after three years of piloting the new construction method that architect Truong Tung had brought back from Moscow and had applied creatively in Hanoi, the volume of housing in Hanoi increased significantly. Professor Huong reported that by early 1972, 'Hanoi had built 70,000 square metres of housing

by this method. In 1971 alone, 40,000 m^2 was built, mainly prefab houses with 4–5 floors. The house style was also gradually improved from two floors to five floors. Each apartment was equipped with bathrooms, toilets and kitchens, which were convenient for living' (Nguyen Van Huong 1972).

Architect Trinh Hong Trien later also assessed the application of this new construction method: 'The large-panel assembly method has many creative applications suitable for the material and technical conditions of our country. This structural system with simple joints, which is easy to construct, has been tested through the American bombs in 1972 in Truong Dinh area. Five-storey prefab houses were built on a large scale in Giang Vo, Trung Tu, Thanh Cong, Quynh Loi, Vinh Ho, and Khuong Thuong KTTs in the years 1971–1980' (Trinh Hong Trien 1984: 22).

The story of architect Truong Tung and the application of the prefabricated construction method with large concrete slabs shows us the importance of knowledge exchange and sharing not only internationally but also within intellectual communities in Vietnam. This knowledge, in the case of architect Truong Tung, prompted a rapid change in the construction of apartment buildings in Hanoi, not only in quantity but also in quality.

Collective Residential Apartment Blocks: The Intellectual Exchanges

Exchanges on Planning and Design

The idea of the KTT was undoubtedly imported from abroad. In the planning and design process, Vietnamese planners and architects worked closely with experts from other socialist countries such as Russia, China, North Korea and East Germany. The research carried out by Christina Schwenkel (2020) in Vinh city also indicates that East German experts came to cooperate with Vietnamese architects in making a plan for rebuilding the city around 1973. Although Schwenkel's findings point out a variety of anecdotes/narratives on whose ideas contributed to the plans, it shows that the final master plan was the result of cooperation between the experts and Vietnamese architects and planners. Although the role of the stakeholders in this case could be viewed differently as the East Germans were mentors/trainers and the Vietnamese were mentees/trainees, both groups claimed their contribution to the master plan. Moreover, Schwenkel affirms that 'the exchange of planning knowledge was multidirectional and also included South-South exchanges, such as the training of Vietnamese architects in China and Cuba' (Schwenkel 2020: 142). Vinh city, therefore, was no different from the situation in Hanoi.

The role of Soviet expertise in the Hanoi master plan was affirmed by the studies of Lisa Drummond and Nguyen Thanh Binh (2020); Dinh Quoc Phuong (2019); and N. Hong and S. Kim (2020). The location of the KTTs was determined according to the Hanoi master plan, which was established by the

government with the assistance of Soviet urban planners in the 1960s (Tran Minh Tung 2016). At that time, the plan was designed to expand the city's urban territory to the southwest from the city centre, ensuring the development of socialist industrial zones and universities with large-scale collective housing areas on the city's outskirts (Hong and Kim 2020: 603). However, none of these scholars mentioned above details the role of Vietnamese architects in the planning process. While discussing the planning of Hanoi in the 1960s, Lisa Drummond and Nguyen Thanh Binh focused on the case of Nguyen Cong Tru KTT. As mentioned in the previous section of this chapter, Nguyen Cong Tru KTT was the first multi-storey KTT to be built in Hanoi, followed by Kim Lien KTT, Giang Vo KTT and Trung Tu KTT. One reason for this was that its first design planned this area 'simply as a high-density solution to the pressing demands for housing supply' (Drummond and Nguyen Thanh Binh 2020: 73). By 1963, after its construction was complete, Vietnamese officials began to discuss the design principles of the Soviet concept of the *microraion*, or micro-district (Drummond and Nguyen Thanh Binh 2020: 73). According to the *microraion* concept, an urban residential complex is a self-contained neighbourhood unit, meaning that it includes not only residential buildings but also basic services and amenities for daily life. Nguyen Cong Tru KTT was then expanded with a canteen, primary school and kindergarten. Dinh Quoc Phuong (2019) argues that Nguyen Cong Tru KTT, together with other KTTs in Hanoi, 'represent an important layer of Hanoi's architecture' (Dinh Quoc Phuong 2019: 313). In fact, Hanoi's KTTs display a link to the Soviet-style architecture.

Hong and Kim point to the construction of KTTs as a solution to the rapid urbanization and the shortage of housing in Hanoi. They write: 'The KTTs model in Vietnam was a localization of the micro-district and contributed to Hanoi's transition into a socialist city. The idea of socialist collective housing was conceived not only to cope with the rapid urbanization but also to realize an ideal socialist society with modernized and standardized collective living. Under this approach, the state actively built the KTTs in the peri-urban areas of Hanoi from the 1960s onwards' (Hong and Kim 2020: 603).

The cases of Ngo Huy Quynh and Le Van Lan in this chapter help show the vision of Vietnamese architects in the process of making the Hanoi master plan in the 1960s. Ngo Huy Quynh not only contributed to the plan but also brought his thought to the socialist world when presenting his paper in Poland in 1960. While many scholars focus their analysis on the influence of Soviet style in the KTTs in Hanoi, this chapter points out the opinions of Vietnamese architects in applying Vietnamese knowledge to the plan, particularly within the ideas around the tropical climate and traditional vernacular architecture. One such application was the south/southeast-facing building in order to take advantage of the most favourable wind in the hot climate of Hanoi (Nguyen Phu Duc 2011). Even in the present day, this standard is still applied in construction work. This case suggests that the KTTs in Hanoi were the product of exchange between intellectuals of both Vietnam and the socialist world.

Exchanges on Building Methods

Four-storey KTTs of Nguyen Cong Tru were the first mid-rise buildings to be constructed in Hanoi after 1954. Before this time, people in Hanoi were only familiar with French-style villas and urban tube houses in the Old Quarter. Therefore, in order to build a Soviet-style apartment complex, Vietnamese engineers and architects needed to rely on the building methods and technology of the socialist countries. The exchange of construction methods in this period deserves significant discussion. China, East Germany, North Korea and Russia were still the advisers for methods and donors of technology for KTT constructions. The anthropologist Christina Schwenkel also points out that the authorities understood that to build a future-oriented Vinh city, 'it was necessary to establish a building materials industry that could construct public works over the long term' (Schwenkel 2020: 155). To keep up with the pace of construction, the building materials industry and mechanization technology needed to be prioritized. The same view was demonstrated in Hanoi with Nguyen Cong Tru KTT and Kim Lien KTT in the early 1960s. Drummond and Nguyen Thanh Binh indicate that Nguyen Cong Tru KTT was built using 'the building materials and technologies employed under the colonial regime: brick load-bearing walls, tiles roofs and concrete panel floors. It was built to be sound and permanent' (Drummond and Nguyen Thanh Binh 2020: 72). However, the building methods and materials were not the same in all KTTs. Each one was built by different methods due to the approval of the city authorities and the available materials. Therefore, while Nguyen Cong Tru KTT was built with bricks, Kim Lien KTT was approved to be built using prefabricated materials (Drummond and Nguyen Thanh Binh 2020: 72).

Discussing the building materials for Kim Lien KTT in Hanoi, this chapter has pointed out the role of architect Truong Tung in applying Western technology in order to create large panel prefabs in the climate of Hanoi. While Drummond and Nguyen Thanh Binh (2020) acknowledge the different building materials between Nguyen Cong Tru KTT and Kim Lien KTT, the role of Vietnamese architects and engineers is overlooked. Hong and Kim (2020) as well as Dinh Quoc Phuong (2019) also seem to take for granted that prefabricated materials were merely imported from Soviet countries. The case of Truong Tung here suggests that technology and methods should be seen as moving in a progressive direction in which the successors have continuously contributed to their predecessors' work. Without the invented slag-concrete prefabricated slab method in the 1970s, the later KTTs such as Giang Vo and Trung Tu may not have been built at such a quick pace. This example also demonstrates the active attitude of Vietnamese engineers when dealing with the shortage of materials. These practices helped Vietnam overcome the fact that material donations to the 'Third World' were 'second hand', and 'already obsolete', as mentioned in the case of Quang Trung KTT in Vinh city (Schwenkel 2020: 157).

Exchanges on the Idea of Building a Socialist Country

Finally, the idea of building KTTs as part of creating a socialist society is shared among the published work on KTTs in Vietnam. While Dinh Quoc Phuong (2019) points out the influence of the Soviet socialist ideology on Hanoi's urban fabric, Hong and Kim (2020: 602) argue for a localization of the *microraion* (micro-district) concept introduced by the Soviet Union. During the Vietnam War (1955–75), a principal policy was that houses and land were under the control of the Vietnamese government. Therefore, Hanoi's government implemented subsidized public housing schemes for its employees and staff. Housing construction also reflected the ideological orientation of Vietnam, which supposed that the state would provide and control all aspects of everyday life – including work, consumption and residence. Although the idea of socialist collective housing was conceived not only 'to cope with the rapid urbanization but also to realize the ideal socialist society with modernized and standardized collective living' (Hong and Kim 2020: 603), it is also criticized for being built unilaterally without any resident participation (Drummond and Nguyen Thanh Binh 2020: 84).

The result of the implementation is that although it provided housing for thousands of people, many problems were reported by, and among, residents soon after they moved in. Drummond and Nguyen Thanh Binh point out that Nguyen Cong Tru KTT residents complained that the shared kitchen and bathroom among the multiple households on every floor created tension among the residents (Drummond and Nguyen Thanh Binh 2020: 74). While some people wanted to keep them clean and tidy, others failed to maintain them in good condition. Moreover, the living environment became crowded, dirty and smelly, with chicken coops being housed there and pigs being raised in the bathroom. The same situation was reported in Kim Lien KTT. Our respondents in Kim Lien KTT shared a number of narratives on how raising chickens and pigs in the shared space helped them overcome economic hardship during the difficult economic period of 1976–86.

However, the shared auxiliary space in KTTs ceased to exist in later KTTs such as Van Chuong, Giang Vo and Trung Tu. This was the result of the diligent work of Truong Tung, as shown earlier in this chapter. Recognizing the irrationality of the shared space among the apartments, Truong Tung, together with his colleagues, succeeded in designing and persuading the authorities to approve the new model. The self-contained apartments then became the standard and resolved the tensions among residents. However, as shown, it was the process of Truong Tung's learning from Western countries such as the Netherlands, Belgium and England together with his determined efforts when struggling with the leaders of the Ministry of Architecture of Vietnam that enabled the KTTs to be built. The example also adds to the main argument that a one-size-fits-all model cannot be applied to different societies. Insiders with their experience and acquired knowledge can effectively contribute to the improvement of this housing.

Today, KTTs continue to be a symbol of the influence of the Soviet-supported period. But everything in KTTs has changed since the Government of Vietnam changed its policy in 1986. The market economy gradually expanded through its economic and social policies. People in KTTs quickly took these opportunities to change their livelihoods, to earn more money for their families and to make their life better. Adapting to the new economic policies, the residents of KTTs directly changed the architecture of the buildings and the space of each of these areas. First-generation, second-generation and new owners were the main agents that began to erase the old face of KTTs, creating a new appearance that even the people who made the rules and the architects who designed them could not have imagined. These changes were not the dreams of architects and social managers, but met the needs of residents living in the KTTs.

Conclusion

The case of the Hanoi KTTs is such a striking instance of intellectual exchange partly because these mass housing projects have been so widely thought of both within and beyond Vietnam as passively accepted features of Soviet Union influence. However, this chapter has shown that the opposite is true: the Vietnamese demonstrated agency within the scientific modernism deployed and embraced the opportunities of the postcolonial context. This chapter has shown multiple aspects related to the establishment of Soviet-style apartment complexes in Hanoi since the 1960s. The materials indicated that although the idea of constructing KTTs fitted in with the socialist building ideology, its implementation proved that KTTs in Vietnam were not a model copied from other socialist countries. Instead, the various styles of KTTs were the result of a negotiation process among architects, engineers and planners at multiple levels across decades. Vietnamese people were not only students in this field but also became experts and were able to apply their acquired knowledge from abroad to create a solution to the housing shortage in Hanoi. Their diligence and determination helped them recognize the problem of the Soviet-style KTT model and then propose a change in both construction methods and the designation of the living environment. These Vietnamized version of KTTs indicated that Vietnamese intellectuals not only applied the Eastern European training and knowledge to their practice but also actively responded to the worldwide architectural and engineering discipline. The examples in this chapter help to advance Bayly's ideas around the cultural capital of intellectuals in socialist countries.

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Notes

1. This later became the Department of Urban and Rural Affairs, then the Institute of Urban and Rural Planning Design, Ministry of Construction.
2. See https://www.viup.vn/vn/Lich-su-int23.html. Information about the Vietnam Institute for Urban and Rural Planning.
3. See https://moc.gov.vn/vn/tin-tuc/1184/8591/nua-the-ky-vien-quy-hoach-do-thi--nong-thon.aspx. Information about the Vietnam Institute for Urban and Rural Planning on the website of the Ministry of Construction.
4. Ngo Huy Quynh refers here to the vernacular architecture in Vietnam.
5. See https://www.viup.vn/vn/Lich-su-int23.html. Information about the Vietnam Institute for Urban and Rural Planning.
6. However, according to architect Đào Ngọc Nghiêm, this area consisted of 38 four-storey blocks and some public buildings with the capacity for 2,600 households, and the standard for eight square metres per person. See https://vnexpress.net/dau-an-trieu-tien-trong-khu-tap-the-60-nam-o-ha-noi-3887895.html.
7. See https://vnexpress.net/dau-an-trieu-tien-trong-khu-tap-the-60-nam-o-ha-noi-3887895.html. Information about the Remarks of North Korea in Kim Lien KTT in Hanoi after 60 years.
8. In Vietnam, a house facing the south or southeast is most favoured.
9. See https://m.thuvienphapluat.vn/van-ban/lao-dong-tien-luong/thong-tu-529-ttg-quy-dinh-tam-thoi-che-do-nua-cung-cap-hien-nay-21668.aspx and https://m.thuvienphap-luat.vn/van-ban/bat-dong-san/quyet-dinh-150-cp-tieu-chuan-phan-phoi-dien-tich-lam-viec-dien-tich-o-17679.aspx. Information about two legal documents: Circular No.529-TTg of Prime Minister in 1958 on Temporary Regulations on Distribution Policy; Decision No. 150-CP of the Government of Vietnam in 1977 on promulgating standards for distributing living space and working space.
10. Nguyen Van Huong was a member of the 4th National Assembly (1971–75); see Nguyen Van Huong (1972).

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