



## Transplanting Hong Kong High-rise Housing During the Time of Transition: Wanglongmen Residential Quarter, Chongqing, 1982-1992

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Hong Kong has been influencing the urban development of Chongqing since China's post-1978 reform, which is a significant aspect of the contemporary urban history of Chongqing that remains unstudied. This case study focuses on the planning, design and implementation of Wanglongmen residential quarter project (1982-1992) to preliminarily explore how Chongqing learned from Hong Kong in pursuit of modernity in the early reform. The study finds that its planning and design were inspired by orthodox Hong Kong high-rise housing mode, but when transplanted to Chongqing, such mode interacted with the legacies of China's pre-1978 planned-economy era, including small economic volume, underdeveloped housing commodification owing partly to ideological controversy, and vague building code. The interactions produced walk-up high-rise residences, and influenced building massing and landscaping. Besides, the logic behind some design tactics changed from pursuing commercial profit to pursuing public interest during the transplantation. The paper argues that when China was transforming from planned economy to market economy in the early reform, the influences from Hong Kong were emerging but the remains of the planned-economy era still prevailed. Such interim hindered Chongqing from duplicating Hong Kong housing comprehensively, but enabled Chongqing to reproduce Hong Kong's modernity in an innocent and creative way.

**Keywords:** Housing; China's Early Reform; Hong Kong; Transplantation; Planned-economy Legacies

### Introduction

Mainland China re-opened itself to the western world since 1978 to practice economic reform, trying to receive overseas influences as a way to modernize the state. During the early reform era, the first wave of impact on mainland China was from overseas Chinese regions, including Hong Kong.<sup>1</sup> Hong Kong was a developed region with overseas identity but geographically adjacent to mainland, and Hong Kong residents were familiar with Chinese culture and could effectively communicate with mainland in Chinese language, which facilitated the communication and exchange between mainland and Hong Kong. Hong Kong had significant influences on the architectural and urban modernization of mainland China in the reform era. For example, in the early reform, by referring to Hong Kong, mainland was able to develop land marketization and housing marketization, and by introducing the practice of Hong Kong architects to mainland cities, mainland was able to be familiar with the modern design concepts and approaches of some building types (such as international hotel).<sup>2</sup>

As an inland major city of China, Chongqing was influenced by Hong Kong at the outset of reform as well. Wanglongmen residential quarter was among the earliest modern high-rise residential quarters of Chongqing. The project was conducted from 1982 to 1992, a period when China was transforming from the socialist planned economy system to the market economy system, and when Hong Kong high-rise housing cases were being introduced to mainland China. The general layout, individual building design, flat type design and landscape design of the project were all influenced by Hong Kong. However, the finalized design scheme was significantly different from the orthodox Hong Kong high-rise housing. The case study analyses the process of Wanglongmen residential quarter design to answer the following questions: what influences did Hong Kong have on the planning and design of Wanglongmen residential quarter? In what ways did the architect absorb such influences, and how were the ways of absorbing the influences related to the context of China's early reform? The paper attempts to contribute to the research of the influences of Hong Kong on the urban development of Chongqing during the early reform, a significant aspect of the contemporary urban history of Chongqing that remains to be explored.

### Learning from Hong Kong Proactively: Designing Wanglongmen High-rise Residential Quarter

During the socialist planned-economy era before 1978, China followed the development strategy prioritizing production over consumption. Industrial development gained priority, while housing, categorized as part of social welfare and not directly productive, did not receive adequate investment. Such development mode incurred low-level housing development and housing shortage.<sup>3</sup> During the early reform era, Chinese cities launched urban regeneration and attempted to resolve urban housing shortage.



Located on the riverfront mountainous slope of Chongqing, Wanglongmen area used to be a shanty town with poor living conditions.<sup>4</sup> In 1982, the Real Estate Bureau of Chongqing (hereafter abbreviated as REBC) listed Wanglongmen area as one of the key areas for regeneration.<sup>5</sup> The regeneration of Wanglongmen area was primarily aimed at resolving the housing shortage and improving the living conditions of local residents by replacing the shanty town with modern residential environment, rather than pursuing commercial profit: the commercial property market in the early 1980s of Chongqing remained to be developed.

REBC entrusted the regeneration design to the local architect Congzheng Zhang.<sup>6</sup> Assisted by his colleagues, Zhang produced a design of high-rise residential quarter for Wanglongmen area in 1983.<sup>7</sup> Zhang planned to set high-rise residences along the edge of the site (Figure 1), arguing that such layout could not only accommodate all the residents wishing to move back after the regeneration, but also leave adequate open space at the centre of the area.<sup>8</sup> Therefore, Zhang set five high-rise buildings along the edge of the site, including Building I, II, III and V as residences and Building IV for office and commerce use.<sup>9</sup> By applying high-rise housing, the number of households the site could accommodate raised: before regeneration, 494 households were to be relocated, while Wanglongmen residential quarter would provide dwelling for 901 households.<sup>10</sup> Meanwhile, the site coverage decreased from 67% to 44%.<sup>11</sup>

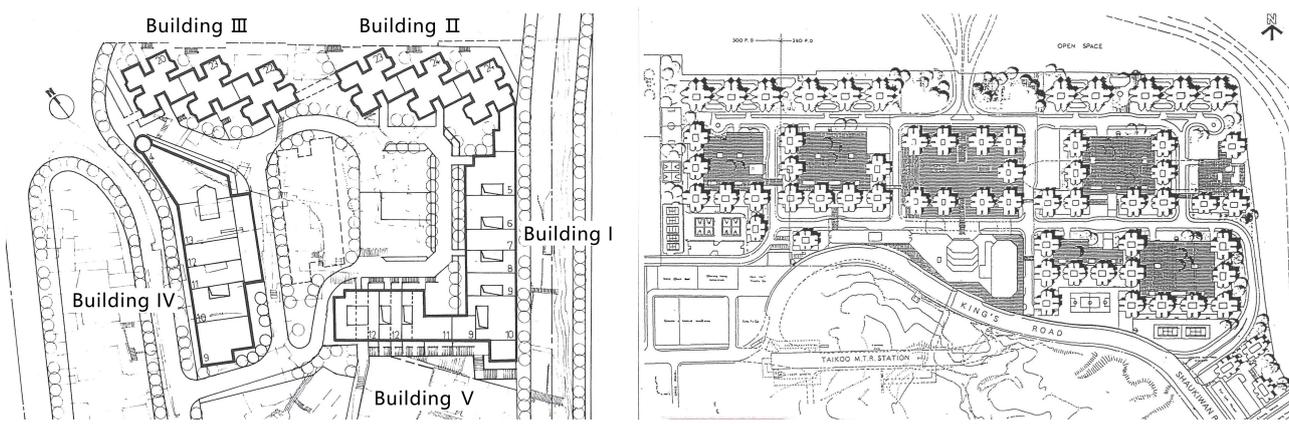


Figure 1. The Master Plan of Wanglongmen Residential Quarter in Chongqing (Left) and Taikoo Shing in Hong Kong (Right)

As Zhang recalled, in the early reform era, mainland architects were beginning to be exposed to Hong Kong high-rise housing cases.<sup>12</sup> In the mid-20<sup>th</sup> century, Hong Kong bore massive influx of immigrants from mainland China.<sup>13</sup> In 1956, Hong Kong government released the new Building Ordinance allowing the increase of building height to accommodate the increasing population,<sup>14</sup> which triggered the high-rise development in Hong Kong. Faced with constructive land shortage, both the public housing and commercial housing development in Hong Kong fought for every inch of land: public housing strived to increase the number of floors to provide residential space for the soaring population, while commercial housing increasingly added floors to enhance plot ratio to maximize commercial profit. Besides, both of them evolved towards modern high-rise residential quarters with integral planning and equipped with comprehensive supporting facilities. Such residential quarters as public housing appeared in the late 1950s, represented by North Point Estate (completed in 1957).<sup>15</sup> For commercial housing, in the late 1960s, as the economy of Hong Kong started to take off, the middle class of Hong Kong emerged, and their demand for housing promoted commercial housing development, and high-rise residential quarters with superior quality started to be popularized after the commercial success of Mei Foo Sun Chuen (developed from 1965-1978).<sup>16</sup>

Since China's reform, the planning and design approaches of high-rise and high-density residential quarters in Hong Kong were widely introduced to mainland China, and "it was fashionable at that time to learn from them."<sup>17</sup> By reviewing the available papers published in mainland architectural journals between 1978 and 1983 that involved high-rise and high-density housing development of Hong Kong,<sup>18</sup> one can catch a glimpse of how mainland architects at that time perceived Hong Kong high-rise housing:

Firstly, on the one hand, some of such papers emphasized the capitalist nature of Hong Kong and its housing problems incurred partly by capitalism and free market, such as high housing price, scarce housing resources and uneven distribution of housing resources to different social classes; on the other hand, most papers accepted and praised Hong Kong high-rise and high-density housing design approaches, and expressed the authors' eagerness



to learn from them. This to some extent reflected an ambivalent attitude of mainland Chinese towards overseas civilization during the early reform.

Secondly, these papers frequently referred to some Hong Kong housing design approaches, including: the comprehensive planning of residential quarters; taking advantage of high-rise housing to increase residential density and decrease site coverage simultaneously; the mixed-use development of residential quarters; the emphasis on landscaping for exterior space, even if such space was very limited; the three-dimensional design mode, such as “podium & tower” mode;<sup>19</sup> the popularity of high-rise tower, or the connection of individual high-rise towers into a slab; and the popularity of the concept of “living room” in the flat type design in Hong Kong. These Hong Kong high-rise housing design tactics had profound influences on mainland urban housing development.

The design of Wanglongmen residential quarter coincided with some of the features listed above. Firstly, as aforementioned, Zhang placed high-rise residences on the site edge and left open space in the middle to increase residential density and decrease site coverage simultaneously, and it was inspired by Hong Kong. In addition, when the concept of living room was not popularized in mainland during the early reform, in Wanglongmen residential quarter design, each household in Building II and Building III was equipped with a living room, which was also influenced by Hong Kong. Furthermore, the plans of Building II and Building III were not perpendicular to the riverbank, but were rotated to provide river view to as many households as possible. At that time, Taikoo Shing, a large scale commercial residential quarter in Hong Kong, was frequently exposed in mainland architectural journals. In this project, the edges of the plans of the 13 residential towers set closest to Victoria Bay were not parallel to its waterfront bank line. Instead, such plans were diamond-shaped to provide more households with river view,<sup>20</sup> and this inspired Zhang to rotate Building II and Building III for the same purpose. These features demonstrate the influences of Hong Kong high-rise housing on Wanglongmen residential quarter in China's early reform.<sup>21</sup>

### **The Controversies of High-rise Housing in the 1980s of China**

However, when Hong Kong high-rise housing mode was being introduced to mainland in the early reform, whether high-rise housing was suitable for relieving urban housing shortage was controversial in China. The proponents argued that high-rise housing would help save land resources, improve the living condition of the residents, increase urban greening, enhance residential density, and modernize the cityscape; the opponents argued that high-rise housing would demand high investment, long duration of construction, high consumption of energy and building materials, and provide the residents with less livable environment, etc.<sup>22</sup> Elevator was an important factor that put high-rise housing in dispute. For example, during the National Colloquium on the Economic Effects of High-rise Housing held in 1981 in Shanghai,<sup>23</sup> the participants pointed out that the cost of the operation and maintenance of elevators was the main source of the everyday operation cost of high-rise residences. For instance, “the total cost of elevator operation and maintenance of the high-rise in residences in Qiansanmen area in Beijing in 1980s reached 750000 yuan, while the rental income of these residences was no more than 500000 yuan, insufficient to cover the expenses incurred by elevators. In Shanghai, for the high-rise residences in such areas as Baijiudian, Beizhan, Lujiazhai and Caixibeilu, the cost generated by elevators took up 61%-98% of the rental income of high-rise residences.”<sup>24</sup>

Therefore, developing high-rise housing in the early reform was a challenging option, and scarce finance was an important obstacle. It should be noted that such scarcity was not only because of the small economic volume of China in the early reform era, but also partly because of the economic system then: although the state initiated housing reform since 1979,<sup>25</sup> in the early 1980s, due to the remains of China's socialist planned economy, whether urban housing should be regarded as commodity remained ideologically controversial: some insisted on the nature of housing as welfare, while some totally denied it, or regarded its nature as the combination of welfare and commodity.<sup>26</sup> Such controversy to some extent impeded housing commodification in the early 1980s, and hindered the diversification of the sources of housing finance, which partly contributed to the shortage of housing investment as well.

However, REBC accepted Zhang's high-rise housing scheme, largely because the residences in the scheme were not equipped with elevators at all.

### **Localizing Hong Kong High-rise Housing: Walk-up High-rise Residences**

Zhang faced two problems during the project design. Firstly, high-rise residences would request the provision, operation and maintenance of elevators, imposing significant financial pressure on the project owner and the residents, thus reducing the feasibility of project implementation. Secondly, the project was located on the riverfront mountainous slope: when the residents returned, they would have to walk down 20-38m on the slope to



the bottom floors of the residences and take elevators to ascend to their respective households; when they went out, they would have to climb 20m-38m up the slope on foot after descending to the bottom floors by elevator.

Zhang attempted to resolve the two problems simultaneously by taking advantage of mountainous topography to equip the residences with extra entrances that directly accessed the middle floors. Taking Building II and III as an example: Zhang set an elevated corridor that connected the waists of Building II and III with the top of the adjacent slope, so that the residents could directly enter the waists of Building II and III without walking down the slope, and then ascend or descend to respective floors on foot, which could significantly reduce the vertical walking distance (Figure 2). Also, by controlling the elevation of the corridor and the height of Building II and III, Zhang managed to guarantee that any resident in the buildings could access the nearest entrance by ascending or descending no more than 9 floors. In 1983, the first version of *Code for Fire Protection Design of Tall Buildings GBJ45-82 (Trial)* was put into trial. In this building code, residences with no more than 9 floors were categorized as multistory buildings.<sup>27</sup> As the earliest version of *Code for Fire Protection Design of Tall Buildings* in mainland China, the code remained to be deepened, and did not allow for the condition of building practices on mountainous topography. In other words, whether the residences in the cases such as Wanglongmen residential quarter should be considered as the high-rise or the multistory was not specified in the code. By taking advantage of the vague point of the code, Zhang argued that Building II and III could be built following the standards of multistory residences, so that the installation of elevators could be cancelled to save budget.

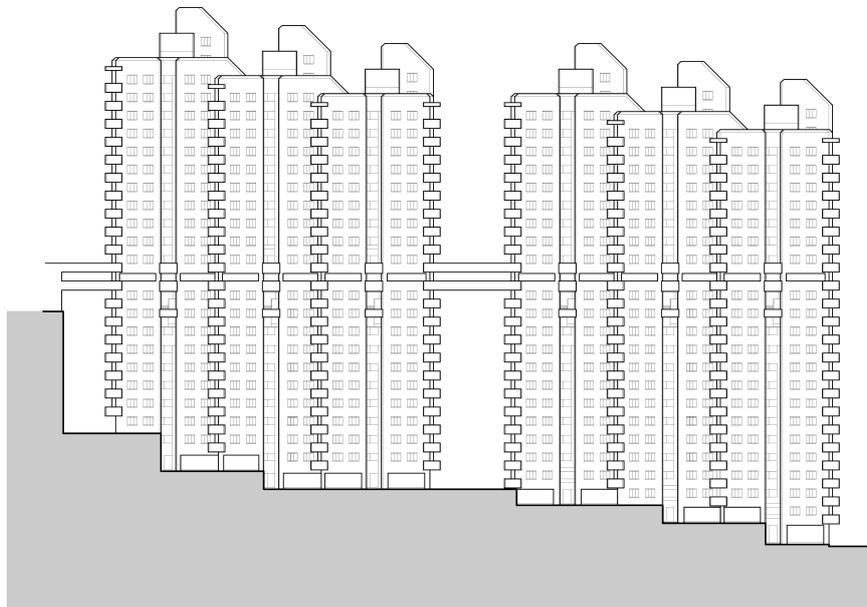


Figure 2. Transforming the High-rise into the Multistory with the Corridor by Taking Advantage of Mountainous Topography

As an approach without any historical precedent, the design of walk-up high-rise residences triggered controversies and doubts. To verify whether this design approach was really reasonable, by taking Building II and III as an example, Zhang compared the proposal of “walk-up high-rise residences with elevated corridor” with “high-rise residences with elevators without elevated corridor”, calculating the estimated vertical walking distance of the residents and the estimated investment in respective cases. As the result indicated, in the condition of “high-rise residences with elevators without elevated corridor”, the residents of Building II and III would have to ascend and descend on foot for a daily total height of 21.57km, while such height would be only 10.77km in the condition of “walk-up high-rise residences with elevated corridor”. In the aspect of investment, for Building II and III, the estimated cost of the construction and management of elevators was 2.097 million Chinese yuan, while it would cost only 0.3385 million Chinese yuan to build the elevated corridor.<sup>28</sup> Therefore, Zhang managed to convince different parties that the proposal of walk-up high-rise residences with elevated corridor could save both climbing distances and cost, and the proposal was finally accepted by all parties. However, Zhang still reserved the space for elevator shaft in each residential unit of Building II and III (Figure 3), in case of the future need for elevators.

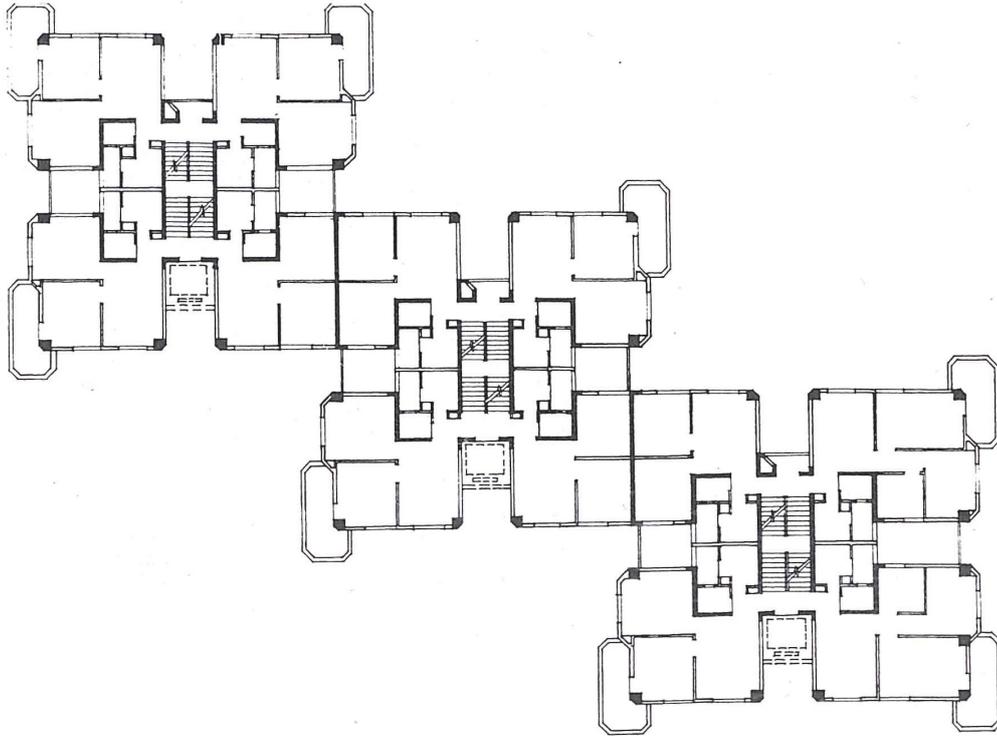


Figure 3. Zhang Reserved Space for Elevator Shafts, Marked with Dotted Lines

Wanglongmen walk-up high-rise residential quarter was a variation of Hong Kong high-rise housing planning and design mode after being introduced to Chongqing. On the one hand, it was the shortage of housing investment that led to the cancellation of elevator installation; on the other hand, the vagueness of building code facilitated such adjustment. The investment shortage, as aforementioned, was not only due to the small economic volume of China during the early reform, but also because of underdeveloped housing commodification in China's early 1980s partly because of ideological controversy.<sup>29</sup> The vagueness of building code was another legacy of planned-economy era that reflected the backwardness of housing development techniques in the planned-economy period and its low starting point of development in the early reform. Therefore, Wanglongmen walk-up high-rise residential quarter was produced by the interaction between the high-rise housing mode introduced from Hong Kong and the economical, ideological and technical legacies of China's planned-economy era.

Such interaction also affected the massing of Building I along the riverbank. Compared to the other three residences, Building I could offer its households the best access to river view, which would be a significant selling point for commercial property today. However, instead of maximizing its volume, Zhang shaped it into a terraced form, which generated a void of 60 meters wide so as to "provide access to beautiful river view to around 75% of the households in the residential quarter".<sup>30</sup> In other words, by sacrificing the number of households in Building I with the best river view, Zhang created the terraced form for public interest. Since the 1990s, however, as housing commodification developed in Chongqing, commercial property projects occupied riverfront sites with maximum development intensity competing for access to river view as a selling point, and a growing number of commercial high-rise residences along the riverbanks formulated a "high-rise wall" that separated the rivers from the built areas behind the riverbanks, privatizing the river view and making it the privilege of the households closest to the riverbank (Figure 4). In contrast, for Wanglongmen residential quarter, on the one hand, the high-rise housing introduced from Hong Kong made it possible to maximize the volume (and therefore, the commercial potential) of Building I as the building with best river view resource; on the other hand, as China's socialist planned economy system remained to be fully transformed to market economy system in the early 1980s, and whether housing should be regarded as commodity remained controversial, the design of Building I was not based on the maximization of commercial profit, but was aimed at public interest. Such riverfront high-rise residence with terraced form was produced by the interaction between the high-rise housing introduced from Hong Kong and the legacies of the the planned-economy era (including the remains of planned economy system and the inertia of positioning housing as welfare).



Figure 4. The Terraced Form of Building I (Left) that was Aimed at Public Access to River View, and the “High-rise Wall” in Chongqing since the 1990s that Privatized River View (Right)

Although Zhang strived to reduce project budget via design, after the design scheme was produced, the parties concerned still could not provide sufficient funds for project implementation. Besides, the complex topography also increased the difficulty of construction. Consequently, the project was suspended for five years.<sup>31</sup>

### 1985: Visiting Hong Kong and Its Consequences

In 1985, Zhang was working for the project of The South China Oil Center, which was co-invested by the investors from mainland China and Hong Kong. The Hong Kong investor invited the project design team to pay a short visit to Hong Kong to broaden their eyesight. This influenced the design of Wanglongmen residential quarter.

As Zhang recalled, he was greatly impressed by the commercial housing properties he visited in Hong Kong, such as Taikoo Shing: “I found that some residential quarters of Hong Kong, despite limited site area, were beautified with elaborate landscape design, while we did not attach importance to landscaping at that time.”<sup>32</sup> “Even a small segment of space was carefully decorated.”<sup>33</sup> This echoed the general impressions of mainland architects on Hong Kong high-rise development then: in the early reform, practicing exquisite landscaping for residential quarters was a relatively novel concept for mainland architects, and they perceived the delicate landscape elements in Hong Kong residential quarters as a representation of modernity. Inspired by the landscape he saw in Hong Kong, Zhang practiced landscape design for Wanglongmen residential quarter after returning to Chongqing, mainly in the form of roof landscaping (Figure 5). Zhang particularly hoped to enliven the terraced roof of Building I with landscaping, making it a public space accessible not only to the residents in Building I, but also to the whole residential quarter.<sup>34</sup>

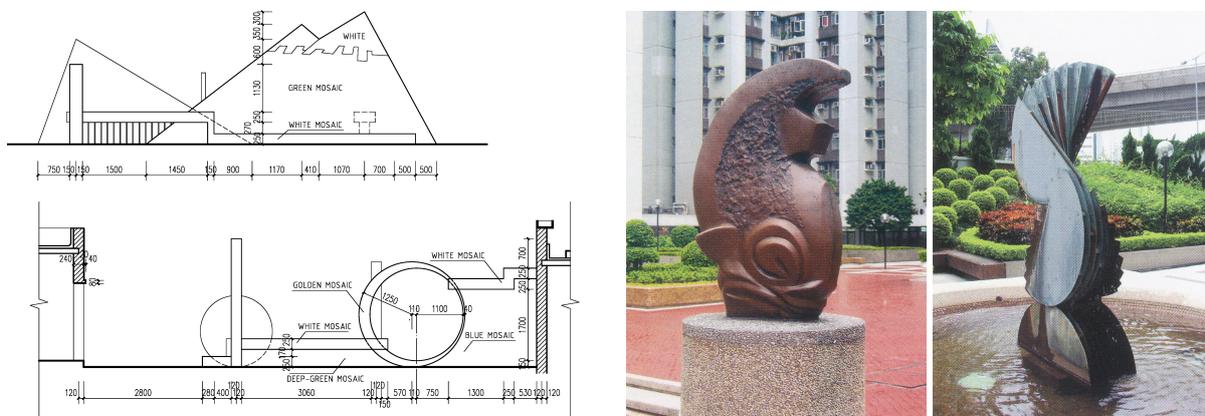


Figure 5. Rooftop Landscape Design for Wanglongmen Residential Quarter, Chongqing (Left), and the Landscape Elements Built in 1979 in Taikoo Shing, Hong Kong (Middle & Right)

Zhang’s reaction to the landscape design in Hong Kong exemplified how Hong Kong impressed mainland-China architects as a highly modern city and how eager mainland China was for modernity at that time. However, it



should be noted that the landscaping for the Hong Kong commercial housing properties that Zhang visited, including Taikoo Shing, was based on the logic of capitalist production: such landscaping was part of the means of stimulating the sale of property. By transplanting such landscape elements from Hong Kong to Chongqing, Zhang attempted to beautify the public space of Wanglongmen residential quarter only for public good. In other words, the logic behind such landscape elements changed during the transplantation, from pursuing capitalist profit to pursuing public interest. During the 1980s, on the one hand, China began to re-open itself to the western world, and the overseas design approaches could be introduced to China; on the other hand, the commercial housing market remained to be developed. It was this intermediate state of China's 1980s that enabled Zhang to absorb design experiences from Hong Kong commercial properties, but apply them for public good instead. Such interim nature of China's 1980s made it possible for mainland architects like Zhang to remain a pure and idealist attitude towards modernity at that time.

To improve the chance of getting the landscape design implemented, Zhang designed landscape elements with simplified form as a way to control construction cost.<sup>35</sup> Compared to the landscape elements with diverse decorative materials in Taikoo Shing, the rooftop landscape sculpture elements was covered only with the mosaic of different colors. However, during the working drawing joint review, it was still decided that the construction of rooftop landscape be cancelled.<sup>36</sup> The scarcity of housing finance, a legacy of China's planned-economy era, once again conflicted with the architect's pursuit for housing modernization inspired by Hong Kong.

### **The Progress of Housing Commodification and Project Implementation**

In 1987, Chongqing made considerable progress on the housing reform, such as the establishment of the real estate trading center of Chongqing in April,<sup>37</sup> the release of *The Reform Plan of Chongqing Urban Housing System (Exposure Draft)* on 31<sup>st</sup> April,<sup>38</sup> the imposition of land use fee on the departments and individuals using urban land starting on 1st July,<sup>39</sup> and the organization of two Real Estate Individual Trade Fairs in September and October.<sup>40</sup> In this context, not only some enterprises showed their willingness to invest in Wanglongmen residential quarter project, but also REBC itself estimated that there should be an increasing number of individuals purchasing housing in the future.<sup>41</sup> The progress in housing commodification in Chongqing gave REBC the confidence for project implementation. In the same year, REBC re-evaluated the feasibility of Wanglongmen residential quarter project, and was convinced that the project construction was financially feasible.<sup>42</sup> The construction started in 1988,<sup>43</sup> and the project was completed in 1992,<sup>44</sup> ten years after it was initiated.

### **Conclusion: Housing Transplantation During the Time of Transition**

As an inland city, Chongqing had less direct communication and interaction with Hong Kong than the Pearl River Delta region, and Wanglongmen residential quarter project was conducted locally without involving any Hong Kong stakeholders. However, the local architect proactively absorbed housing design experiences from Hong Kong. This reflects the strong motivation of mainland architects in the early reform to learn from overseas in pursuit of modernity, and indicates how profound and wide Hong Kong's influences had on the urban development of mainland China then.

However, the project design was conducted when mainland China was still transforming from the socialist planned economy to the market economy, and such transitional nature obstructed Chongqing from learning from Hong Kong comprehensively. When Hong Kong high-rise housing was introduced to Chongqing, it frequently conflicted with the scarcity of financial and technical resources, due to the legacies of the socialist planned-economy era: economically underdeveloped during the planned-economy era, Chongqing could not fully afford the introduced Hong Kong high-rise housing mode at the outset of reform; as whether housing should be commodified remained controversial then, housing property market remained to be developed, leading to the lack of diverse sources of housing investment, which exacerbated the scarcity of housing finance; the development strategy of mainland China during the planned-economy era that prioritized production over consumption led to low-level housing development, and resulted in the low starting point of the development of housing-related techniques in the early reform, which brought about the vagueness of building code then. These legacies of the planned-economy era combined to interact with the Hong Kong high-rise housing mode introduced to mainland China. Sometimes, the interaction hindered the implementation of some introduced design strategies, such as the landscaping for the residential quarter. Sometimes, it dramatically produced the variations of Hong Kong high-rise housing, such as walk-up high-rise residences, embodying the local architects' creativity peculiar to the early reform. Besides, due to underdeveloped housing commodification in Chongqing, when the architect was being exposed to the impact of Hong Kong commercial housing design tactics, he was able to transplant them in pursuit of public interest instead, during which he unconsciously endowed such tactics with new meaning, reflecting an innocent and idealized mentality of local architect in pursuit of modernity in the early reform. The case of Wanglongmen



residential quarter indicates the complexity and uniqueness of architectural knowledge exchange between mainland China and Hong Kong during the early reform, owing to the interim nature of this period.

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### Disclosure Statement

No potential conflict of interest was reported by the author.

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Interview with Zhang, Congzheng, 9<sup>th</sup> March 2017. Agreed by the interviewee, the face-to-face interview was conducted by author and was audio-recorded to collect information about Wanglongmen residential quarter. The interview was based on the ethical approval from Human Research Ethics Committee (HREC), The University of Hong Kong. According to HREC, the audio recordings must not be spread.

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Figure 1: Zhang, Xingguo, and Xie, Wutong (eds.), *Jiao Shi Jian Zhu Yu Gui Hua She Ji Zuo Pin Ji (Academic Staff Planning and Design Works)*, China Architecture & Building Press, Beijing, 1997, 22, with additional illustrations by author (Left); Chan, K. W., *Density and design: high density private residential development in Hong Kong (TaiKoo Shing and Mei Foo Sun Chuen)*. Master’s Dissertation, University of Hong Kong, Hong Kong, 1993, 83 (Right)

Figure 2: Zhang, Congzheng, “The Design of High Residence Building Group without Elevators---A Planning and Desing of the Reconstruction of the Wanglongmen Region in Chongqing”, *Journal of Chongqing Jianzhu University*, Vol. 18, No. 4 (1996): 60, redrawn by author

Figure 3: Zhang, Xingguo, and Xie, Wutong (eds.), *Jiao Shi Jian Zhu Yu Gui Hua She Ji Zuo Pin Ji (Academic Staff Planning and Design Works)*, China Architecture & Building Press, Beijing, 1997, 22

Figure 4: Zhang, Xingguo, and Xie, Wutong (eds.), *Jiao Shi Jian Zhu Yu Gui Hua She Ji Zuo Pin Ji (Academic Staff Planning and Design Works)*, China Architecture & Building Press, Beijing, 1997, 22 (Left); Chongqing Shi Wen Hua Ju (Chongqing Municipal Culture Bureau) and Chongqing Shi Bo Wu Guan (Chongqing Museum) (eds.), *A Picture Album of Millennium Chongqing*, Chongqing Publishing House, Chongqing, 2002, 15 (Right)

Figure 5: *Wanglongmen Baixiangjie Qun Zhai 1# Lou Gong Cheng (The Working Drawings of Building I of Wanglongmen Residences in Baixiang Street)*, stored in Chongqing Urban Construction Archive, archive number:



070100-154, 1991, redrawn by author (Left); Tai, Sheung Shing Victor, and Chow, Shun Keung, *Guide to Urban Sculpture in Hong Kong - Hong Kong Island*, Hong Kong Sculpture Society, Hong Kong, 2007, 146 (Middle) & 150 (Right)

## Endnotes

<sup>1</sup> Qiuli Xue, *Building A Revolution: Chinese Architecture Since 1980* (Tsinghua University Press, Beijing, 2009). 71

<sup>2</sup> Ibid., 72, and Qiuli Xue, *The Global Impact: Overseas Architectural Design in China* (Tongjing University Press, Shanghai, 2006). 9-13

<sup>3</sup> Junhua Lv, Peter G Rowe and Jie Zhang (eds.), *Modern Urban Housing in China, 1840-2000* (Tsinghua University Press, Beijing, 2002)

<sup>4</sup> Before regeneration, the rate of dilapidated housing in Wanglongmen area was 80%, and most of the extant built structures within the area were improvised column-and-tie buildings constructed in 1930s and 1940s. In 1970s, two residents in Wanglongmen area died from the collapse of dilapidated buildings. Besides, the area was also threatened by unsafe geologic conditions such as unstable rocks. In addition, the living conditions in this area was extremely crowded. For dwelling space, the residences with a total floor area of 12639m<sup>2</sup> were occupied by 494 households, namely over 2200 residents. In 95 households, two generations shared one room; in 31 households, three generations shared two houses, and for the households with extremely crowded residential space, the average floor space per capita was merely 3.16m<sup>2</sup>. See Shaoqing Han, Lianyu Tuo, Jiang Guo, "Guang Sha Qian Wan Jian, Pian Qu Ju Huan Yan---Wanglongmen Pian Qu Gai Zao Gong Cheng Jian Jie" ("Thriving Housing and Delightful Residents: Introduction to the Regeneration of Wanglongmen Area") [*Chongqing Jian Zhu (Chongqing Architecture)*, No. 1, 1993]. 52

<sup>5</sup> Ibid.

<sup>6</sup> Interview with Congzheng Zhang, 6<sup>th</sup> February 2016. Agreed by the interviewee, the face-to-face interview was conducted by author and was audio-recorded to collect information about Wanglongmen residential quarter. The interview was based on the ethical approval from Human Research Ethics Committee (HREC), The University of Hong Kong. According to HREC, the audio recordings must not be spread.

<sup>7</sup> Interview with Congzheng Zhang, 9<sup>th</sup> March 2017. Agreed by the interviewee, the face-to-face interview was conducted by author and was audio-recorded to collect information about Wanglongmen residential quarter. The interview was based on the ethical approval from Human Research Ethics Committee (HREC), The University of Hong Kong. According to HREC, the audio recordings must not be spread.

<sup>8</sup> Congzheng Zhang, "The Design of High Residence Building Group without Elevators---A Planning and Desing of the Reconstruction of the Wanglongmen Region in Chongqing" (*Journal of Chongqing Jianzhu University*, Vol. 18, No. 4, 1996). 56

<sup>9</sup> Chengji Zhang, Zhijing Sun, and Yueqing Zhang, "An Exploration in Fire-control Design for High-rise and High-density Block of Flats" (*Journal of Chongqing Institute of Architecture and Engineering*, Vol. 11, No. 2, 1989). 103

<sup>10</sup> Shaoqing Han, Lianyu Tuo, Jiang Guo, "Guang Sha Qian Wan Jian, Pian Qu Ju Huan Yan---Wanglongmen Pian Qu Gai Zao Gong Cheng Jian Jie" ("Thriving Housing and Delightful Residents: Introduction to the Regeneration of Wanglongmen Area") [*Chongqing Jian Zhu (Chongqing Architecture)*, No. 1, 1993]. 53

<sup>11</sup> Congzheng Zhang, "The Design of High Residence Building Group without Elevators---A Planning and Desing of the Reconstruction of the Wanglongmen Region in Chongqing" (*Journal of Chongqing Jianzhu University*, Vol. 18, No. 4, 1996). 57

<sup>12</sup> Interview with Congzheng Zhang, 5<sup>th</sup> February 2016. Agreed by the interviewee, the face-to-face interview was conducted by author and was audio-recorded to collect information about Wanglongmen residential quarter. The interview was based on the ethical approval from Human Research Ethics Committee (HREC), The University of Hong Kong. According to HREC, the audio recordings must not be spread.

<sup>13</sup> Barrie Shelton, Justyna Karakiewicz and Thomas Kvan (translated by Daping Hu and Jing Wu), *The Making of Hong Kong: From Vertical to Volumetric* (Publishing House of Electronics Industry, Beijing, 2013). 69

<sup>14</sup> Ibid., p. 77

<sup>15</sup> Qiuli Xue, *Contextualizing Modernity: Hong Kong Architecture 1946-2011* (The Commercial Press, Hong Kong, 2014). 53

<sup>16</sup> Barrie Shelton, Justyna Karakiewicz and Thomas Kvan (translated by Daping Hu and Jing Wu), *The Making of Hong Kong: From Vertical to Volumetric* (Publishing House of Electronics Industry, Beijing, 2013). 118

<sup>17</sup> Congzheng Zhang, "The Design of High Residence Building Group without Elevators---A Planning and Desing of the Reconstruction of the Wanglongmen Region in Chongqing" (*Journal of Chongqing Jianzhu University*, Vol. 18, No. 4, 1996). 56

<sup>18</sup> The papers reviewed are the ones accessible via the database of China National Knowledge Infrastructure (CNKI). As Zhang produced the design of Wanglongmen residential quarter in 1983, the reviewed papers only include the ones between 1978 and 1983 so as to precisely reflect the context of the housing knowledge diffusion from Hong Kong to mainland China, against which the design was produced.

<sup>19</sup> The "podium & tower" mode means covering usually the entire site with a super-scale skirt building incorporating different public and commercial functions, while placing residential towers on the top of the skirt building, and the rooftop of the skirt building is usually landscaped as the exterior space of the residential quarter.

<sup>20</sup> Weiwu Huang, "Xiang Gang Jin Nian Xin Jian De Ji Ge Zhu Zhai Qu" ("A Few Hong Kong Residential Quarters Built in Recent Years") (*Housing Science*, No. 11, 1982). 14

<sup>21</sup> The Influences of Hong Kong high-rise housing on Wanglongmen residential quarter was confirmed by Zhang during the interview on 18<sup>th</sup> March 2018. Agreed by the interviewee, the face-to-face interview was conducted by author and was audio-recorded to collect information about Wanglongmen residential quarter. The interview was based on the ethical approval from Human Research Ethics Committee (HREC), The University of Hong Kong. According to HREC, the audio recordings must not be spread.

<sup>22</sup> Xiaodi Lu, and Dexiang Chen, "Gao Ceng Jian Zhu Gui Hua She Ji Zhong De Yi Xie Wen Ti" ("On Some Problems about High-rise Building Design") [*Chongqing Jian Zhu (Chongqing Architecture)*, No. 1, 1984]. 2

<sup>23</sup> Shengmo Xu, "Tan Tao Gao Ceng Zhu Zhai De Jing Ji Xiao Guo He Fa Zhan Tu Jing" ("The Discussions on the Economic Effects and Development Paths---The Report on the National Academic Seminar on the Economic Effects of High-rise Residences") [*Fang Chan Zhu Zhai Ke Ji Dong Tai (Real Estate Housing Technology Trends)*, No. 11, 1981]. 1

<sup>24</sup> Luoshan Wu, "Guan Yu Gao Ceng Zhu Zhai Jian Zhu Jing Ji Xiao Guo De Ji Ge Wen Ti---Zai Gao Ceng Zhu Zhai Jing Ji Xiao Guo Xue Shu Tao Lun Hui Shang De Xiao Jie Fa Yan (Zhai Yao)" ("On Some Problems of the Economic Effects of High-rise Residences"---Abstract of the Concluding Remark of the Academic Seminar on the Economic Effects of High-rise Residences") [*Jian Zhu Jing Ji Yan Jiu (Building Economics Research)*, No. 4, 1981]. 29

<sup>25</sup> Junhua Lv, Peter G Rowe and Jie Zhang (eds.), *Modern Urban Housing in China, 1840-2000* (Tsinghua University Press, Beijing, 2002). 198

<sup>26</sup> Ibid., 197



- <sup>27</sup> The Ministry of Public Security of the People's Republic of China, *Code for Fire Protection Design of Tall Buildings GBJ45-82 (Trial)*. (The Ministry of Public Security of the People's Republic of China, Beijing, 1983) 3-4.
- <sup>28</sup> Congzheng Zhang, "The Design of High Residence Building Group without Elevators---A Planning and Design of the Reconstruction of the Wanglongmen Region in Chongqing" (*Journal of Chongqing Jianzhu University*, Vol. 18, No. 4, 1996). 57-58
- <sup>29</sup> For example, by 1985, only 7.22% of the housing property in Chongqing was private, which means housing commodification was underdeveloped and therefore the potential of individual and social finance remained to be exploited. For the proportions of different ownships of housing in Chongqing in 1985, see Chongqing Shi Di Fang Zhi Bian Zuan Wei Yuan Hui (Chongqing Chorography Compilation Committee), *Chongqing Yearbook 1987* [Chongqing Nian Jian Fa Xing Bu (Chongqing Yearbook Circulation Department), Chongqing, 1987]. 258
- <sup>30</sup> Congzheng Zhang, "The Design of High Residence Building Group without Elevators---A Planning and Design of the Reconstruction of the Wanglongmen Region in Chongqing" (*Journal of Chongqing Jianzhu University*, Vol. 18, No. 4, 1996). 56
- <sup>31</sup> Shaoqing Han, Lianyu Tuo, Jiang Guo, "Guang Sha Qian Wan Jian, Pian Qu Ju Huan Yan---Wanglongmen Pian Qu Gai Zao Gong Cheng Jian Jie" ("Thriving Housing and Delightful Residents: Introduction to the Regeneration of Wanglongmen Area") [*Chongqing Jian Zhu (Chongqing Architecture)*, No. 1, 1993]. 52-53
- <sup>32</sup> Interview with Congzheng Zhang, 5th February 2016. Agreed by the interviewee, the face-to-face interview was conducted by author and was audio-recorded to collect information about Wanglongmen residential quarter. The interview was based on the ethical approval from Human Research Ethics Committee (HREC), The University of Hong Kong. According to HREC, the audio recordings must not be spread.
- <sup>33</sup> Interview with Congzheng Zhang, 9th March 2017. Agreed by the interviewee, the face-to-face interview was conducted by author and was audio-recorded to collect information about Wanglongmen residential quarter. The interview was based on the ethical approval from Human Research Ethics Committee (HREC), The University of Hong Kong. According to HREC, the audio recordings must not be spread.
- <sup>34</sup> Ibid.
- <sup>35</sup> Ibid.
- <sup>36</sup> The decision to cancel the rooftop landscape construction was marked on the 3rd floor plan working drawing of Building I. See *Wanglongmen Baixiangjie Qun Zhai 1# Lou Gong Cheng (The Working Drawings of Building I of Wanglongmen Residences in Baixiang Street)* (stored in Chongqing Urban Construction Archive, archive number: 070100-154, 1991)
- <sup>37</sup> Chongqing Shi Di Fang Zhi Bian Zuan Wei Yuan Hui (Chongqing Chorography Compilation Committee), *Chongqing Yearbook 1988*, [Chongqing Nian Jian Fa Xing Bu (Chongqing Yearbook Circulation Department), Chongqing, 1988]. 254
- <sup>38</sup> Ibid., 240
- <sup>39</sup> Ibid., 253
- <sup>40</sup> Chongqing Shi Di Fang Zhi Bian Zuan Wei Yuan Hui (Chongqing Chorography Compilation Committee), *Chongqing Yearbook 1989*, [Chongqing Nian Jian Fa Xing Bu (Chongqing Yearbook Circulation Department), Chongqing, 1989]. 221
- <sup>41</sup> Shaoqing Han, Lianyu Tuo, Jiang Guo, "Guang Sha Qian Wan Jian, Pian Qu Ju Huan Yan---Wanglongmen Pian Qu Gai Zao Gong Cheng Jian Jie" ("Thriving Housing and Delightful Residents: Introduction to the Regeneration of Wanglongmen Area") [*Chongqing Jian Zhu (Chongqing Architecture)*, No. 1, 1993]. 53
- <sup>42</sup> Ibid.
- <sup>43</sup> Ibid., 54
- <sup>44</sup> Xingguo Zhang, and Wutong Xie (eds.), *Jiao Shi Jian Zhu Yu Gui Hua She Ji Zuo Pin Ji (Academic Staff Planning and Design Works)* (China Architecture & Building Press, Beijing, 1997). 22